June 29, 2026

The Honorable Debbie-Anne A. Reese
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 Related to the DAME-EDAM Initiatives

Docket No. ER26-____-000

Dear Secretary Reese:

The California Independent System Operator Corporation ("CAISO") submits this compliance filing to reconcile overlapping tariff records in the Commission's eTariff system. This reconciliation reflects the sum of revisions to the same sections of the CAISO tariff the Commission has accepted in various proceedings related to the Day-Ahead Market Enhancements ("DAME") and Extended Day-Ahead Market ("EDAM") initiatives, consistent with the underlying orders in those 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 past[1] and the CAISO requests the Commission do the same here.

[1] *See, e.g.*, *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); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-1099-000 (Apr. 6, 2023).

I. Background

On August 22, 2023, the CAISO submitted the tariff amendment to enhance and extend its day-ahead market through the DAME and EDAM initiatives in Docket No. ER23-2686. The Commission accepted the tariff amendment in part, subject to condition, and rejected it in part in its December 20, 2023 Order.[2] The CAISO submitted a compliance filing in the same docket on February 16, 2024. The Commission accepted this compliance filing on April 30, 2024, subject to notifying the Commission of the actual effective date of DAME-EDAM tariff implementation.[3] The CAISO submitted the notice on April 24, 2026, which specified an actual effective date of May 1, 2026.[4]

During the three years between the DAME-EDAM tariff amendment filing and implementation on May 1, 2026, the CAISO submitted additional filings changing the baseline tariff language in multiple tariff records. The CAISO has identified multiple 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. This filing resolves these differences.

These situations are not uncommon and arose due to the chronological sequence in which the tariff records were filed in the different proceedings and then acted on by the Commission at different times. 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 even years 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.[5] In such circumstances, the CAISO will reconcile the tariff records at a later date after the Commission has issued the relevant orders.

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[2] *Cal. Indep. Sys. Operator Corp.,* 185 FERC ¶ 61,210.

[3] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-2686-001 (Apr. 30, 2024).

[4] Informational Filing of Effective Date of Multiple Tariff Amendments Related to DAME-EDAM Implementation, Docket Nos. ER23-2686-000 and ER23-2686-001 (Apr. 24, 2026).

[5] 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.

II. Proposed Reconciliation

The CAISO proposes to reconcile the tariff records in multiple sections of the CAISO tariff from the 20 tariff amendments listed below. Overlapping tariff records resulted from the following proceedings, and Attachment C to this filing identifies each tariff record, associated docket number, and effective date.

1. Docket No. ER23-2686-000
    a. Tariff amendment: Initial filing for the EDAM-DAME initiative
    b. Filing date: Aug. 22, 2023
    c. Effective date: May 1, 2026[6]

2. Docket No. ER23-2686-001
    a. Tariff amendment: Compliance filing for the EDAM-DAME initiative
    b. Filing date: Feb. 16, 2024
    c. Effective date: May 1, 2026[7]

3. Docket No. ER23-1533-000
    a. Tariff amendment: Initial filing for energy storage enhancements
    b. Filing date: Mar. 31, 2023
    c. Effective dates: July 1, 2023 & Nov. 1, 2023[8]

4. Docket No. ER23-1534-000
    a. Tariff amendment: Initial filing for resource sufficiency evaluation enhancements – phase 2
    b. Filing date: Mar. 31, 2023
    c. Effective date: July 1, 2023[9]

[6] The EDAM-DAME initiative had an earlier effective date of Dec. 21, 2023 for some of the tariff records, but none of those tariff records needed to be included in this reconciliation filing.

[7] *Id.*

[8] *Cal. Indep. Sys. Operator Corp.*, 183 FERC ¶ 61,161 (2023); Informational Filing of Effective Date of Energy Storage Enhancements Tariff Amendment – Part 1, Docket No. ER23-1533-000 (July 17, 2023); Informational Filing of Effective Date of Energy Storage Enhancements Tariff Amendment – Phase 1, Part 2 and Phase 2, Docket No. ER23-1533-000 (Nov. 3, 2023).

[9] *Cal. Indep. Sys. Operator Corp.*, 183 FERC ¶ 61,146 (2023); Informational Filing of Effective Date of Resource Sufficiency Evaluation Enhancements Tariff Amendment, Docket No. ER23-1534-000 (July 5, 2023).

5. Docket No. ER23-1099-000
    a. Tariff amendment: Reconciliation filing in 2023
    b. Filing date: Feb. 10, 2023
    c. Effective dates: Multiple – as of last effective date per tariff record[10]

6. Docket No. ER23-2020-000
    a. Tariff amendment: Market Parameters
    b. Filing date: May 31, 2023
    c. Effective date: Sept. 13, 2023[11]

7. Docket No. ER23-2974-000
    a. Tariff amendment: 2023 Grid Management Charge – Cost-of-service study update
    b. Filing date: Sept. 29, 2023
    c. Effective dates: Jan. 1, 2024 & May 2, 2025[12]

8. Docket No. ER23-2510-000
    a. Tariff amendment: Initial filing for wheeling through self-schedule priorities
    b. Filing date: Jul. 28, 2023
    c. Effective dates: Nov. 1, 2023 & June 1, 2024[13]

9. Docket No. ER23-2557-000
    a. Tariff amendment: Initial filing for the 2023 tariff clarification
    b. Filing date: Aug. 3, 2023
    c. Effective date: Nov. 1, 2023[14]

[10] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-1099-000 (Apr. 6, 2023).

[11] *Cal. Indep. Sys. Operator Corp.*, 184 FERC ¶ 61,119 (2023); Informational Filing of Tariff Amendment to Adjust Shift Factor Threshold and Enhance Market Parameter Change Process, Docket No. ER23-2020-000 (Sept. 13, 2023); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket Nos. ER23-2020-001 and ER23-2020-002 (Dec. 8, 2023).

[12] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-2974-000 (Dec. 21, 2023).

[13] *Cal. Indep. Sys. Operator Corp.*, 185 FERC ¶ 61,085 (2023); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-2510-001 (Aug. 6, 2025).

[14] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-2557-000 (Oct. 24, 2023).

10. Docket No. ER23-2917-000
    a. Tariff amendment: Initial filing for subscriber participating transmission owner model
    b. Filing date: Sept. 22, 2023
    c. Effective date: Dec. 21, 2023[15]

11. Docket No. ER24-2687-000
    a. Tariff amendment: Initial filing for 2024 tariff clarification
    b. Filing date: Aug. 2, 2024
    c. Effective date: Aug. 3, 2024[16]

12. Docket No. ER24-379-000
    a. Tariff amendment: Initial filing for CAISO balancing authority participation in the extended day-ahead market
    b. Filing date: Nov. 13, 2024
    c. Effective date: May 1, 2026[17]

13. Docket No. ER24-2168-000
    a. Tariff amendment: Initial filing for price formation enhancements
    b. Filing date: May 31, 2024
    c. Effective date: Aug. 1, 2026[18]

14. Docket No. ER24-1837-000
    a. Tariff amendment: Initial filing for non-generator resource bidding in residual unit commitment
    b. Filing date: Apr. 25, 2024
    c. Effective date: June 25, 2026[19]

[15] *Cal. Indep. Sys. Operator Corp.*, 186 FERC ¶ 61,177 (2024).

[16] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket Nos. ER24-2687-000 and ER24-2687-001 (Dec. 4, 2024).

[17] *Cal. Indep. Sys. Operator Corp.*, 186 FERC ¶ 61,170 (2024); Informational Filing of Effective Date of Multiple Tariff Amendments Related to DAME-EDAM Implementation, Docket No. ER24-379-000 (Apr. 24, 2026).

[18] *Cal. Indep. Sys. Operator Corp.*, 188 FERC ¶ 61,089 (2024).

[19] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER24-1837-000 (June 13, 2024).

15. Docket No. ER24-2042-000
    a. Tariff amendment: Compliance filing for FERC Order No. 2222
    b. Filing date: May 16, 2024
    c. Effective date: May 17, 2024[20]

16. Docket No. ER25-87-000
    a. Tariff amendment: Initial filing for billing, credit and payment initiative
    b. Filing date: Oct. 11, 2024
    c. Effective date: Feb. 5, 2025[21]

17. Docket No. ER25-576-000
    a. Tariff amendment: Initial filing for bid cost recovery to storage resources
    b. Filing date: Nov. 26, 2024
    c. Effective date: Dec. 1, 2024[22]

18. Docket No. ER25-3255-000
    a. Tariff amendment: Initial filing for 2025 tariff clarification
    b. Filing date: Aug. 21, 2025
    c. Effective date: Nov. 19, 2025[23]

19. Docket No. ER25-3491-000
    a. Tariff amendment: Initial filing for extending WEIM assistance energy transfer feature
    b. Filing date: Sept. 23, 2025
    c. Effective date: Nov. 24, 2025[24]

20. Docket No. ER26-1294-000
    a. Tariff amendment: supportive filing regarding the implementation of DAME/EDAM
    b. Filing date: Feb. 6, 2026
    c. Effective date: May 1, 2026[25]

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[20] *Cal. Indep. Sys. Operator Corp.*, 191 FERC ¶ 61,119 (2025); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER24-2042-001 (Nov. 21, 2025), as corrected Feb. 6, 2026.

[21] *Cal. Indep. Sys. Operator Corp.*, 190 FERC ¶ 61,052 (2025); Informational Filing of Effective Date for Billing, Payment, and Credit Enhancements Tariff Amendment, Docket No. ER25-87-000 (Jan. 29, 2025).

[22] *Cal. Indep. Sys. Operator Corp.*, 190 FERC ¶ 61,047 (2025).

[23] *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER25-3255-000 (Nov. 13, 2025).

[24] *Cal. Indep. Sys. Operator Corp.*, 193 FERC ¶ 61,146 (2025).

[25] *Cal. Indep. Sys. Operator Corp.*, 195 FERC ¶ 61,018 (2025); Compliance Filing of Tariff Amendment Supporting Implementation of Day-Ahead Market Enhancements and Extended Day-

This compliance filing rectifies the eTariff situation described above by providing the sum of conformed tariff records that reflect the cumulative result of all the Commission-approved tariff records for the tariff sections identified in Attachment C to this filing. 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 to reflect all Commission-approved language therein.

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, which in this case is May 1, 2026, in alignment with the tariff language modified by the EDAM-DAME initiatives.

III. Communications

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

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Ahead Market Design, Docket No. ER25-1294-001 (Apr. 24, 2026); Further Compliance Filing for Tariff Amendment Supporting Implementation of Day-Ahead Market Enhancements and Extended Day-Ahead Market Design, Docket No. ER25-1294-002 (May 14, 2026).

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. Contents of this filing

Besides this transmittal letter, this filing includes these attachments:

Attachment A	Clean CAISO tariff sheets
Attachment B	Redlined CAISO tariff sheets (informational only)
Attachment C	Chart of dockets by section number

VI. 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/ John Anders

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Attachment A – Clean Tariff Sheets

Compliance Filing Reconciling Overlapping Tariff Records – DAME-EDAM

California Independent System Operator Corporation

June 29, 2026

Section 4

* * * * *

4.5.3 Responsibilities of a Scheduling Coordinator

Each Scheduling Coordinator shall be responsible for:

4.5.3.1 Obligation to Pay

Paying the CAISO's charges in accordance with this CAISO Tariff;

4.5.3.2 Submit Bids and Interchange Schedules

4.5.3.2.1 Submitting Bids, including Self-Schedules, in CAISO Markets that relate to the Market Participants for which it serves as Scheduling Coordinator;

4.5.3.2.2 Submitting Interchange Schedules prepared in accordance with all NERC, WECC and CAISO requirements, including providing E-Tags for all applicable transactions pursuant to WECC practices. The CAISO shall not accept E-Tags for ten-minute recallable reserve transactions (i.e., transactions with a WECC energy product code of "C-RE"), unless the E-Tag is associated with delivery of emergency assistance Energy between another Balancing Authority Area and the CAISO Balancing Authority Area. The CAISO is not, and shall not be listed as, the "Purchasing Selling Entity" for purposes of E-Tags. Title to Energy shall pass directly from the entity that holds title when the Energy enters the CAISO Controlled Grid to the entity that removes the Energy from the CAISO Controlled Grid, in each case in accordance with the terms of this CAISO Tariff.

4.5.3.3 Modifications in Demand and Supply

Coordinating and allocating modifications in Demand and exports and Generation and imports at the direction of the CAISO in accordance with this CAISO Tariff;

4.5.3.4 Inter-SC Trades

Submitting any applicable Inter-SC Trades that the Market Participants intend to have settled through the CAISO Markets, pursuant to this CAISO Tariff;

4.5.3.5 Tracking and Settling Trades

Tracking and settling all intermediate trades, including bilateral transactions and Inter-SC Trades, among

the entities for which it serves as Scheduling Coordinator;

4.5.3.6 Ancillary Services

Providing Ancillary Services in accordance with Section 8;

4.5.3.7 [Not Used]

4.5.3.8 Business Practice Manuals

Complying with all CAISO Business Practice Manuals and ensuring compliance by each of the Market Participants which it represents with all applicable provisions of the Business Practice Manuals;

4.5.3.9 Interruptible Imports

Identifying any Interruptible Imports included in its Bids or Inter-SC Trades;

4.5.3.10 Participating Intermittent Resources

Submitting Bids, including Self-Schedules, for Participating Intermittent Resources consistent with the CAISO Tariff;

4.5.3.11 Day-Ahead Market Published Schedules and Awards

Starting-up units and timely achieving specified operating levels in response to Dispatch Instructions, in accordance with CAISO published Schedules and awards;

4.5.3.12 Financial Responsibility

Assuming financial responsibility for all Schedules, AS Awards and Dispatch Instructions issued in the CAISO Markets, and all Virtual Awards in accordance with the provisions of this CAISO Tariff;

4.5.3.13 Compliance with Environmental Constraints, Operating Permits and Applicable Law

Submitting Bids so that any service provided in accordance with such Bids does not violate environmental constraints, operating permits or applicable law. All submitted Bids must reflect resource limitations and other constraints as such are required to be reported to the CAISO Control Center.

4.5.3.14 Tax Compliance

Providing, as described in the Business Practice Manuals, resale certificates or other proof acceptable to CAISO that its purchases of energy are exempt from any sales and use taxes that otherwise might apply; and

4.5.3.15 SQMD Plan

Complying with the SQMD Pan for eligible entities it serves pursuant to Section 10.3.7.

4.5.3.16 RA Plans and Supply Plans

Providing RA Plans for LSEs or CPEs for which it serves as Scheduling Coordinator and providing Supply Plans for Resource Adequacy Resources for which it serves as Scheduling Coordinator. If a CPE is also a Load Serving Entity and the CPE and Load Serving Entity are represented by the same Scheduling Coordinator, that Scheduling Coordinator must use distinct Scheduling Coordinator ID Codes for its activities related to the CPE and Load Serving Entity functions.

4.5.4 Operations of a Scheduling Coordinator

4.5.4.1 Maintain Twenty-four (24) Hour Scheduling Centers

Each Scheduling Coordinator other than a Scheduling Coordinator that represents only Convergence Bidding Entities shall operate and maintain a twenty-four (24) hour, seven (7) days per week, scheduling center. Each Scheduling Coordinator shall designate a senior member of staff as its scheduling center manager who shall be responsible for operational communications with the CAISO and who shall have sufficient authority to commit and bind the Scheduling Coordinator.

4.5.4.2 [Not Used]

4.5.4.3 Dynamic Scheduling

4.5.4.3.1 Dynamic Scheduling of Imports

Scheduling Coordinators may submit Bids for imports of Energy, Imbalance Reserves, Reliability Capacity, and Ancillary Services for which associated Energy is delivered from Dynamic System Resources located outside of the CAISO Balancing Authority Area, provided that: (a) such dynamic scheduling is technically feasible and consistent with NERC and WECC reliability standards and any requirements of the NRC, (b) all operating, technical, and business requirements for dynamic scheduling functionality, as set forth in the Dynamic Scheduling Protocol in Appendix M or posted in standards on the CAISO Website, are satisfied, (c) the Scheduling Coordinator for the Dynamic System Resource executes a Dynamic Scheduling Agreement for Scheduling Coordinators as provided in Appendix B.5 with the CAISO for the operation of dynamic scheduling functionality, and (d) all affected Balancing Authorities each execute with the CAISO a Dynamic Scheduling Host Balancing Authority Operating Agreement as provided in Appendix B.9, or a special operating agreement particular to the operation of dynamic

functionality.

4.5.4.3.2 Dynamic Scheduling of Exports of Energy

Scheduling Coordinators may submit Bids for Dynamic Schedules of exports of Energy from Generating Units located in the CAISO Balancing Authority Area, provided that: (a) such dynamic scheduling is technically feasible and consistent with NERC and WECC reliability standards and any requirements of the NRC, (b) all operating, technical, and business requirements for dynamic scheduling functionality, as set forth in the Dynamic Scheduling Protocol in Appendix M or posted in standards on the CAISO Website, are satisfied, (c) the Scheduling Coordinator for the Generating Unit executes a Dynamic Scheduling Agreement for Scheduling Coordinators as provided in Appendix B.5 with the CAISO for the operation of dynamic scheduling functionality, and (d) all affected Balancing Authorities each execute with the CAISO an operating agreement particular to the operation of dynamic functionality. Scheduling Coordinators may not submit Bids for Dynamic Schedules of exports of Ancillary Services from resources located in the CAISO Balancing Authority Area, nor may Scheduling Coordinators submit Bids for Dynamic Schedules of exports from Loads located in the CAISO Balancing Authority Area.

4.5.4.4 Termination of Scheduling Coordinator Agreement and Suspension of Certification

(a) A Scheduling Coordinator's Scheduling Coordinator Agreement may be terminated by the CAISO on written notice to the Scheduling Coordinator:

(i) if the Scheduling Coordinator no longer meets the requirements for eligibility set out in Section 4.5 and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default;

(ii) if the Scheduling Coordinator fails to pay any sum under this CAISO Tariff and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default;

(iii) if the Scheduling Coordinator commits any other default under this CAISO Tariff or any of the CAISO Business Practice Manuals which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given it written notice of the default; or

(iv) if the Scheduling Coordinator does not participate in the CAISO’s markets for

Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services for a period of twelve (12) consecutive months and fails to comply with the provisions of Section 4.5.4.4.2 within 120 days after the CAISO has given it written notice of the CAISO's intent to terminate its Scheduling Coordinator Agreement.

(b) A Scheduling Coordinator's Scheduling Coordinator Agreement may be terminated by the Scheduling Coordinator on ninety (90) days written notice to the CAISO, provided that such notice shall not be effective to terminate the Scheduling Coordinator Agreement until the Scheduling Coordinator has complied with all applicable requirements of Section 4.5.2.

(c) The CAISO shall, following termination of a Scheduling Coordinator Agreement and within thirty (30) days of being satisfied that no sums remain owing by the Scheduling Coordinator under the CAISO Tariff, return or release to the Scheduling Coordinator, as appropriate, any money or credit support provided by such Scheduling Coordinator to the CAISO under Section 12.

4.5.4.4.1 Pending the effective date of termination of service pursuant to Section 4.5.4.5.1, the CAISO will suspend the certification of a Scheduling Coordinator which has received a notice of termination under Section 4.5.4.4(a) and the Scheduling Coordinator will not be eligible to participate in the CAISO's markets for Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services.

4.5.4.4.2 A Scheduling Coordinator that has received a notice of the CAISO's intent to terminate its Scheduling Coordinator Agreement for failure to participate in the CAISO's markets for Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services for a period of twelve (12) consecutive months pursuant to Section 4.5.4.4(a)(iv) will avoid having its Scheduling Coordinator Agreement terminated and will have its certification reinstated if it completes the testing and training required for Scheduling Coordinator certification as set forth in the applicable Business Practice Manual within 120 days after the CAISO's issuance of the notice of intent to terminate.

4.5.4.5 Notification of Termination

The CAISO shall, promptly after providing written notice of default to a Scheduling Coordinator as specified in Section 4.5.4.4(a), notify the Scheduling Coordinators that could be required to represent End

User Eligible Customers of the Scheduling Coordinator under Section 4.5.4.6.2 if the default is not cured. The CAISO shall, as soon as reasonably practicable following the occurrence of any of the events specified in Section 4.5.4.4, notify the Scheduling Coordinator and the Scheduling Coordinators that could be required to represent End User Eligible Customers of the defaulting Scheduling Coordinator, and the UDCs, and shall as soon as reasonably practicable after the issuance of such notice of termination post such notice on the CAISO Website. Termination of the Scheduling Coordinator Agreement will automatically remove the Scheduling Coordinator's certification under Section 4.5 and Section 8.4.

4.5.4.5.1 Filing of Notice of Termination

Any notice of termination given pursuant to Section 4.5.4.4 shall also be filed by the CAISO with FERC, if required by FERC rules, if the non-compliance is not remedied within the period specified in Section 4.5.4.4, and it shall be effective in accordance with FERC rules.

4.5.4.6 Continuation of Service on Termination

4.5.4.6.1 Option for Eligible Customers to choose a new Scheduling Coordinator

When the CAISO suspends the certification of a Scheduling Coordinator pending termination, Eligible Customers of the defaulting Scheduling Coordinator shall be entitled to select another Scheduling Coordinator to represent them. The CAISO will post notice of any suspension on the CAISO Website. Until the CAISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of the defaulting Scheduling Coordinator, the Eligible Customer of the defaulting Scheduling Coordinator will receive interim service in accordance with Section 4.5.4.6.2.

4.5.4.6.2 Interim Service

The CAISO shall maintain a list of Scheduling Coordinators willing to represent Eligible Customers of a defaulting Scheduling Coordinator, which list may be differentiated by UDC service area. Scheduling Coordinators who indicate to the CAISO their desire to be on such list shall be placed thereon by the CAISO in random order.

(a) When the CAISO suspends the certification of a Scheduling Coordinator in accordance with Section 4.5.4.4.1, Eligible Customers of the defaulting Scheduling Coordinators shall be assigned to all Scheduling Coordinators on the list established pursuant to this Section 4.5.4.6.2 in a non-discriminatory manner to be established by the CAISO, and

each Eligible Customer shall thereafter be represented by the Scheduling Coordinator to which it is assigned unless and until it selects another Scheduling Coordinator in accordance with Section 4.5.4.6.1, subject to this Section 4.5.4.6.2 subsection (b).

(b) Unless the CAISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of a defaulting Scheduling Coordinator within seven (7) days of the notice of termination being posted on the CAISO Website, the Scheduling Coordinator to which that Eligible Customer has been assigned in accordance with subsection (a) may establish a reasonable minimum period for service, not to exceed thirty (30) days.

(c) In the event no Scheduling Coordinator indicates its willingness to represent Eligible Customers of a defaulting Scheduling Coordinator, the UDC that has the obligation to serve End-Use Customers of the Eligible Customer, if any, shall arrange to serve those End-Use Customers of such Eligible Customers that are located within the service area of the UDC. Such service will be provided in a manner consistent with that which the UDC provides, pursuant to the rules and tariffs of the Local Regulatory Authority, for its bundled End-Use Customers.

(d) This Section shall not in any way require a UDC to provide or arrange for Scheduling Coordinator service for wholesale Eligible Customers.

* * * * *

4.17.6 Operating Requirements

Distributed Energy Resource Aggregations will respond to (1) CAISO Dispatch Instructions and (2) instructions from the Utility Distribution Company to maintain the safety and reliability of the Distribution System. The CAISO may dispatch a Distributed Energy Resource Aggregation to the extent the Distributed Energy Resource Aggregation bids or schedules into the CAISO Markets and receives an award. The CAISO may also issue an Exceptional Dispatch Instruction for the Distributed Energy Resource Aggregation for reliability pursuant to Section 34.11. Distributed Energy Resource Aggregations shall respond to Dispatch Instructions consistent with Generation Distribution Factors for the Distributed Energy Resource Aggregation.

Each Distributed Energy Resource Provider will operate its Distributed Energy Resource Aggregation(s) in a manner consistent with limitations or operating orders established by the Utility Distribution Company or Metered Subsystem. Scheduling Coordinators for Distributed Energy Resources Providers shall submit Outages to the CAISO as necessary to reflect any distribution constraints impacting Distributed Energy Resources that comprise a Distributed Energy Resource Aggregation under its control. The CAISO shall have the authority to coordinate and approve Outage schedules for the Distributed Energy Resource Aggregation(s) listed in a Distributed Energy Resource Provider Agreement, in accordance with the provisions of Section 9. Where the Utility Distribution Company requires its own direct communication with the Distributed Energy Resource Provider for the safety and reliability of the Distribution System, those communication and data protocols will be established in Schedule 4 to the Distributed Energy Resource Provider Agreement.

* * * * *

Section 8

* * * * *

8.4.1.1 Regulation

A resource offering Regulation must have the following operating characteristics and technical capabilities:

(a) it must be capable of being controlled and monitored by the CAISO EMS by means of the installation and use of a standard CAISO direct communication and direct control system, a description of which and criteria for any temporary exemption from which, the CAISO shall publish on the CAISO Website;

(b) it must be capable of achieving at least the Ramp Rates (increase and decrease in MW/minute) stated in its Bid for the full amount of Regulation capacity offered;

(c) the Regulation capacity offered must not exceed the maximum Ramp Rate (MW/minute) of that resource times ten (10) minutes;

(d) the resource to CAISO Control Center telemetry must, in a manner meeting CAISO standards, include indications of whether the resource is on or off CAISO EMS control at

the resource terminal equipment;

(e) the resource must be capable of the full range of movement within the amount of Regulation capability offered without manual resource operator intervention of any kind;

(f) each Ancillary Service Provider must ensure that its CAISO EMS control and related SCADA equipment for its resource are operational throughout the time period during which Regulation is required to be provided;

(g) Regulation capacity offered must be dispatchable on a continuous basis for at least sixty (60) minutes in the Day-Ahead Market and at least thirty (30) minutes in the Real-Time Market after issuance of the Dispatch Instruction. The CAISO will measure continuous Energy from the time a resource reaches its award capacity. In the Real-Time Market, where a storage resource using the Non-Generator Resource model will not have sufficient State of Charge to meet its Ancillary Services Schedule, Imbalance Reserves Award, or RUC Award, the CAISO will dispatch the storage resource to have sufficient State of Charge to meet its Ancillary Services Schedule, Imbalance Reserves Award, or RUC Award. Scheduling Coordinators for Non-Generator Resources located within the CAISO Balancing Authority Area that require Energy from the Real-Time Market to offer their full capacity as Regulation may request the use of Regulation Energy Management as described in Section 8.4.1.2. Consistent with the requirements of this Section, the CAISO will use all reasonable efforts to commit, schedule, and dispatch Non-Generator Resources offering Regulation while recognizing the impact of Regulation awards on their State of Charge in the Day-Ahead and Real-Time Markets. The CAISO will include examples in the Business Practice Manual detailing how the Day-Ahead and Real-Time optimizations will account for Regulation awards in determining the State of Charge in subsequent intervals; and

(h) Regulation capacity offered must meet or exceed the minimum performance threshold of twenty-five (25) percent measured accuracy as specified in Section 8.2.3.1.1.

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Section 11

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11.2 Settlement of Day-Ahead Market Transactions

All transactions in the IFM and RUC as specified in the Day-Ahead Schedule, AS Awards and RUC Awards, respectively, are financially binding and will be settled based on the Day-Ahead LMP, ASMP or RUC Price for the relevant Location for the specific resource or transaction identified for the Bid. The CAISO will settle the costs of Demand, Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services as separate Settlement debits and credits for each Settlement Period as appropriate.

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11.2.3 IFM Energy Charges and Payments for Metered Subsystems

11.2.3.1 Gross Energy Settlement for Metered Subsystems

For Scheduling Coordinators that submit Bids for MSS Operators that have selected gross Energy Settlement, CAISO shall settle Energy, the MSS Demand and MSS Supply, in the Day-Ahead Schedules pursuant to Section 11.2.3.1.1 and 11.2.3.1.2.

11.2.3.1.1 IFM Charges for MSS Demand under Gross Energy Settlement

The CAISO shall charge Scheduling Coordinators that submit Bids for MSS Operators that have selected or are subject to gross Energy Settlement an amount equal to the product of the MWh quantity of Demand internal to the MSS in its Day-Ahead Schedule at the price at the Default LAP where the MSS LAP is located.

11.2.3.1.2 IFM Payments for MSS Supply under Gross Energy Settlement

The CAISO shall credit Scheduling Coordinators that submit Bids for MSS Operators that have selected or are subject to gross Energy Settlement an amount equal to the product of the MWh quantity of Supply from the MSS in its Day-Ahead Schedule at the corresponding PNode and the applicable IFM LMP.

11.2.3.1.3 IFM Payments for MSSs providing Imbalance Reserves

A MSS that receives an Imbalance Reserves Award will be settled per Section 11.2.1.1 irrespective of that MSS's election under Section 4.9.13 of net or gross Settlement.

11.2.3.2 Net Energy Settlement for Metered Subsystems

For Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement, the CAISO shall settle the net MSS Demand and MSS Supply in the Day-Ahead Schedules pursuant to Section 11.2.3.2.1 and 11.2.3.2.2.

11.2.3.2.1 IFM Charges for MSS Demand under Net Energy Settlement

The CAISO shall charge Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement an amount equal to the product of the net MSS Demand in the Day-Ahead Schedule and the IFM MSS Price. The net MSS Demand is the quantity of MSS Demand that exceeds MSS Generation for the applicable MSS.

11.2.3.2.2 IFM Payment for MSS Supply under Net Energy Settlement

The CAISO shall credit Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement an amount equal to the product of the net MSS Supply in the Day-Ahead Schedule and the weighted average price of all IFM LMPs for all applicable PNodes within the relevant MSS. The net MSS Supply is the quantity of MSS Generation that exceeds the MSS Demand for the applicable MSS. The weights used to compute the weighted average LMPs shall be equal to MSS Generation scheduled in the Day-Ahead Schedule.

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11.2.4 CRR Settlements

The CAISO will credit or debit CRR Holders as further specified in this Section 11.2.4 and its subsections.

11.2.4.1 Calculation of the IFM Congestion Charge

For each Settlement Period of the IFM, the CAISO will calculate the IFM Congestion Charge as the IFM MCC amount for all scheduled Demand and Virtual Demand Awards, minus the IFM MCC amount for all scheduled Supply and Virtual Supply Awards.

The IFM MCC amount for all scheduled Demand and Virtual Demand Awards is the sum of part (a), part (b), and part (c) of this Section 11.2.4.1.

The IFM MCC amount for all scheduled Supply and Virtual Supply Awards is the sum of part (d), part (e) and part (f) of this Section 11.2.4.1.

Part (a) is the sum of the products of the IFM MCC of Energy and the total MWh of Demand scheduled in the Day-Ahead Schedule and Virtual Demand Awards at all the applicable PNodes and Aggregated Pricing Nodes for the Settlement Period.

Part (b) is the sum of the products of the MCC for the Locational IRU Price and the nodally distributed Upward Imbalance Reserves Requirement specified in Section 31.3.1.6.3.2, as adjusted by any procurement relaxation specified in Section 31.3.1.6.2.

Part (c) is the sum of the products of the MCC for the Locational IRD Price and the nodally distributed Downward Imbalance Reserves Requirement specified in Section 31.3.1.6.3.2, as adjusted by any procurement relaxation specified in Section 31.3.1.6.2.

Part (d) is the sum of the products of the IFM MCC and the total of the MWh of Supply scheduled in the Day-Ahead Schedule and the Virtual Supply Awards at all the applicable PNodes for the Settlement Period.

Part (e) is the sum of the products of the MCC for the Locational IRU Price and the IRU Awards.

Part (f) is the sum of the products of the MCC for the Locational IRD Price and the IRD Awards.

11.2.4.1.1 [Not Used]

11.2.4.1.2 Calculation of Hourly CRR Congestion Fund

The CAISO calculates an Hourly CRR Congestion Fund for every Transmission Constraint in the CAISO BAA that is congested in the IFM in a Settlement Period. The Hourly CRR Congestion Fund specific to a particular binding Transmission Constraint in a given Settlement Period is the sum of the: (a) portion of the IFM Congestion Charge in that Settlement Period attributable to congestion on the Transmission Constraint to which the Hourly CRR Congestion Fund corresponds; (b) charges specific to the Transmission Constraint calculated pursuant to Section 11.2.4.4.1; and (c) CRR credit adjustments the CAISO may make pursuant to Sections 11.2.4.6 or 11.2.4.7 that are associated with the Transmission Constraint. Part (a) does not include funds needed to make a Congestion difference allocation to an EDAM Entity Balancing Authority Area as specified in Section 33.11.1.2.1. The Hourly CRR Congestion Fund for a Transmission Constraint in an EDAM Entity Balancing Authority Area is set to zero dollars ($0).

11.2.4.2 Settlement Calculation for the Different CRR Types

For the purposes of settling the various CRR Types, the CAISO will calculate the Settlement of CRRs as

described in this Section 11.2.4.2. When a CRR Source or CRR Sink is a LAP, the CAISO will use the Load Distribution Factors used in the IFM to produce the LAP Price at which it will settle the CRR. When a CRR Source or CRR Sink is a Trading Hub, the CAISO will use the weighting factors used in the IFM, and in the CRR Allocation and CRR Auction processes, to produce the Trading Hub prices that it will use to settle the various CRR Types.

11.2.4.2.1 [Not Used]

11.2.4.2.2 [Not Used]

11.2.4.3 Credits and Debits for Monthly and Annual Auctions

The CAISO will charge CRR Holders for the Market Clearing Price for CRRs obtained through the clearing of the CRR Auction as described in Section 36.13.6. To the extent the CRR Holder purchases a CRR through a CRR Auction that has a negative value, the CAISO will retain the CRR Auction proceeds and apply them to credit requirements of the applicable CRR Holder, in accordance with Section 12.6.3 of the CAISO Tariff. The CAISO will net all credits and debits issued through this process to determine the net revenue amount. CRR Auction net revenue amounts for on-peak and off-peak usage from each CRR Auction will be separated. The CAISO will allocate CRR Auction revenues for each season coming from the annual auction uniformly across the three months comprising each season based on time of use. The CAISO will then add these on-peak and off-peak monthly amounts from the seasonal auctions to the corresponding monthly on-peak and off-peak amounts from the monthly CRR Auction for the same month to form the monthly net CRR Auction on-peak and off-peak revenues, respectively. Furthermore, the CAISO will convert these monthly net CRR Auction revenues into daily values and add them to the daily CRR Balancing Account. In particular, the daily CRR Balancing Account contribution will be the sum of: (1) the monthly net CRR Auction on-peak amount multiplied by the ratio of daily on-peak hours to monthly on-peak hours; and (2) the monthly net CRR Auction off-peak amount multiplied by the ratio of daily off-peak hours to monthly off-peak hours.

11.2.4.4 Hourly CRR Calculations, Daily CRR Settlement, and Potential Monthly Surplus Distribution Payments

11.2.4.4.1 Calculating CRR Holders' Congestion-Supported Values

For each Settlement Period, the CAISO uses the funds in the Hourly Congestion Funds calculated in

Section 11.2.4.1.2 to determine the Congestion-Supported Values credited and charged to CRR Holders, by first determining all Net Modeled CRR Flow quantities. The CAISO then determines whether the Net Modeled CRR Flow results in a credit or debit to the CRR Holder.

For a CRR Holder whose Net Modeled CRR Flow over a binding Transmission Constraint is in the prevailing direction, the Congestion-Supported Value is a credit equal to the ratio of that CRR Holder's prevailing Net Modeled CRR Flow over that Transmission Constraint (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7), as compared to the sum of all CRR Holders' prevailing Net Modeled CRR Flow over that Transmission Constraint (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7). The CAISO will not credit a CRR Holder from an Hourly CRR Congestion Fund in excess of the CRR Holder's Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint, minus any adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7 that are allocated to that Transmission Constraint.

For a CRR Holder whose Net Modeled CRR Flow over a binding Transmission Constraint is in the counter-flow direction, the Congestion-Supported Value is a charge equal to the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint.

The lower bound of the sum of Congestion-Supported Values for a CRR Option across the Settlement Periods of a day is zero.

The CAISO transfers any funds in an Hourly CRR Congestion Fund associated with binding Transmission Constraints to which no CRR has a positive or negative difference between the source and sink PTDFs to the CRR Balancing Account.

Any funds remaining in an Hourly CRR Congestion Fund after all funds have been allocated to CRRs or transferred to the CRR Balancing Account for that hour are reserved for potential Daily CRR Surplus Distribution Payments or Monthly CRR Surplus Distribution Payments to CRR Holders. The funds the CAISO holds in reserve for a CRR Holder pertaining to a Transmission Constraint are held in proportion to that CRR Holder's Net Modeled CRR Flow in that Settlement Period (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7) relative to the Net Modeled CRR Flow over that Transmission Constraint for all CRR Holders in that Settlement Period (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7).

11.2.4.4.2 Calculating Daily CRR Surplus Payments

The CAISO allocates the funds in a Daily Congestion Fund as a Daily CRR Surplus Distribution Payment to CRR Holders that have funds reserved for them in a Daily CRR Congestion Fund pursuant to Section 11.2.4.4.1, and whose total Congestion-Supported Values pertaining to that Transmission Constraint during the day are less than the sum of the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint across the day (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7). A Daily CRR Surplus Distribution Payments specific to a CRR Holder and Transmission Constraint cannot exceed the sum of the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint across all Settlement Periods of the day (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7). The CAISO adds any funds remaining in a Daily CRR Congestion Fund after it has made all necessary Daily CRR Surplus Distribution Payments to that Transmission Constraint's Monthly CRR Congestion Fund.

11.2.4.4.3 Monthly Clearing of the Monthly Constraint-Specific CRR Congestion Fund

The CAISO distributes the total of the Monthly CRR Congestion Fund at the end of each month. The CAISO first distributes the funds in a Monthly CRR Congestion Fund as Monthly CRR Surplus Distribution Payments to CRR Holders that have funds reserved for them in a Monthly CRR Congestion Fund pursuant to Section 11.2.4.4.1 and whose total Congestion-Supported Values pertaining to that Transmission Constraint during the month, plus the Daily CRR Surplus Distribution Payments, are less than the sum of the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint across all Settlement Periods of the month (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7).

The CAISO distributes any funds remaining in a Monthly CRR Congestion Fund after it has made all required Monthly CRR Surplus Distribution Payments to Scheduling Coordinators in an amount equal to: (a) the funds in the Monthly CRR Congestion Fund, multiplied by (b) the ratio of each Scheduling Coordinator's Measured Demand for the relevant Trading Month (net of the Scheduling Coordinator's Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Month), divided by (c) the total Measured Demand for all Scheduling Coordinators for the relevant Trading Month

(net of the total Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Month).

11.2.4.5 CRR Balancing Account

11.2.4.5.1 Accumulation of CRR Balancing Account Funds

The CAISO will accumulate the daily CRR Balancing Account: (1) seasonal and monthly CRR Auction revenues as described in Section 11.2.4.3; (2) any funds in an Hourly CRR Congestion Fund associated with binding Transmission Constraints to which no CRR has a positive or negative difference between the source and sink PTDF; (3) any IFM Congestion Charges associated with Day-Ahead Ancillary Services Awards as provided in Section 11.10.1.1.1; and (4) IFM Congestion Fund Credits as specified in Section 11.2.1.5.

11.2.4.5.2 Distribution of CRR Balancing Account Funds

The CAISO distributes the CRR Balancing Account to Scheduling Coordinators in an amount equal to: (a) the funds in the CRR Balancing Account, multiplied by (b) the ratio of each Scheduling Coordinator's Measured Demand for the relevant Trading Day (net of the Scheduling Coordinator's Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Day), divided by (c) the total Measured Demand for all Scheduling Coordinators for the relevant Trading Day (net of the total Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Day).

11.2.4.5.3 Interest on CRR Balancing Account

Interest accruing due to the CRR Balancing Account will be at the CAISO's received interest rate and will be credited to each monthly CRR Balancing Account accrued interest fund, which is then allocated to monthly Measured Demand excluding Measured Demand associated with valid and balanced ETC, TOR, or Converted Rights Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same month.

11.2.4.6 Adjustment of CRR Credits and Debits Related to Virtual Awards

In accordance with this Section 11.2.4.6, the CAISO will adjust the credits from the CRRs of a CRR

Holder that is also a Convergence Bidding Entity whenever either of the following creates a significant impact on the value of the CRRs held by that entity: the CRR Holder/Convergence Bidding Entity submits Virtual Bids; or the CRR Holder/Convergence Bidding Entity reduces in the RTM an import or export awarded in a Day-Ahead Schedule. As set forth in Section 11.32, the CAISO will also adjust the credits and debits from the CRRs of a CRR Holder (regardless of whether the CRR Holder is also a Convergence Bidding Entity) where the Scheduling Coordinator representing that CRR Holder reduces in the RTM an import or export awarded in a Day-Ahead Schedule.

(a) For purposes of this Section 11.2.4.6 and the definition of Flow Impact, a reduction by a Scheduling Coordinator submitting Schedules on behalf of an entity that is a CRR Holder to an import or export Schedule in the RTM will be treated as a Virtual Award if the segment of Economic Bids (but not Self-Schedule) leading to the Schedule reduction is: at an Energy Bid price greater than the Day-Ahead Market LMP at the relevant intertie, in the case of an import; or at any Energy Bid price less than the Day-Ahead Market LMP at the relevant intertie, in the case of an export.

In addition, if the RTM Bid does not include the full MW quantity of the Day-Ahead Schedule through some combination of Economic Bid and Self-Schedule, then the MW range not covered by the RTM Bid that was included in the Day-Ahead Schedule will be treated as a Virtual Award.

For each CRR Holder subject to this Section 11.2.4.6, for each hour, and for each Transmission Constraint binding in the IFM or FMM the CAISO will calculate the Flow Impact of the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. For the purposes of calculating the CRR adjustments as specified in this Section 11.2.4.6, the CAISO will include nodal MW constraints that the CAISO applies to Eligible PNodes in the IFM pursuant to Section 30.10.

(b) The CAISO will determine the peak and off-peak hours of the day where Congestion on the Transmission Constraint was significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. Congestion on the Transmission Constraint will be deemed to have been significantly impacted by the

Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder if the Flow Impact passes two criteria. First, the Flow Impact must be in the direction to increase the sum of the CRR Holder's Notional CRR Values in their portfolio in that Settlement Period. Second, the Flow Impact must exceed the threshold percentage of the flow limit for the Transmission Constraint. The threshold percentage is ten (10) percent of the flow limit for each Transmission Constraint.

(c) For each peak or off-peak hour that passes both criteria in Section 11.2.4.6(b), the CAISO will compare the Transmission Constraint's impact on the Day-Ahead Market value of the CRR Holder's CRR portfolio with the Transmission Constraint's impact on the FMM value of the CRR Holder's CRR portfolio, as applicable.

(d) The CAISO will adjust the peak or off-peak period credits and debits from the CRR Holder's CRRs in the event that, over the peak or off-peak period of a day, the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the FMM value of the CRR Holder's CRR portfolio, as applicable. The amount of the peak period adjustment will be the amount that the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the FMM value of the CRR Holder's CRR portfolio for the peak-period hours that passed both criteria in Section 11.2.4.6(b), as applicable. The amount of the off-peak period adjustment will be the amount that the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the FMM value of the CRR Holder's CRR portfolio for the off-peak period hours that passed both criteria in Section 11.2.4.6(b), as applicable.

The CAISO includes all adjustments of CRR credits and debits calculated pursuant to this Section 11.2.4.6 in the Hourly CRR Congestion Fund for the applicable Transmission Constraint corresponding to the CRR credits and debits that would have been issued but for the adjustments as specified in Section 11.2.4.1.2.

11.2.4.7 Adjustment of CRR Credits and Debits Related to Schedules that Source and Sink in the Same Balancing Authority Area

The CAISO will adjust the credits and debits from the CRRs of a CRR Holder where the Scheduling Coordinator representing that CRR Holder has submitted Bids (including Self-Schedules), in violation of Section 30.5.5 and the resulting Schedule(s) impacts the value of the CRRs in the DAM held by that CRR Holder. Such adjustment will occur if the following circumstances are all met:

(a) A portion of the E-Tag that uses the CAISO Controlled Grid relates to a Schedule in the Day-Ahead Market;

(b) The scheduled MW on the portion of the E-Tag using the CAISO Controlled Grid has a positive PTDF on a congested transmission element, where that congestion is measured in the direction of the CRR; and

(c) The CRR Holder would receive credits from CRRs on the congested transmission element.

If such circumstances occur, the CAISO adjusts the CRR credits and debits in that Settlement Period so that the additional net CRR revenue that otherwise would be earned from the congestion created by the Schedule that results from the Bids submitted in violation of Section 30.5.5 is not credited to the CRR Holder. Instead, the CAISO will add those amounts to the Hourly CRR Congestion Fund for the applicable Transmission Constraint.

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11.3 Settlement of Virtual Awards

11.3.1 Virtual Supply Awards

The CAISO will credit each Scheduling Coordinator with Virtual Supply Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the Day-Ahead LMP at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Supply Awards. Virtual Supply Awards subject to price correction will be settled as specified in Section 11.21.

The CAISO will charge each Scheduling Coordinator with Virtual Supply Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the product of the MWhs of Virtual Supply Awards and the simple average of the four FMM LMPs for the applicable Trading Hour at the Eligible PNode or

Eligible Aggregated PNode.

The CAISO pays or charges, depending on whether the value is positive or negative, the product of the virtual Forecasted Movement quantity and the difference between the FMM Flexible Ramp Up Price and the FMM Flexible Ramp Down Price.

11.3.2 Virtual Demand Awards

The CAISO will charge each Scheduling Coordinator with Virtual Demand Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the Day-Ahead Market LMP at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Demand Awards. Virtual Demand Awards subject to price correction will be settled as specified in Section 11.21.

The CAISO will credit each Scheduling Coordinator with Virtual Demand Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the product of the MWhs of Virtual Demand Awards and the simple average of the four FMM LMPs for the applicable Trading Hour at the Eligible PNode or Eligible Aggregated PNode.

The CAISO pays or charges, depending on whether the value is positive or negative. The product of the virtual Forecasted Movement quantity and the difference between the FMM Flexible Ramp Up Price and the FMM Flexible Ramp Down Price.

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11.5.2 Uninstructed Imbalance Energy

Scheduling Coordinators shall be credited or charged a UIE Settlement Amount for each LAP, PNode or Scheduling Point for which the CAISO calculates an Uninstructed Imbalance Energy quantity for each Settlement Interval. Uninstructed Imbalance Energy quantities are calculated for each resource that has a Day-Ahead Schedule, Dispatch Instruction, Real-Time Interchange Export Schedule or Metered Quantity. For MSS Operators electing gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the Uninstructed Imbalance Energy for such entities is settled similarly to how Uninstructed Imbalance Energy for non-MSS entities is settled as provided in this Section 11.5.2. The CAISO shall account for Uninstructed Imbalance Energy every five minutes based on the resource's Dispatch Instruction. For all resources, including Generating Units, System Units of MSS

Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources, Distributed Energy Resource Aggregations and all Participating Load, Reliability Demand Response Resources, and Proxy Demand Resources, the UIE Settlement Amount is calculated for each Settlement Interval as the product of its Uninstructed Imbalance Energy MWh quantity and the applicable RTD LMP. The UIE Settlement Amount for non-Participating Load and MSS Demand under gross Settlement is settled as described in Section 11.5.2.2. For MSS Operators that have elected net Settlement, the UIE Settlement Amount is calculated for each Settlement Interval as the product of its Uninstructed Imbalance Energy quantity and RTD MSS Price.

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11.5.2.2 Hourly Real-Time Demand Settlement

The Default LAP Hourly Real-Time Price will apply to CAISO Demand and MSS Demand under net Settlement of imbalance energy, except for CAISO Demand not settled at the Default LAP as provided in Section 30.5.3.2, and per the methodology as may be further defined in the Business Practice Manuals. For each Settlement Interval, the differences between the Day-Ahead Scheduled CAISO Demand and metered Demand (MWh) is settled at the Default LAP Hourly Real-Time Price or the Custom LAP Hourly Real-Time Price, as appropriate. For each Default LAP, the CAISO calculates the applicable Default LAP Hourly Real-Time Price as the weighted average LMP of the four Default LAP FMM LMPs and the twelve (12) five-minute Default LAP RTD LMPs. The CAISO calculates the weighted average LMP for each Default LAP as the summation of the weighted average MEC, the weighted average MCC, and the weighted average MCL for that Default LAP. The CAISO calculates the weighted average MEC, MCC, and MCL for each applicable Trading Hour based on the four applicable Default LAP FMM MECs, MCCs, and MCLs, respectively, and the twelve (12) applicable Default LAP RTD MECs, MCCs, and MCLs, respectively. For each Custom LAP, the CAISO calculates the applicable Custom LAP Hourly Real-Time Price as the weighted average LMP of the four Custom LAP FMM LMPs and the twelve (12) five-minute Custom LAP RTD LMPs. The CAISO calculates the weighted average LMP for each Custom LAP as the summation of the weighted average MEC, the weighted average MCC, and the weighted average MCL

for that Custom LAP. The CAISO calculates the weighted average MEC, MCC, and MCL for each applicable Trading Hour based on the four applicable Custom LAP FMM MECs, MCCs, and MCLs, respectively, and the twelve (12) applicable Custom LAP RTD MECs, MCCs, and MCLs, respectively. In calculating the weighted average MEC, MCC, and MCL for each hour for either the Default LAPs or Custom LAPs, the CAISO determines the weights based on the difference between Day-Ahead Schedules at the applicable LAP and the CAISO Forecast of BAA Demand for the CAISO used in the FMM multiplied by the relevant FMM LMP at the applicable LAP plus the difference between the CAISO Forecast of BAA Demand for the CAISO used in the FMM and the CAISO Forecast of BAA Demand for the CAISO used in the RTD multiplied by the relevant RTD LMP at the applicable LAP divided by the sum of the difference between Day-Ahead Schedules at the applicable LAP and the CAISO Forecast of BAA Demand for the CAISO used in the FMM plus the difference between the CAISO Forecast of BAA Demand for the CAISO used in the FMM and the CAISO Forecast of BAA Demand for the CAISO used in the RTD. Furthermore, the Default LAP Hourly Real-Time Prices and the Custom LAP Hourly Real-Time Prices will be bounded by the maximum and the lowest LMP and its components, for the applicable Trading Hour from those relevant intervals at the relevant LAP. If the calculated price exceeds the upper boundary or is below the lower boundary, then the Default LAP Hourly Real-Time Price or the Custom LAP Hourly Real-Time Price, as appropriate, instead will be calculated based on a weighted average price with the weightings based on gross deviations (absolute value of each deviation).
The Hourly Real-Time LAP Prices are determined by the requirements in Section 27.2.2.2.

11.5.2.3 Revenue Neutrality Resulting from Changes in LAP Load Distribution Factors

Any resulting revenue from changes in the LAP Load Distribution Factors between the Day-Ahead Market and the Real-Time Dispatch shall be allocated to metered CAISO Demand in the corresponding LAP within the CAISO Balancing Authority Area and metered EDAM Demand in the corresponding LAP within an EDAM Entity Balancing Authority Area.

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11.5.7 Congestion Credit and Marginal Credit of Losses Credit

11.5.7.1 RTM Congestion Credit for ETCs and TORs

The CAISO shall not apply charges or issue credits to Scheduling Coordinators related to the MCC associated with all Points of Receipt and Points of Delivery pairs associated with valid and balanced ETC Self-Schedules or TOR Self-Schedules after the Day-Ahead Market. The balanced portion for each ETC or TOR contract for each Settlement Interval will be based on the difference between: (1) the minimum of (a) the total Demand, (b) the total ETC or TOR Supply Self-Schedule submitted in RTM, including changes after twenty (20) minutes before the applicable Trading Hour if such change is permitted by the Existing Contract, or (c) the Existing Contract maximum capacity as specified in the TRTC Instructions; and (2) the valid and balanced portion of the Day-Ahead Schedule. In determining the balanced portions, the CAISO evaluates the amounts based on the following variables: (a) for exports and imports, the CAISO shall use the schedule quantity specified in the Interchange schedule used for check out between CAISO and other Balancing Authority Areas; (b) for CAISO Demand, the CAISO shall use the Gross Load associated with the applicable ETC or TOR; and (c) for all Generation the CAISO shall use the quantity specified in the Dispatch Instructions. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Congestion Credit for FMM Instructed Imbalance Energy or RTD Instructed Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the applicable weighted average MCC at each Point of Receipt and Point of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's ETC or TOR Self-Schedules. The weights in the two markets will be based on the absolute values of the (a) deviation of the FMM Schedule or the CAISO Forecast of BAA Demand for the CAISO used in the FMM from Day-Ahead Schedules and (b) deviation of the RTD schedule or the CAISO Forecast of BAA Demand for the CAISO used in the RTD from Day-Ahead Schedules.

11.5.7.2 RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedule submitted to the RTM pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or issue any credit to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable charges for losses as specified in the existing

agreement between the TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.7.2. Where the provisions of this Section 11.5.7.2 do not conflict with the provisions of the agreement, the provisions of this Section 11.5.7.2 shall apply to the subject TORs. The balanced portion of the TOR Self-Schedule after the Day-Ahead Market is the same balanced quantity mentioned in this Section 11.5.7.2 for the TOR Self-Schedule. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the weighted average MCL at each of the eligible Points of Receipt and Points of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules. The weights in the two markets will be based on the absolute values of the: (a) deviation of the FMM Schedule or the CAISO Forecast of BAA Demand for the CAISO used in the FMM from Day-Ahead Schedules; and (b) deviation of the RTD schedule or the CAISO Forecast of BAA Demand for the CAISO used in the RTD from Day-Ahead Schedules. For losses that the CAISO shall charge pursuant to Section 17.3.3, the specific loss charge amount shall be the product of: (a) the specific loss percentage as may be specified in an applicable agreement between the TOR holder and the CAISO or an existing agreement between the TOR holder and a Participating TO; (b) the weighted average MEC price from the FMM and RTD markets with weights based on the absolute values of (1) deviation of FMM schedule or CAISO Forecast of BAA Demand for the CAISO used in the FMM from Day-Ahead Schedules and (2) deviation of RTD schedule or CAISO Forecast of BAA Demand for the CAISO used in the RTD from Day-Ahead Schedules; and (c) the balanced contract quantity mentioned in Section 11.5.7.1.

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11.5.8 Settlement for Emergency Assistance

This Section 11.5.8 shall apply to Settlement for emergency assistance provided to or by the CAISO, not EIM Assistance Energy Transfer Surcharges. In any case in which the CAISO has entered into an

agreement regarding emergency assistance, which agreement has been accepted by FERC, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.8. Where the provisions of this Section 11.5.8 do not conflict with the provisions of the FERC-accepted agreement, the provisions of this Section 11.5.8 shall apply to the subject emergency assistance.

11.5.8.1 Settlement for Energy Purchased by the CAISO for System Emergency Conditions, to Avoid Market Disruption, or to Prevent or Relieve Imminent System Emergencies, Other than Exceptional Dispatch Energy

The Settlement price for Energy that is delivered to the CAISO from a utility in another Balancing Authority Area as a result of a CAISO request pursuant to Section 42.1.5 or any other provision for assistance in System Emergency conditions, to avoid a Market Disruption, or to prevent or relieve an imminent System Emergency, other than Energy from an Exceptional Dispatch, shall be either (i) a negotiated price agreed upon by the CAISO and the seller or (ii) a price established by the seller for such emergency assistance in advance, as may be applicable. In the event no Settlement price is established prior to the delivery of the emergency Energy, the default Settlement price shall be the simple average of the relevant FMM and RTD LMPs at the applicable Scheduling Point, plus all other charges applicable to imports to the CAISO Balancing Authority Area, as specified in the CAISO Tariff. If the default Settlement price is determined by the seller not to compensate the seller for the value of the emergency Energy delivered to the CAISO, then the seller shall have the opportunity to provide the CAISO with cost support information demonstrating that a higher price is justified. The cost support information must be provided in writing to the CAISO within thirty (30) days following the date of the provision of emergency assistance. The CAISO shall have the discretion to credit that higher price based on the seller's justification of this higher price. The CAISO will provide notice of its determination whether to credit such a higher price within thirty (30) days after receipt of the cost support information. Any dispute regarding the CAISO's determination whether to credit a higher price for emergency assistance based on cost support information shall be subject to the CAISO ADR Procedures. Credit by the CAISO for such emergency assistance will be made in accordance with the Settlement process, billing cycle, and billing and payment timeline set forth in the CAISO Tariff. The costs for such emergency assistance, including the credit of a price based on cost support information, will be settled in two steps: (1) the costs will first be settled at the

simple average of the relevant Dispatch Interval LMPs and included in the total FMM IIE Settlement Amount and RTD IIE Settlement Amount as described in Sections 11.5.1.1 and 11.5.1.2; and (2) costs in excess of the simple average of the relevant Dispatch Interval LMPs plus other applicable charges will be settled in accordance with Section 11.5.8.1.1. The allocation of the FMM IIE Settlement Amount and RTD IIE Settlement Amount settled in accordance with Sections 11.5.1.1 and 11.5.1.2 will be settled according to Section 11.5.4.2.

11.5.8.1.1 Settlement and Allocation of Excess Costs Payments for Emergency Energy Purchases, Other than Exceptional Dispatch Energy, to Scheduling Coordinators

The Excess Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 is calculated for each purchase for each Settlement Interval as the cost difference between the Settlement amount calculated pursuant to Section 11.5.8.1 for the delivered purchase quantity and the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point. The Excess Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 shall be allocated in the same manner as specified in Section 11.5.6.2.5.2 for the allocation of the Excess Cost Payments portion of credits for Exceptional Dispatches for emergency conditions.

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11.8.4 RTM Bid Cost Recovery Amount

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11.8.4.1 RTM Bid Cost Calculation

For each Settlement Interval, the CAISO shall calculate RTM Bid Cost for each Bid Cost Recovery Eligible Resource, as the algebraic sum of the RTM Start-Up Cost, RTM Minimum Load Cost, RTM Transition Cost, RTM Pump Shut-Down Cost, RTM Energy Bid Cost, RTM Pumping Cost, RTM AS Bid Cost, and RTM GHG Bid Cost. For each Settlement Interval, the CAISO shall calculate RTM Bid Cost for each RMR Resource as the algebraic sum of the RTM Start-Up Cost adjusted to remove Opportunity Costs and Variable Start-Up Operations and Maintenance Adders, RTM Transition Costs adjusted to

remove Opportunity Costs and Variable Start-Up Operations and Maintenance Adders, RTM Energy Bid Cost adjusted to remove Opportunity Costs and Variable Energy Operations and Maintenance Adders, and RTM AS Bid Cost. For Multi-Stage Generating Resources, in addition to the specific RTM Bid Cost rules described in Section 11.8.4.1, the rules described in Section 11.8.1.3 will be applied to further determine the applicable MSG Configuration-based CAISO Market Start-Up Bid Cost, Transition Bid Cost, and Minimum Load Bid Cost, in a given Settlement Interval. For Multi-Stage Generating Resources, the incremental RTM Start-Up Cost, RTM Minimum Load Cost, and RTM Transition Cost to provide RTM committed Energy or awarded Ancillary Services capacity for an MSG Configuration other than the self-scheduled MSG Configuration are determined by the RTM optimization rules in specified in Section 34.

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11.8.4.1.5 RTM Energy Bid Cost

For any Settlement Interval, the RTM Energy Bid Cost for the Bid Cost Recovery Eligible Resource except Participating Loads shall be computed as the sum of the products of each RTD Instructed Imbalance Energy portion, except Standard Ramping Energy, Residual Imbalance Energy, FMM Exceptional Dispatch Energy or RTD Exceptional Dispatch Energy, FMM Derate Energy or RTD Derate Energy, MSS Load Following Energy, Ramping Energy Deviation and Regulating Energy, with the relevant Energy Bid prices, the Default Energy Bid price, or the Locational Marginal Price, if any, as further described in Section 11.17, for each Dispatch Interval in the Settlement Interval. For Settlement Intervals for which the Bid Cost Recovery Eligible Resource is ramping up to or down from a rerated Minimum Load that was increased pursuant to Section 9.3.3 for the Real-Time Market, the RTM Energy incurred by the ramping will be classified as FMM Derate Energy or RTD Derate Energy and will not be included in Bid Cost Recovery. For a Bid Cost Recovery Eligible Resource that is ramping up to or down from an Exceptional Dispatch, the relevant Energy Bid Cost related to the Energy caused by ramping will be settled on the same basis as the Energy Bid used in the Settlement of the Exceptional Dispatch that led to the ramping. The RTM Energy Bid Cost for a Bid Cost Recovery Eligible Resource, including Participating Loads and Proxy Demand Response Resources, for a Settlement Interval is subject to the Real-Time Performance Metric as described in Section 11.8.4.4 and the Persistent Deviation Metric as

described in Section 11.17. Any Uninstructed Imbalance Energy in excess of FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy is also not eligible for Bid Cost Recovery. For a MultiStage Generating Resource the CAISO will determine the RTM Energy Bid Cost based on the Generating Unit level. For RMR Resources, the CAISO will determine the RTM Energy Bid Cost based on the relevant Energy Bid adjusted to remove Opportunity Costs.

11.8.4.1.5.1 RTM Energy Bid Cost for Storage Resources

When a storage resource participating as a Non-Generator Resource receives a Dispatch Instruction in the Fifteen-Minute Market that results in incremental Energy to its Day-Ahead Energy Schedule, or a Dispatch Instruction in the Real-Time Dispatch that results in incremental Energy to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the lower of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the greater of its Day-Ahead Locational Marginal Price, its Real-Time Market Default Energy Bid, or its Real-Time Locational Marginal Price for that interval.

In intervals when a storage resource participating as a Non-Generator Resource does not have a Day-Ahead Energy Schedule or only participates in Energy Imbalance Market and receives a Dispatch Instruction in the Fifteen-Minute Market for incremental Energy or a Real-Time Dispatch that results in incremental Energy to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the lower of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the greater of its Real-Time Market Default Energy Bid, or its Real-Time Locational Marginal Price for that interval.

When a storage resource participating as a Non-Generator Resource receives a Dispatch Instruction in the Fifteen-Minute Market that results in decremental Energy or no change to its Day-Ahead Energy Schedule, or a Dispatch Instruction in the Real-Time Dispatch that results in decremental Energy or no change to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the greater of the following two values: (1) the storage resource's Energy Bid in the

Real-Time Market for that interval, or (2) the lower of its Day-Ahead Locational Marginal Price, its Real-Time Market Default Energy Bid, or its Real-Time Locational Marginal Price for that interval.

In intervals when a storage resource participating as a Non-Generator Resource does not have a Day-Ahead Energy Schedule or only participates in the Energy Imbalance Market and receives a Dispatch Instruction in the Fifteen-Minute Market that results in decremental Energy or a Dispatch Instruction in the Real-Time Dispatch that results in decremental Energy or no change to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the greater of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the lower of its Real-Time Market Default Energy Bid or its Real-Time Locational Marginal Price for that interval.

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11.8.4.1.7 RTM Transition Cost

For each Settlement Interval, the RTM Transition Costs shall be based on the MSG Configuration to which the Multi-Stage Generating Resource is transitioning and are allocated to the CAISO commitment period of that MSG Configuration.

11.8.4.1.7.1 RTM Transition Cost Applicability

Within any eligible RTM CAISO Commitment Period determined pursuant to the rules specified in Section 11.8.1.3, the CAISO shall apply the RTM Transition Costs for the Settlement Intervals in which the Multi-Stage Generating Resource is actually transitioning from the "from" MSG Configuration and reaches the Minimum Load as registered in the Master File, or if applicable, as modified pursuant to Section 9.3.3, of the "to" MSG Configuration to which the Multi-Stage Generating Resource is transitioning, subject to the Tolerance Band.

11.8.4.1.8 RTM GHG Bid Cost

For each Settlement Interval, the RTM GHG Bid Cost shall be the product of the RTM GHG Award from each accepted RTM GHG Bid Adder for a relevant GHG Regulation Area and the applicable Marginal

GHG Cost.

11.8.4.2 RTM Market Revenue Calculations

11.8.4.2.1 For each Settlement Interval in a CAISO Real-Time Market Commitment Period, the RTM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the elements listed below in this Section. For Multi-Stage Generating Resources the RTM Market Revenue calculations will be made at the Generating Unit level.

(a) The sum of the products of the FMM or RTD Instructed Imbalance Energy (including Minimum Load Energy of the Bid Cost Recovery Eligible Resource committed in RUC and where for Pumped-Storage Hydro Units and Participating Load operating in the pumping mode or serving Load, the MWh is negative), except Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, Derate Energy, MSS Load following Energy, Ramping Energy Deviation and Regulation Energy, with the relevant FMM and RTD LMP, for each Dispatch Interval in the Settlement Interval. These amounts are subject to the Real-Time Performance Metric and the Persistent Deviation Metric as described in Sections 11.8.4.4 and 11.17, respectively. For storage resources that receive an Exceptional Dispatch to hold a State of Charge, the RTM Market Revenue will include revenues from the opportunity cost to hold the State of Charge but not the Exceptional Dispatch Energy to reach the State of Charge.

(b) The product of the Real-Time Market AS Award from each accepted Real-Time Market AS Bid in the Settlement Interval with the relevant ASMP, divided by the number of fifteen (15)-minute Commitment Intervals in a Trading Hour (4), and prorated to the duration of the Settlement Interval.

(c) The relevant tier-1 No Pay charges for that Bid Cost Recovery Eligible Resource in that Settlement Interval.

(d) The Forecasted Movement and Uncertainty Awards Settlement Amounts as calculated pursuant to Section 11.25 are included in the RTM Market Revenues calculation, not including:

(1) the amounts rescinded pursuant to Section 11.25.3;

(2) Forecasted Movement revenue when there are changes in Self-Schedules across consecutive Trading Hours; and

(3) Forecasted Movement revenue when there are changes in EIM Base Schedules across consecutive Trading Hours without Economic Bids.

(e) The product of RTM GHG Award from each accepted RTM GHG Bid Adder and relevant Marginal GHG Cost in that Settlement Interval.

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11.10.6 Upward Ancillary Services Neutrality Adjustment

For each Settlement Period the difference between the upwards Ancillary Service cost and the sum of the total Ancillary Services obligation and neutrality adjustments will be allocated to all Scheduling Coordinators in proportion to their upward Ancillary Service Obligation (before taking into consideration the Inter-SC Trades of Ancillary Services). The CAISO shall exclude EDAM Transfers and EIM Transfers between the CAISO and an EDAM Entity, or an EIM Entity, from the calculation of the upwards Ancillary Service Obligation for this neutrality adjustment. The upwards Ancillary Service cost is the sum of the upward Ancillary Services credits issued pursuant to Sections 11.10.1.1, 11.10.1.2, and 11.10.3.1. The total upward Ancillary Services obligation and neutrality adjustments is the sum of the requirements in Sections 11.10.2.2.2, 11.10.2.2.3, 11.10.3.1, 11.10.3.4, 11.10.4.1, and 11.10.4.4.

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11.14 Neutrality

The CAISO shall be authorized to issue charges or credits as special adjustments in regard to:

(a) amounts required to reach an accounting trial balance of zero in the course of the Settlement process in the event that the charges calculated as due from CAISO Debtors are lower than credits calculated as due to the CAISO Creditors for the same Trading Day, which includes any amounts required to round up any invoice amount expressed in dollars and cents to the nearest whole dollar amount. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their

Measured Demand in MWh of Energy for that Trading Day. In the event that the charges due from CAISO Debtors are higher than the credits due to CAISO Creditors, the CAISO shall allocate a credit to the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day; and

(b) awards payable by or to the CAISO pursuant to good faith negotiations or CAISO ADR Procedures that the CAISO is not able to allocate to or to collect from a Market Participant or Market Participants in accordance with Section 13.5.3. These charges will be allocated among Scheduling Coordinators over an interval determined by the CAISO and pro rata based on EDAM Measured Demand during that interval, if the dispute concerned the IFM, EIM Measured Demand during that interval, if the dispute concerned the Real-Time Market or RUC, or otherwise Measured Demand during that interval.

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11.25.2 Settlement of Uncertainty Requirement

11.25.2.1 Credit to Resources.

11.25.2.1.1 FMM Uncertainty Awards

For a resource with an IRU Award, the CAISO applies a deviation settlement as the product of the Flexible Ramp Up Price and the difference between the upward Five-minute Imbalance Reserve Quantity and the upward FMM Uncertainty Award.

For a resource with an IRD Award, the CAISO applies a deviation settlement as the product of the Flexible Ramp Down Price and the difference between the downward Five-minute Imbalance Reserve Quantity and downward FMM Uncertainty Award.

If a resource has no Imbalance Reserves Award, then the CAISO settles upward and downward Uncertainty Awards as the product of the Uncertainty Award and the Flexible Ramp Up Price, in the case of an upward Uncertainty Award, or the Flexible Ramp Down Price, in the case of a downward Uncertainty Award.

11.25.2.1.2 RTD Uncertainty Awards

The CAISO settles RTD Uncertainty Awards with Scheduling Coordinators as the algebraic sum of the upward uncertainty awards defined in part (a) of this Section 11.25.2.1.2 and the downward uncertainty awards defined in part (b) of this Section 11.25.2.1.2.

(a) Upward Uncertainty Awards – the product of the RTD Flexible Ramp Up Price and the difference between the upward RTD Uncertainty Award quantity and the upward FMM Uncertainty Award quantity for the relevant Settlement Interval, both calculated for each resource pursuant to Section 44.2 in MWhs, less any rescission amounts pursuant to section 11.25.3.

(b) Downward Uncertainty Awards – the product of the RTD Flexible Ramp Down Price and the difference between the downward RTD Uncertainty Award quantity and the downward FMM Uncertainty Award quantity for the relevant Settlement Interval, both calculated for each resource pursuant to Section 44.2 in MWhs, less any rescission amounts pursuant to section 11.25.3.

11.25.2.2 Allocation of Costs of Uncertainty Movement Procured.

11.25.2.2.1 Settlement Process.

(a) **Generally.** The CAISO will settle Uncertainty Awards for a direction as specified in this Section 11.25.2.2 by Balancing Authority Area for each Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as specified in Section 44.2.4.1, or separately will settle Uncertainty Awards for a direction as specified in this Section 11.25.2.2 for the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction, as specified in Section 44.2.4.1.

(b) **Daily.** The CAISO will initially—

(1) allocate the cost of the Uncertainty Awards for a direction on a daily basis according to the categories as

set forth in Sections 11.25.2.2.2 and 11.25.2.2.3 within the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction or within a Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as applicable; and

(2) allocate the daily amounts to Scheduling Coordinators as set forth in Section 11.25.2.2.4.

(c) **Monthly.** The CAISO will resettle the costs of the Uncertainty Awards by—

(1) reversing the daily allocation;

(2) assigning the monthly costs of the Uncertainty Awards to Peak Flexible Ramp Hours and Off-Peak Flexible Ramp Hours;

(3) separately allocating the monthly Peak Flexible Ramp Hours amounts and Off-Peak Flexible Ramp Hours amounts to the categories as set forth in Sections 11.25.2.2.2 and 11.25.2.2.3 within the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction or within a Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as applicable; and

(4) allocating the monthly amounts in each category to Scheduling Coordinators as set forth in Section 11.25.2.2.4.

11.25.2.2.2 Allocation of Charges to Categories.

(a) **Determination of Uncertainty Movement for Resources.** For each interval, the CAISO will calculate the net Uncertainty Movement of each resource according to the following

categories:

(1) for Supply resources other than non-Dynamic System Resources as the difference between the Dispatch Instruction of the binding interval in the next RTD run and the first advisory RTD interval in the current run.

(2) for non-Dynamic System Resources and export schedules as the difference between the schedule used in the RTD (accounting for ramp) for the binding interval in the next RTD run and the schedule used for the first advisory interval in the current RTD run.

(b) **RTD Uncertainty Movement.** The CAISO will determine the total net RTD Uncertainty Movement for each category separately for the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction or a Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as applicable—

(1) for the category of Supply resources, which shall not include non-Dynamic System Resources, as the net sum of the five-minute Uncertainty Movement determined pursuant to Section 11.25.2.2.2 of all the Supply resources in the category.

(2) for the category of Intertie resources, which shall comprise non-Dynamic System Resources and exports, as the net sum of the five-minute Uncertainty Movement determined pursuant to Section 11.25.2.2 of all the non-Dynamic System resources and export schedules.

(3) for the non-Participating Load category, as the difference between –

(A) the CAISO Forecast of BAA Demand of the binding interval in the next RTD run; and

(B) CAISO Forecast of BAA Demand for the first advisory interval in the current RTD run.

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11.29.5 General Principles for Production of Settlement Statements

11.29.5.1 Basis of Settlement

The basis of each Settlement Statement will be the debiting or crediting of an account in the name of the relevant Business Associate.

11.29.5.2 Settlement Statements

(a) For each Settlement Period of the Trading Day, the CAISO will calculate for each charge the amounts debited and the amounts credited and shall arrive at a net amount debited or credited. Each of these net amounts will appear in the Settlement Statements that the CAISO will provide to the relevant Business Associate.

(b) The components of the Grid Management Charge will be included in an Initial Settlement Statement T+9B, and any Recalculation Settlement Statement with the other types of charges referred to in Section 11.

11.29.5.3 Data Files

Settlement Statements will be accompanied by data files of supporting information for the relevant Business Associate that includes the following for each Settlement Period of the Trading Day:

(a) the aggregate quantity (in MWh) of Energy supplied or withdrawn by the Scheduling Coordinator Metered Entities represented by the Scheduling Coordinator;

(b) the aggregate quantity (in MW) and type of Ancillary Services capacity provided or purchased;

(c) the relevant prices that the CAISO has applied in its calculations;

(d) details of the scheduled quantities of Energy, Imbalance Reserves, Reliability Capacity, and Ancillary Services accepted by the CAISO in the Day-Ahead Market and the RTM;

(e) details of FMM Instructed Imbalance Energy or RTD Imbalance Energy and penalties;

(f) details of any credits or charges associated with the CRR Auctions; and

(g) detailed calculations of all fees, charges and credits allocated among Scheduling Coordinators and each Scheduling Coordinator's share.

11.29.5.4 Settlement Software

The CAISO Settlement software will be audited by an independent firm of auditors competent to carry out audits of such software to determine its consistency with the CAISO Tariff. In any dispute regarding

Settlement calculations, a certificate from the firm of auditors that the CAISO software is consistent with the CAISO Tariff will be prima facie proof that the charges shown in a Settlement Statement have been calculated in a method consistent with the CAISO Tariff. Nothing in this section will be deemed to establish the burden of proof with respect to Settlement calculations in any proceeding.

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11.29.17 Alternative Payment Procedures

11.29.17.1 Pro Rata Reduction to Payments

If it is not possible to clear the CAISO Clearing Account on a Payment Date because of nonpayment by a CAISO Debtor, which cannot be covered using funds available in the CAISO Reserve Account or the CAISO Penalty Reserve Account, or by enforcing any Financial Security provided by a defaulting CAISO Debtor, the CAISO shall, after deducting Grid Management Charge and FERC Annual Charges in accordance with Section 11.29.9.6.1 and paying amounts shown as due to internal accounts rather than to CAISO Creditors, such as the balancing accounts for CRRs, RAAIM or penalties issued under Section 37, (1) first pay in full every CAISO Creditor whose net amounts receivable on the relevant Payment Date is less than $5,000; and (2) second, reduce payments to all remaining CAISO Creditors proportionately to the net amounts payable to them on the relevant Payment Date to the extent necessary to clear the CAISO Clearing Account through a shortfall allocation. Except to the extent a payment default is on an Invoice that was separate from other market activity under Section 11.29.10.3, each payment default amount allocated to CAISO Creditors through a shortfall allocation under this Section 11.29.17.1 that remains unpaid by the defaulting CAISO Debtor will be allocated as set forth in Section 11.29.17.2. The provisions of this Section 11.29.17.1 shall not apply to the extent the CAISO invokes Section 11.29.11 to direct a CAISO Debtor to not pay charges that are verifiably erroneous, or to non-payment of any penalty amount that a Scheduling Coordinator or CRR Holder has disputed and FERC has specifically authorized the Scheduling Coordinator or CRR Holder to net its payment to the CAISO by the amount of the penalty in question in accordance with Section 37.9.3.

11.29.17.2 Payment Default Allocation

11.29.17.2.1 Methodology for Allocating Payment Default Amounts

Each payment default amount allocated to CAISO Creditors through a shortfall allocation pursuant to Section 11.29.17.1 and that remains unpaid by the defaulting CAISO Debtor will be allocated on the next practicable Invoices to the Default-Invoiced SCIDs identified in the percentage shares calculated pursuant to Section 11.29.17.2.7 for the relevant calendar quarter, excluding the CAISO Debtor that has not paid the payment default amount. The relevant calendar quarter will be the calendar quarter that included the last full Trading Day before the bankruptcy filing, if the defaulting Market Participant filed for bankruptcy or, if the defaulting Market Participant did not file for bankruptcy, the date of its initial payment default.

Percentage shares for a calendar quarter will be calculated pursuant to the following methodology:

(a) Twenty (20) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the net amounts that were payable in each applicable calendar quarter (and averaged within such calendar quarter) to the Default-Invoiced SCIDs over the applicable Default Look-Back Periods. For Market Participants subject to Default Election option 1, these net amounts will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, these net amounts will be calculated by consolidating all of the data for the applicable SCIDs, recognizing any offsetting effect of an individual SCID's positive or negative dollar amount in the consolidated total.

(b) Thirty (30) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the sum of the absolute values of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter (and averaged within such calendar quarter) over the applicable Default Look-Back Periods, after excluding dollar amounts shown on the Invoices for payments and charges for GMC, RMR, and Wheeling Access Charge costs, and after excluding the billing of Access Charges and the payment of Transmission Revenue Requirements to Participating Transmission Owners. For Market Participants subject to Default Election

option 1, the sum of the absolute values of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, the absolute values of the net sum of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter will be calculated by consolidating all of the data for the applicable SCIDs, recognizing any offsetting effect of an individual SCID's positive or negative dollar amount in the consolidated total.

(c) Fifty (50) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the largest of the following five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) for each Default-Invoiced SCID over the applicable Default Look-Back Periods using data from T+70B Recalculation Settlement Statements or, when it is not yet available, data from T+9B Recalculation Settlement Statements:

(1) Cleared Day-Ahead Schedules to supply Energy, plus Day-Ahead Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus scheduled supply obligation for Ancillary Services (including imports but excluding RUC Awards), plus Virtual Supply Awards;

(2) Metered Generation, plus Real-Time Interchange Import Schedules, plus Real-Time Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus FMM Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus Real-Time supply obligation for Ancillary Services;

(3) Cleared Day-Ahead Schedules for Demand (including Demand served by Pumped-Storage Hydro Units and exports) multiplied by one-hundred three (103) percent to reflect Transmission Losses, plus scheduled demand obligation for Ancillary Services, plus Virtual Demand Awards;

(4) Metered Load multiplied by one-hundred three (103) percent to reflect Transmission Losses, plus Real-Time Interchange Export Schedules, plus

Real- Time demand obligation for Ancillary Services; or

(5) The greater of (A) the quantity of CRRs acquired in CRR Auctions or transferred through the Secondary Registration System (excluding CRRs acquired in CRR Allocations) or (B) Inter-SC Trades of Energy.

For Market Participants subject to Default Election option 1, each of the five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, each of the five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) will be calculated by consolidating all of the data for the applicable SCIDs.

11.29.17.2.2 [Not Used]

11.29.17.2.3 Interest on Allocated Payment Default Amounts

In accordance with Section 11.29.7.2, Interest will be charged to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2 to the extent the payment default amounts allocated to those Default-Invoiced SCIDs or SCIDs exceed the payment default amounts allocated to them through a shortfall allocation pursuant to Section 11.29.17.1, and Interest will be paid to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2 to the extent the payment default amounts allocated to those Default-Invoiced SCIDs or SCIDs are exceeded by the payment default amounts allocated to them through a shortfall allocation pursuant to Section 11.29.17.1, for the period between the date of the shortfall allocation and the date payments are due for the Invoices on which the allocation of the payment default amounts appear. The Interest payable pursuant to this Section 11.29.17.2.3 will be included on the Invoices on which the allocation of the payment default amounts appear.

* * * * *

11.29.17.2.6 Default Look-Back Period

(a) The following provisions will apply to each Default-Invoiced SCID for an entity that is a

new Market Participant that begins to participate in the CAISO Markets following the effective date of this Section 11.29.17.2.6:

(i) The Default-Invoiced SCID for that Market Participant will first be subject to allocation of payment default amounts under Section 11.29.17.2.1 in the second calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets and the applicable Default Look-Back Period will be the calendar quarter in which the Market Participant began to participate in the CAISO Markets.

(ii) For the third calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets, the applicable Default Look-Back Period will be the Market Participant's first two (2) calendar quarters of participation in the CAISO Markets.

(iii) For the fourth calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets, the applicable Default Look-Back Period will be the Market Participant's first three (3) calendar quarters of participation in the CAISO Markets.

(iv) For any subsequent calendar quarter in which Section 11.29.17.2.1 is in effect, the applicable Default Look-Back Period will be a total of four (4) full calendar quarters.

11.29.17.2.7 Provision of Information on Percentage Shares

Beginning with the second calendar quarter of 2011, the CAISO will provide to each Default-Invoiced SCID on or about the first Business Day of the applicable calendar quarter its own percentage share of any payment default amount for the calendar quarter that is beginning, subject to adjustment to account for any non-paying CAISO Debtor, based on application of the methodology for allocating payment default amounts set forth in Section 11.29.17.2.1 to the applicable Default Look-Back Period. In calculating the percentage share for each Default-Invoiced SCID pursuant to this Section 11.29.17.2.7, the CAISO will determine the percentage share for each full calendar quarter and will average those quarterly percentage shares.

11.29.17.2.8 Scope of Payment Default Allocation Provisions

The provisions of Section 11.29.17.2 will not apply to the allocation of payment default amounts and interest accrued thereon that are associated with Trading Days that occurred prior to April 1, 2009.

11.29.17.3 Payment of Defaulted Receivables

Collections or any other receipt of defaulted receivables (other than Interest) will be distributed according to the following priorities: First, to any GMC that the CAISO did not receive as a result of any debtor's defaults. Second, to any FERC Annual Charges that were not received as a result of any debtor's defaults. Third, to any internal accounts, for example balancing accounts for CRRs or RAAIM, that were not paid in full as a result of the debtor's defaults. Fourth, to the CAISO Reserve Account to the extent funds were used to cover the debtor's payment default.

Fifth, either *pro rata* to CAISO Creditors for the Payment Advices that were subject to default or, if the defaulted receivables were allocated pursuant to Section 11.29.17.2, to Default-Invoiced SCIDs in proportion to their allocated shares of the defaulted receivables as calculated pursuant to Section 11.29.17.2.1 for the Payment Advice on which the payment default occurred. In either case, distributions will begin with the oldest Payment Advice that has unpaid amounts as a result of the debtor's default. These distributions to unpaid market creditors may be timed in order to reduce the associated administrative burden according to the following rules:

(1) If the total available for payment is less than $5,000, then the funds shall accumulate in an interest-bearing account until either: (a) the account exceeds $5,000, (b) there have been no distributions from the account for six months, or (c) all defaults for a given Payment Advice are available for payment.

(2) If all CAISO Creditors for that Payment Advice have been paid, then the proceeds will either be paid *pro rata* to the CAISO Creditors in the oldest unpaid Payment Advice, or, if the defaulted receivables are allocated pursuant to Section 11.29.17.2, the proceeds will be paid to the Default-Invoiced SCIDs in proportion to their allocated shares of the default amount, as calculated pursuant to Section 11.29.17.2.1 in the oldest unpaid Payment Advice.

(3) All defaulted receivables disbursed under this Section shall be disbursed in accordance with the timeframes set forth in Section 11.29.9.6.1.

Sixth, to the Penalty Reserve Account to the extent funds were used to cover the debtor's payment default. Seventh, any remaining balance to the CAISO Reserve Account.

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Section 27

27. CAISO Markets and Processes

In the Day-Ahead and Real-Time time frames the CAISO operates a series of procedures and markets that together comprise the CAISO Markets Processes. In the Day-Ahead time frame, the CAISO conducts the Market Power Mitigation (MPM) process, the Integrated Forward Market (IFM) and the Residual Unit Commitment (RUC) process. In the Real-Time time frame, the CAISO does the following: 1) accepts the Economic Bids and Self-Schedules used in the Real-Time Market procedures, 2) conducts the MPM process for the RTM, 3) accepts and awards HASP Block Intertie Schedules for Energy and Ancillary Services, 4) provides HASP Advisory Schedules for Energy and Ancillary Services for Bids that do not create a HASP Block Intertie Schedule, 5) conducts the Real-Time Unit Commitment (RTUC), 6) conducts the Short-Term Unit Commitment (STUC), 7) conducts the Fifteen Minute Market (FMM), and 8) conducts the five-minute Real-Time Dispatch (RTD). As appropriate, the CAISO Markets Processes utilize transmission and Security Constrained Unit Commitment and dispatch algorithms in conjunction with a Base Market Model adjusted as described in Sections 27.5.1 and 27.5.6 to optimally commit, schedule and Dispatch resources and determine marginal prices for Energy, Imbalance Reserves, Ancillary Services and RUC Capacity. Congestion Revenue Rights are available and entitle holders of such instruments to a stream of hourly payments or charges associated with revenue the CAISO collects or pays from the Marginal Cost of Congestion component of hourly Day-Ahead LMPs for Energy, Locational IRU Prices, and Locational IRD Prices. Through the operation of the CAISO Markets Processes the CAISO develops Day-Ahead Schedules, Imbalance Reserves Awards, Day-Ahead AS Awards and RUC Schedules, HASP Block Intertie Schedules for Energy and AS Awards, HASP Advisory Schedules, FMM Energy Schedules, and FMM Ancillary Services Awards, Real-Time AS Awards and

Dispatch Instructions to ensure that sufficient supply resources are available in Real-Time to balance Supply and Demand and operate in accordance with Reliability Criteria. The CAISO Balancing Authority Area also is a Balancing Authority Area in the Market Area.

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27.4.3 CAISO Markets Scheduling and Pricing Parameters

27.4.3.1 Generally

The SCUC and SCED optimization software for the CAISO Markets utilize a set of configurable scheduling and pricing parameters to enable the software to reach a feasible solution and set appropriate prices in instances where Effective Economic Bids are not sufficient to allow a feasible solution. The scheduling parameters specify the criteria for the software to adjust Non-priced Quantities when such adjustment is necessary to reach a feasible solution. The scheduling parameters are configured so that the SCUC and SCED software will utilize Effective Economic Bids as far as possible to reach a feasible solution, and will skip Ineffective Economic Bids and perform adjustments to Non-priced Quantities pursuant to the scheduling priorities for Self-Schedules specified in Sections 31.4 and 34.12. The scheduling parameters utilized for relaxation of enforced internal and Intertie Transmission Constraints are specified in Section 27.4.3.2.1 and 27.4.3.3.1. The pricing parameters specify the criteria for establishing market prices in instances where one or more Non-priced Quantities are adjusted by the Market Clearing software. The pricing parameters are specified in Sections 27.4.3.2.2, 27.4.3.2.3, 27.4.3.2.4, 27.4.3.3.2, 27.4.3.3.3, and 27.4.3.3.4. The complete set of scheduling and pricing parameters used in all CAISO Markets is maintained in the Business Practice Manuals.

27.4.3.2 Parameters Related to Soft Energy Bid Cap

For CAISO Market intervals for which the conditions specified in Section 27.4.3.3 do not apply, the CAISO will apply the parameters specified in Sections 27.4.3.2.1 through 27.4.3.2.4, 31.4, 34.12, and the Ancillary Services Scarcity Prices in Section 27.1.2.3.5.

27.4.3.2.1 Scheduling Parameters for Transmission Constraint Relaxation

Scheduling parameters, or penalty prices, are used to determine when the SCUC and SCED software will relax an enforced Transmission Constraint rather than adjust Supply or Demand bids or Non-priced

Quantities as specified in Sections 31.3.1.3, 31.4 and 34.12 to relieve Congestion on the constrained facility. In the IFM, the enforced internal and Intertie Transmission Constraint scheduling parameter is set to $5,000 per MWh. The corresponding scheduling parameter in RUC is set to $1,250 per MWh for internal Transmission Constraints and $3,200 for Intertie Transmission Constraints. In the RTM, this scheduling parameter is set to $1,500 per MWh for internal Transmission Constraints and $2,900 MWh for Intertie Transmission Constraints. The effect of this scheduling parameter is that if the optimization can re-dispatch resources to relieve Congestion on a Transmission Constraint at or below the applicable price per MWh, the Market Clearing software will utilize such re-dispatch; but if the cost exceeds the applicable price per MWh, the market software will relax the Transmission Constraint.

27.4.3.2.2 Pricing Parameters for Transmission Constraint Relaxation

For the purpose of determining how the relaxation of a Transmission Constraint will affect the determination of prices in the IFM and RTM, the pricing parameter of the Transmission Constraint being relaxed is set to the Soft Energy Bid Cap. In the case of Contingency-related Transmission Constraints, the CAISO will determine the amount of relaxation required to clear the market using the most limiting condition among the applicable Contingencies and the base case. The CAISO will establish prices based on the parameter pricing specified in this Section as it applies to the most limiting Contingency and base case. The corresponding pricing parameter used in the RUC is set at the maximum RUC Availability Bid price specified in Section 39.6.1.2.

27.4.3.2.3 Insufficient Supply to Meet Self-Schedule Demand in IFM

In the IFM, when available supply is insufficient to meet all self-scheduled Demand, self-scheduled Demand is reduced to the point where the available supply is sufficient to clear the market. For price-setting purposes in such cases, the cleared self-scheduled Demand is deemed to be willing to pay the Soft Energy Bid Cap price.

27.4.3.2.4 Insufficient Supply to Meet CAISO Forecast of CAISO Demand in the RTM

In the RTM, in the event that Energy offers are insufficient to meet the CAISO Forecast of CAISO Demand, the SCUC and SCED software will relax the system energy-balance constraint. In such cases the software utilizes a pricing parameter set to the Soft Energy Bid Cap for price-setting purposes.

27.4.3.3 Parameters Related to Hard Energy Bid Cap

(a) **Integrated Forward Market and Real-Time Market.** The scheduling and pricing parameters in Sections 27.4.3.3.1 through 27.4.3.3.4, 31.4, and 34.12 will apply for all Trading Hours of the IFM and Real-Time Market for the same Trading Day if the CAISO has accepted a Bid with an Energy Bid price that exceeds the Soft Energy Bid Cap pursuant to Section 30.7.12, or the Maximum Import Bid Price exceeds the Soft Energy Bid Cap for any Trading Hour of the IFM.

(b) **Real-Time Market Only.** If the CAISO has not accepted a Bid with an Energy Bid price that exceeds the Soft Energy Bid Cap pursuant to Section 30.7.12, or the Maximum Import Bid Price does not exceed the Soft Energy Bid Cap for any Trading Hour of the IFM for the same Trading Day, the parameters in Sections 27.4.3.3.1 through 27.4.3.3.4, 31.4, and 34.12 will apply

(i) in any Trading Hour of the Real-Time Market for which the CAISO has accepted a Bid with an Energy Bid price that exceeds the Soft Energy Bid Cap pursuant to Section 30.7.12, or the Maximum Import Bid Price exceeds the Soft Energy Bid Cap; and

(ii) for all intervals of the applicable Real-Time Market run for which these conditions apply in at least one interval of the applicable market run.

27.4.3.3.1 Scheduling Parameters for Transmission Constraint Relaxation

Scheduling parameters or penalty prices, are used to determine when the SCUC and SCED software will relax an enforced Transmission Constraint rather than adjust Supply or Demand bids or Non-priced Quantities as specified in Sections 31.3.1.3, 31.4 and 34.12 to relieve Congestion on the constrained facility. In the IFM, the enforced internal and Intertie Transmission Constraint scheduling parameter is set to $10,000 per MWh. The corresponding scheduling parameter in RUC is set to $1,250 for internal Transmission Constraints and $3,200 for Intertie Transmission Constraints. In the RTM, this scheduling parameter is set to $3,000 per MWh for internal Transmission Constraints and $5,800 for Intertie Transmission Constraints. The effect of this scheduling parameter is that if the optimization can re-dispatch resources to relieve Congestion on a Transmission Constraint at or below the applicable price per MWh, the Market Clearing software will utilize such re-dispatch; but if the cost exceeds the applicable

price per MWh, the market software will relax the Transmission Constraint.

27.4.3.3.2 Pricing Parameters for Transmission Constraint Relaxation

In the case of Contingency-related Transmission Constraints, the CAISO will determine the amount of relaxation required to clear the market using the most limiting condition among the applicable Contingencies and the base case. The CAISO will establish prices based on the parameter pricing specified in this Section as it applies to the most limiting Contingency and base case. The corresponding pricing parameter used in the RUC is set at the maximum RUC Availability Bid price specified in Section 39.6.1.2.

27.4.3.3.3 Insufficient Supply to Meet Self-Schedule Demand in IFM

In the IFM, when available supply is insufficient to meet all self-scheduled Demand, self-scheduled Demand is reduced to the point where the available supply is sufficient to clear the market. For price-setting purposes in such cases, the cleared self-scheduled Demand is deemed to be willing to pay the Hard Energy Bid Cap price.

27.4.3.3.4 Insufficient Supply to Meet CAISO Forecast of CAISO Demand in the RTM

In the RTM, in the event that Energy offers are insufficient to meet the CAISO Forecast of CAISO Demand, the SCUC and SCED software will relax the system energy-balance constraint. In such cases, for price-setting purposes the software utilizes a pricing parameter set to

(a) the highest-priced cleared Economic Bid if the infeasibility detected in the scheduling run does not exceed the Constraint Relaxation Threshold, but no less than the Soft Energy Bid Cap price; or

(b) the Hard Energy Bid Cap price if the infeasibility detected in the scheduling run exceeds the Constraint Relaxation Threshold.

27.4.3.4 Protection of TOR, ETC and Converted Rights Self-Schedules in the IFM

In accordance with the submitted and accepted TRTC Instructions, valid Day-Ahead TOR Self-Schedules, Day-Ahead ETC Self-Schedules and Day-Ahead Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. The scheduling parameters associated with the TOR, ETC, or Converted Rights Self-Schedules will be set to values higher than the scheduling parameter associated with relaxation of an enforced internal and Intertie Transmission Constraint as specified in Section 27.4.3.2, so that when there is a congested Transmission

Constraint that would otherwise subject a Supply or Demand resource submitted in a valid and balanced ETC, TOR or Converted Rights Self-Schedule to adjustment in the IFM, the IFM software will relax the Transmission Constraint rather than curtail the TOR or ETC Self-Schedule. This priority will be adhered to by the operation of the IFM Market Clearing software, and if necessary, by adjustment of Schedules after the IFM has been executed and the results have been reviewed by the CAISO operators.

27.4.3.5 Effectiveness Threshold

The CAISO Markets software includes a lower effectiveness threshold setting that governs whether the software will consider a bid "effective" for managing congestion on a congested Transmission Constraint, which in the case of Nomograms will be applied to the individual flowgates that make up the Nomogram, rather than to the Nomogram itself. The CAISO sets this threshold at two-tenth of a percent (.2%) for Trading Hubs and Default LAPs. The CAISO sets the threshold at two percent (2%) for all other Nodes. For the purpose of applying these thresholds in procuring Imbalance Reserves Awards under Section 31.3.1.6.3, the CAISO considers the product of the shift factor and the Deployment Factor.

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27.13 Aggregate Capability Constraint

At the request of the Interconnection Customer or Pseudo-Tie Generating Facility, the CAISO may enforce an Aggregate Capability Constraint for Generating Facilities with Co-located Resources that reflects a Generating Facility's maximum and minimum capability or a portion of that capability for purposes of Day-Ahead Market Awards, Real-Time Market Awards, and Real-Time Dispatch as described in the CAISO's Business Practice Manuals. If the combined PMax of Co-located Resources associated with a single Generating Facility would exceed the Interconnection Service Capacity of that Generating Facility, the Interconnection Customer may request that the CAISO enforce an Aggregate Capability Constraint or multiple Aggregate Capability Constraints at the Generating Facility as described in the CAISO's Business Practice Manuals. If the Interconnection Customer requests that the CAISO enforce multiple Aggregate Capability Constraints, the CAISO will enforce an Aggregate Capability Constraint at the Generating Facility level and subordinate Aggregate Capability Constraints at the level of Resource

IDs.

If the Interconnection Customer does not elect an Aggregate Capability Constraint(s), the combined PMax of the Co-located Resources registered in the Master File for that Generating Facility may not exceed the Generating Facility's Interconnection Service Capacity. EIM Participating Resource Scheduling Coordinators also may request that the CAISO enforce an Aggregate Capability Constraint or multiple Aggregate Capability Constraints for Co-located Resources, subject to the prior written approval of the applicable EIM Entity Balancing Authority that enforcing an Aggregate Capability Constraint(s) for Co-located Resources does not create a threat to safety or reliability.

As described in the CAISO's Business Practice Manuals the CAISO may relax enforcement of subordinate Aggregate Capability Constraints in its Real-Time Market prior to relaxing enforcement of the system energy-balance constraint specified in Sections 27.4.3.3.4 to ensure there is sufficient Supply to meet the CAISO Forecast of CAISO Demand.

Notwithstanding Section 34.13, a Generating Facility whose Co-located Resources, including Variable Energy Resources, do not comply with Dispatch Instructions such that their output exceeds the Interconnection Service Capacity of the Generating Facility, will be ineligible for the Aggregate Capability Constraint. In such cases, the CAISO will adjust the PMaxes of those Co-located Resources proportionate to each Generating Unit's capacity such that the sum of the PMax values equals the Interconnection Service Capacity of the Generating Facility, or as requested by the Interconnection Customer so long as the total value does not exceed the Interconnection Service Capacity of the Generating Facility.

Similar to other Generating Facilities with multiple Resource IDs, the CAISO will have no liability with respect to Co-located Resources or their Scheduling Coordinators if Co-located Resources do not comply with Dispatch Instructions and infringe on Interconnection Service Capability used by other Co-located Resources at a Generating Facility.

In the event that Co-located Resources in an EIM Entity Balancing Authority area do not comply with Dispatch Instructions such that their output exceeds the interconnection service capacity for the Co-located Resources, the CAISO will ask the applicable EIM Entity Balancing Authority whether it will revoke its prior approval of enforcing the Aggregate Capability Constraint for such Co-located Resources.

The following resources are not eligible to use the Aggregate Capability Constraint: Multi-Stage Generators, Proxy Demand Response, Pumped Storage Hydro Units, Metered Subsystems, and Use-Limited Resources.

The Pricing Node for the Generating Units, EDAM Resources or EIM Resources subject to an Aggregate Capability Constraint will be their Point of Interconnection.

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Section 29

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29.4 Roles and Responsibilities

(a) **CAISO Balancing Authority Obligations.**

(1) **Reliability Responsibilities.** Nothing in Section 29 shall alter the CAISO's responsibilities under the other sections of the CAISO Tariff, under any agreement not required by Section 29, or under NERC Reliability Standards or any other Applicable Reliability Criteria as the Balancing Authority for the CAISO Balancing Authority Area and the transmission operator for the CAISO Controlled Grid.

(2) **Operating Responsibilities.** During any interruption of the normal operation of the Real-Time Market, the CAISO as Balancing Authority shall remain responsible for managing the resources in its Balancing Authority Area and the flows on transmission lines internal to the CAISO Balancing Authority Area, including imports and exports, for the duration of the interruption.

(b) **EIM Entity.**

(1) **Balancing Authority Obligations.**

(A) **EIM Entity as Balancing Authority.** An EIM Entity must be a Balancing

Authority registered and certified as such under the applicable authorities.

(B) **Reliability Responsibilities.** Nothing in Section 29 shall alter an EIM Entity's responsibilities under NERC Reliability Standards as the Balancing Authority for the EIM Entity Balancing Authority Area and, to the extent applicable, as the transmission operator for transmission facilities within its Balancing Authority Area.

(C) **Operating Responsibilities.** During any interruption of the normal operation of the Real-Time Market, the EIM Entity as Balancing Authority shall remain responsible in accordance with Section 29.7 for managing the resources in its Balancing Authority Area and the flows on internal transmission lines, including imports into and exports out of its Balancing Authority Area, for the duration of the interruption.

(D) **Inadvertent Energy.** An EIM Entity remains responsible for tracking inadvertent Energy and administering the payback of inadvertent Energy for its Balancing Authority Area through processes established by WECC.

(2) **EIM Entity Agreement.** An EIM Entity must execute an EIM Entity Agreement no later than ninety (90) days before the EIM Entity Implementation Date.

(3) **EIM Entity Obligations.** An EIM Entity shall –

(A) perform the obligations of an EIM Entity in accordance with the EIM Entity Agreement, Section 29, and other provisions of the CAISO Tariff that apply to EIM Entities, subject to the limitations specified in Section 29.1(b)(2)(C);

(B) ensure that each EIM Transmission Service Provider in its Balancing Authority Area has provisions in effect in the EIM Transmission Service Provider's transmission tariff, as necessary or applicable, to enable operation of the Real-Time Market in its Balancing Authority Area;

(C) qualify as or secure representation by no more than one EIM Entity Scheduling Coordinator;

(D) review and validate information about available transmission capacity submitted to it by an EIM Transmission Service Provider and transmit such validated information to its EIM Entity Scheduling Coordinator;

(E) provide the CAISO and its EIM Entity Scheduling Coordinator with information regarding the transmission capacity available to the Real-Time Market, including any information regarding Transmission Constraints of which it is aware;

(F) define Load Aggregation Points in its Balancing Authority Area;

(G) determine and inform the CAISO which resource types are eligible to participate in the Real-Time Market as resources and which transmission service providers or holders of transmission rights are EIM Transmission Service Providers; and

(H) inform the CAISO whether or not the EIM Entity intends to utilize the CAISO's Demand Forecast consistent with Section 29.34(d).

(4) **EIM Entity Termination of EIM Participation.**

(A) **EIM Entity Agreement.** An EIM Entity that wishes to terminate participation in the Real-Time Market must terminate the EIM Entity Agreement pursuant to its terms.

(B) **Notice.** Delivery to the CAISO of a written notice of termination pursuant to the terms of the EIM Entity Agreement shall represent the commitment by the EIM Entity to undertake all necessary preparations to disable the Real-Time Market within the EIM Entity Balancing Authority Area.

(C) **Actions Following Notice.** Upon receipt of such notice, the CAISO shall undertake all necessary preparations to disable the Real-Time Market within the EIM Entity Balancing Authority Area, as outlined in the

Business Practice Manual for the Energy Imbalance Market, including issuance of a Market Notice within five Business Days after receipt of such notice and termination of any EIM Sub-Entities within the EIM Entity Balancing Authority Area.

(5) **EIM Entity Corrective Actions.** If the EIM Entity takes corrective action, subject to the provisions of an open access transmission tariff, to address an issue with EIM implementation or EIM operation, or the EIM Entity issues a notice of termination –

(A) the EIM Entity shall take those actions provided in Section 29.1(d)(4) during the implementation of its corrective action; and

(B) the CAISO shall issue a Market Notice in accordance with Section 29.1(d)(1) and take those actions provided in Section 29.1(d)(5) during the implementation of the EIM Entity corrective action.

(c) **EIM Entity Scheduling Coordinator.**

(1) **Certification.** An EIM Entity Scheduling Coordinator must meet or have met the certification requirements in Section 4.5.1 for a Scheduling Coordinator.

(2) **EIM Entity Scheduling Coordinator Agreement.** An EIM Entity Scheduling Coordinator must enter an EIM Entity Scheduling Coordinator Agreement with the CAISO, which shall satisfy the obligation to enter a Scheduling Coordinator Agreement under Section 4.5.1 with regard to its representation of the EIM Entity.

(3) **Representation.** An EIM Entity Scheduling Coordinator-

(A) may represent a Market Participant other than an EIM Entity, but only if it enters a Scheduling Coordinator Agreement under Section 4.5.1 with regard to such Market Participant;

(B) may not also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for a Participating Generator, Participating

Load, or Demand Resource Provider, unless the EIM Entity Scheduling Coordinator is a transmission provider subject to the standards of conduct set forth in 18 C.F.R. § 358; and

(C) may represent more than one EIM Entity if it has certified to the CAISO in the manner described in the Business Practice Manual for the Energy Imbalance Market that it has informed each EIM Entity of the multiple representation.

(4) **Obligations.** An EIM Entity Scheduling Coordinator shall-

(A) perform the obligations of an EIM Entity Scheduling Coordinator under the EIM Entity Scheduling Coordinator Agreement and Section 29;

(B) perform the obligations of a Scheduling Coordinator under provisions of the CAISO Tariff described in Section 29.1(b);

(C) register in the manner set forth in the Business Practice Manual for the Energy Imbalance Market all non-participating resources in the Balancing Authority Area of each EIM Entity that it represents and update such information in a timely manner;

(D) verify in the manner set forth in the Business Practice Manual for the Energy Imbalance Market that all EIM Resources within the Balancing Authority Area of each EIM Entity represented by the EIM Entity Scheduling Coordinator have been registered with the CAISO;

(E) submit the Interchange schedules for the EIM Entity and any EIM Sub-Entity within its Balancing Authority Area with other Balancing Authorities at the defined Interchange scheduling locations, including creating and processing E-Tags in accordance with NERC, North American Energy Standards Board, and WECC standards and business practices for bilateral schedules between Balancing Authority Areas that are arranged no less than 20 minutes in advance of the Dispatch Interval of the Real-Time Market in which the Interchange will occur and that are included in

an EIM Resource Plan;

(F) match E-Tags and manage schedule curtailments at the defined Interchange scheduling locations with other Balancing Authorities;

(G) provide EIM Transmission Service Information in accordance with Section 29.17;

(H) settle all financial obligations arising out of the Real-Time Market for the EIM Entity, including financial settlement with non-participating resources and non-participating load within the EIM Entity Balancing Authority Area;

(I) submit EIM Base Schedules, EIM Resource Plans and other required information on behalf of the EIM Entity;

(J) register with the CAISO, consistent with the provisions in the Business Practice Manual for the Energy Imbalance Market, all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in its EIM Resource Plan; and

(K) create with the CAISO a Default Energy Bid consistent with the rules specified in Section 39.7.1 for all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in the EIM Resource Plan.

(5) **Governmental Entities.** Notwithstanding Section 29.4(c)(3)(B), a governmental entity that is an EIM Entity Scheduling Coordinator may also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for resources participating in the CAISO Markets if it agrees to comply with standards of conduct equivalent to those set forth in 18 C.F.R. § 358.

(d) **EIM Participating Resources.**

(1) **Eligibility.** The owner or operator of an EIM Resource is eligible to become an EIM Participating Resource if the EIM Resource –

(A) meets the eligibility requirements established by the EIM Entity in whose Balancing Authority Area the resource is located or scheduled or to which it may be dynamically transferred; and

(B) is capable of delivering Energy, Curtailable Demand, Demand Response Services, or similar services within the time specified by Section 29 for the Real-Time Market in which its EIM Participating Resource Scheduling Coordinator will submit Bids.

(2) **EIM Participating Resource Agreement.** An EIM Participating Resource must execute an EIM Participating Resource Agreement.

(3) **Obligations.** An EIM Participating Resource shall –

(A) perform the obligations of an EIM Participating Resource under the EIM Participating Resource Agreement and Section 29;

(B) perform the obligations applicable to Market Participants and resources under the provisions of the CAISO Tariff described in Section 29.1(b);

(C) if it represents a Generating Unit, Load of a Participating Load, Proxy Demand Resource, or other qualified resource, perform the obligations required for the resource under the provisions of the CAISO Tariff described in section 29.1(b); and

(D) comply with all CAISO Tariff requirements associated with resource registration and the measurement and verification of the associated services to be provided for EIM Resources other than Generating Units or CAISO qualified resources delivering Energy.

(e) **EIM Participating Resource Scheduling Coordinator.**

(1) **Certification.** An EIM Participating Resource Scheduling Coordinator must be either an existing Scheduling Coordinator or must meet or have met the certification requirements in Section 4.5.1 for a Scheduling Coordinator.

(2) **EIM Participating Resource Scheduling Coordinator Agreement.** An EIM Participating Resource Scheduling Coordinator must enter an EIM Participating

Resource Scheduling Coordinator Agreement with the CAISO, which shall satisfy the obligation to enter a Scheduling Coordinator Agreement under Section 4.5.1 with regard to its representation of the EIM Participating Resource.

(3) **Representation.** An EIM Participating Resource Scheduling Coordinator-

(A) may represent a Market Participant other than an EIM Participating Resource, but only if it enters a Scheduling Coordinator Agreement under Section 4.5.1 with regard to such Market Participant;

(B) may not also be an EIM Entity Scheduling Coordinator unless the EIM Participating Resource Scheduling Coordinator is a transmission provider subject to the standards of conduct set forth in 18 C.F.R. § 358; and

(C) may represent more than one EIM Participating Resource.

(4) **Obligations.** An EIM Participating Resource Scheduling Coordinator must –

(A) perform the obligations of an EIM Participating Resource Scheduling Coordinator under the EIM Participating Resource Scheduling Coordinator Agreement and Section 29;

(B) perform the obligations of a Scheduling Coordinator under the provisions of the CAISO Tariff described in Section 29.1(b);

(C) ensure that the entity it represents has obtained any transmission service necessary to participate in the Energy Imbalance Market under the terms of the CAISO Tariff or the tariff of another transmission service provider, as applicable;

(D) register in the manner set forth in the Business Practice Manual for the Energy Imbalance Market all EIM Participating Resources that it represents, provide such information to the EIM Entity Scheduling Coordinator, and update such information with the CAISO in a timely manner.

(5) **Governmental Entities.** Notwithstanding Section 29.4(e)(3)(B), a governmental

entity that is an EIM Participating Resource Scheduling Coordinator may also be an EIM Entity Scheduling Coordinator if it agrees to comply with standards of conduct equivalent to those set forth in 18 C.F.R. § 358.

(f) **EIM Sub-Entity.**

(1) **EIM Sub-Entity Agreement.** A prospective EIM Sub-Entity must execute an EIM Sub-Entity Agreement no later than ninety (90) days before its EIM Sub-Entity Implementation Date.

(2) **EIM Sub-Entity Obligations.** An EIM Sub-Entity shall –

(A) perform the obligations of an EIM Sub-Entity in accordance with the EIM Sub-Entity Agreement, Section 29, and other provisions of the CAISO Tariff that apply to EIM Sub-Entities, subject to the limitations specified in Section 29.1(b)(2)(C);

(B) verify that tariff or contractual arrangements with the EIM Entity for the Balancing Authority Area in which it is located, as necessary or applicable, are in place to enable operation of the Real-Time Market in its sub-area;

(C) qualify as or secure representation by no more than one EIM Sub-Entity Scheduling Coordinator;

(D) define the Load Aggregation Point for the EIM Sub-Entity; and

(E) unless prohibited from using its own Demand Forecast by the EIM Entity for its Balancing Authority Area, inform the CAISO whether or not the EIM Sub-Entity intends to use the CAISO's Demand Forecast consistent with Section 29.34(d) and, as applicable, provide the EIM Entity with its Demand Forecast.

(3) **EIM Sub-Entity Termination of Participation.**

(A) **EIM Sub-Entity Agreement.** An EIM Sub-Entity that wishes to terminate participation in the Real-Time Market as an EIM Sub-Entity must terminate the EIM Sub-Entity Agreement pursuant to its terms.

(B) **Notice.** Delivery to the CAISO of a written notice of termination pursuant to the terms of the EIM Sub-Entity Agreement shall represent the commitment by the EIM Sub-Entity to undertake all necessary preparations to disable the EIM Sub-Entity within the EIM Entity Balancing Authority Area.

(C) **Actions Following Notice.** Upon receipt of such notice, the CAISO shall undertake all necessary preparations to disable the EIM Sub-Entity within the EIM Entity Balancing Authority Area and transition responsibility to the EIM Entity, as outlined in the Business Practice Manual for the Energy Imbalance Market.

(g) **EIM Sub-Entity Scheduling Coordinator.**

(1) **Certification.** An EIM Sub-Entity Scheduling Coordinator must meet or have met the certification requirements in Section 4.5.1 for a Scheduling Coordinator.

(2) **EIM Sub-Entity Scheduling Coordinator Agreement.** An EIM Sub-Entity Scheduling Coordinator must enter an EIM Sub-Entity Scheduling Coordinator Agreement with the CAISO, which shall satisfy the obligation to enter a Scheduling Coordinator Agreement under Section 4.5.1 with regard to its representation of the EIM Sub-Entity.

(3) **Representation.** An EIM Sub-Entity Scheduling Coordinator-

(A) may represent a Market Participant other than an EIM Sub-Entity, but only if it enters a Scheduling Coordinator Agreement under Section 4.5.1 with regard to such Market Participant;

(B) may not also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for a Participating Generator, Participating Load, or Demand Resource Provider, unless the EIM Sub-Entity Scheduling Coordinator is a transmission provider subject to the standards of conduct set forth in 18 C.F.R. § 358; and

(C) may represent more than one EIM Sub-Entity if it has certified to the

CAISO in the manner described in the Business Practice Manual for the Energy Imbalance Market that it has informed each EIM Sub-Entity of the multiple representation.

(4) **Obligations.** An EIM Sub-Entity Scheduling Coordinator shall-

(A) perform the obligations of an EIM Sub-Entity Scheduling Coordinator under the EIM Sub-Entity Scheduling Coordinator Agreement and Section 29;

(B) perform the obligations of a Scheduling Coordinator under provisions of the CAISO Tariff described in Section 29.1(b);

(C) register in the manner set forth in the Business Practice Manual for the Energy Imbalance Market all EIM Sub-Entity non-participating resources that it represents in the EIM Entity Balancing Authority Area and update such information with the CAISO in a timely manner;

(D) verify in the manner set forth in the Business Practice Manual for the Energy Imbalance Market that all Sub-Entity EIM Resources within the EIM Entity Balancing Authority Area represented by the EIM Sub-Entity Scheduling Coordinator have been registered with the CAISO;

(E) update the Full Network Model according to Section 29.17(a) if authorized by the EIM Entity and notice to the EIM Entity is provided;

(F) submit transmission Outages in accordance with Section 29.9(b) if authorized by the EIM Entity;

(G) submit EIM Manual Dispatch instructions for EIM Resources and non-participating resources they represent if authorized by the EIM Entity;

(H) settle all financial obligations arising out of the Real-Time Market for the EIM Sub-Entity, including financial settlement with non-participating resources and non-participating load it represents within the EIM Entity Balancing Authority Area;

(I) submit EIM Base Schedules, EIM Resource Plans and other required

information on behalf of the EIM Sub-Entity;

(J) ensure all EIM Resources and Demand within the EIM Sub-Entity area are metered in accordance with Section 29.10;

(K) register with the CAISO, consistent with the provisions in the Business Practice Manual for the Energy Imbalance Market, all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in its EIM Resource Plan; and

(L) create with the CAISO a Default Energy Bid consistent with the rules specified in Section 39.7.1 for all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in the EIM Resource Plan.

(5) **Governmental Entities.** Notwithstanding Section 29.4(g)(3)(B), a governmental entity that is an EIM Sub-Entity Scheduling Coordinator may also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for resources participating in the CAISO Markets if it agrees to comply with standards of conduct equivalent to those set forth in 18 C.F.R. § 358.

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29.11 Settlements and Billing for EIM Market Participants.

(a) **Applicability.** Section 29.11, rather than Section 11, shall apply to the CAISO Settlement with EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators, except as otherwise provided, but not to other Scheduling Coordinators. Settlement of the Real-Time Market with EDAM Entity Scheduling Coordinators, EDAM Resource Scheduling Coordinators, and EDAM Load Serving Entity Scheduling Coordinators is also governed by Section 33.11. Settlement under Section 33.11 results in outcomes not produced for EIM Market Participants that are not EDAM Market Participants, including Settlement of

Demand within an EDAM Entity Balancing Authority Area, Settlement of Supply from EDAM Resources that would otherwise be settled as non-participating resources in an EIM Entity Balancing Authority Area, sequential netting of Bid Cost Recovery from the RUC to the RTM, and Settlement of transfer revenue associated with an EDAM Transfer limit established in accordance with Section 33.7 and Section 33.18.

(b) **Imbalance Energy.**

(1) **FMM Instructed Imbalance Energy.**

(A) **Calculation.**

(i) **EIM Participating Resources.** The CAISO will calculate an EIM Participating Resource's FMM Instructed Imbalance Energy in the same manner as it calculates FMM Instructed Imbalance Energy under Section 11.5.1.1, except that references to the Day-Ahead Schedule in the relevant Appendix A definitions shall be deemed references to the EIM Base Schedule, unless the EIM Participating Resource is also an EDAM Resource (in which case the Day-Ahead Schedule will be referenced), and that the CAISO will include any Energy from an EIM Manual Dispatch of the EIM Participating Resource in the FMM that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator prior to the start of the FMM.

(ii) **Non-Participating Resources.** The CAISO will calculate the FMM Instructed Imbalance Energy of non-participating resources in an EIM Entity Balancing Authority Area in the same manner as it calculates FMM Instructed Imbalance Energy under Section 11.5.1.1, except that references to the Day-Ahead Schedule in the relevant Appendix A definitions shall be deemed references to the EIM Base Schedule, and that the CAISO will include any Energy from an EIM Manual Dispatch or EIM Auto-Match of the

EIM non-participating resource in the FMM that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator prior to the start of the FMM.

(B) **Settlement.** The CAISO will settle –

(i) the FMM Instructed Imbalance Energy with the EIM Participating Resource Scheduling Coordinator for EIM Participating Resources; and

(ii) with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for non-participating resources in an EIM Entity Balancing Authority Area.

(2) **RTD Instructed Imbalance Energy.**

(A) **Calculation.**

(i) **EIM Participating Resources.** The CAISO will calculate an EIM Participating Resource's RTD Instructed Imbalance Energy in the same manner in which it calculates RTD Instructed Imbalance Energy under Sections 11.5.1.2 and 11.5.5, except that the CAISO will include any Energy from an EIM Manual Dispatch of the EIM Participating Resource in the RTD that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator.

(ii) **Non-Participating Resources.** The CAISO will calculate the RTD Instructed Imbalance Energy of non-participating resources in an EIM Entity Balancing Authority Area in the same manner in which it calculates RTD Instructed Imbalance Energy under Section 11.5.1.2 and 11.5.5, except that the CAISO will include any Energy from an EIM Manual Dispatch or EIM Auto-Match of the EIM non-participating resource in the RTD that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity

Scheduling Coordinator.

(B) **Settlement.** The CAISO will settle the RTD Instructed Imbalance Energy –

(i) with the EIM Participating Resource Scheduling Coordinator for EIM Participating Resources; and

(ii) with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for non-participating resources in an EIM Entity Balancing Authority Area.

(3) **Uninstructed Imbalance Energy.**

(A) **EIM Participating Resources.**

(i) **Calculation.** For EIM Participating Resources and an EIM Entity Balancing Authority Area's dynamic import/export schedules with external resources, the CAISO will calculate Uninstructed Imbalance Energy in the same manner in which it calculates Uninstructed Imbalance Energy under Section 11.5.2.1.

(ii) **Settlement.** The CAISO will settle the Uninstructed Imbalance Energy with the EIM Participating Resource Scheduling Coordinator, the EIM Entity Scheduling Coordinator, or the EIM Sub-Entity Scheduling Coordinator, as applicable.

(B) **Non-Participating Resources.**

(i) **Calculation.** For non-participating resources in an EIM Entity Balancing Authority Area, the CAISO will calculate Uninstructed Imbalance Energy in accordance with Section 11.5.2, except that the CAISO will treat an EIM Base Schedule as a Day-Ahead Schedule and the CAISO will treat an EIM Manual Dispatch and an EIM Auto-Match as a Dispatch Instruction.

(ii) **Settlement.** The CAISO will settle the Uninstructed Imbalance Energy for non-participating resources in an EIM Entity

Balancing Authority Area at the applicable RTD Locational Marginal Price in accordance with Section 11.5.2.1 with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and will treat EIM Entity Balancing Authority Demand in the same manner as the CAISO treats CAISO Demand under that Section.

(C) **Non-Participating Load.**

(i) **Calculation.** For non-participating Load in an EIM Entity Balancing Authority Area, the CAISO will calculate Uninstructed Imbalance Energy in accordance with Section 11.5.2.2, except that the CAISO will determine deviations based on the EIM Base Load Schedule unless associated with an EDAM Balancing Authority Area (in which case the CAISO will reference the Day-Ahead Schedule).

(ii) **Settlement.** The CAISO will settle Uninstructed Imbalance Energy for non-participating Load in an EIM Entity Balancing Authority Area at the applicable Default LAP Hourly Real-Time Price in accordance with Section 11.5.2.2 with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and will treat EIM Entity Balancing Authority Demand in the same manner as the CAISO treats CAISO Demand under that Section.

(D) **EIM Base Schedules Below PMin.**

(i) **Calculation.** For deviations from an EIM Base Schedule below PMin submitted by an EIM Entity Scheduling Coordinator or an EIM Participating Resource Scheduling Coordinator, the CAISO will calculate Uninstructed Imbalance Energy in accordance with Section 11.5.2 as if the EIM Resource had received a Dispatch

Instruction to PMin based upon the submission of an Energy Self-Schedule.

(ii) **Settlement.** The CAISO will settle Uninstructed Imbalance Energy for deviations from an EIM Base Schedule below PMin in an EIM Entity Balancing Authority Area at the applicable RTD Locational Marginal Price in accordance with Section 11.5.2.1 with the applicable EIM Entity Scheduling Coordinator or EIM Participating Resource Scheduling Coordinator.

(c) **Unaccounted For Energy of EIM Entities.**

(1) **Calculation.** The CAISO will calculate Unaccounted For Energy for each EIM Entity Balancing Authority Area as the difference between metered Demand, and the sum of the metered Supply and the metered values at the interties, adjusted for losses.

(2) **Settlement.**

(A) **Unaccounted for Energy Settlement.** The CAISO will settle Unaccounted For Energy with the applicable EIM Entity Scheduling Coordinator at the applicable Hourly Real-Time LAP price.

(B) **Election Not to Settle Unaccounted for Energy.** Annually, an EIM Entity Scheduling Coordinator that submits metered Demand through Meter Data calculated without End-Use Meters may elect to not settle Unaccounted For Energy through the CAISO Markets, in which case –

(i) the CAISO will apply a zero-percent Transmission Losses factor when calculating the Initial EIM base load schedule per section 29.34(g); and

(ii) the EIM Entity Scheduling Coordinator will apply a zero-percent Transmission Losses factor when calculating their metered Demand.

(d) **Charges for Over- and Under-Scheduling of EIM Entities.**

(1) **Under-Scheduling Charges.**

(A) **Level 1 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area exceeds the EIM Base Schedule of Supply submitted by the EIM Entity by more than 5% but less than or equal to 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 125% of the Hourly Real-Time LAP Price.

(B) **Level 2 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area exceeds the EIM Base Schedule of Supply submitted by the EIM Entity by more than 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 200% of the Hourly Real-Time LAP price.

(2) **Over-Scheduling Charges.**

(A) **Level 1 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area is less than the EIM Base Schedule of Supply submitted by the EIM Entity by more than 5% but less than or equal to 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 75% of the Hourly Real-Time LAP Price.

(B) **Level 2 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area is less than the EIM Base Schedule of Supply submitted by the EIM Entity by more than 10% and

by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 50% of the Hourly Real-Time LAP Price.

(3) **Distribution of Revenues.**

(A) **Apportionment.** The CAISO will calculate the total daily excess revenues received from under-scheduling charges and over-scheduling charges under Section 29.11(d)(1) and (2) and apportion them to Balancing Authority Areas in the EIM Area that were not subject to either under-scheduling or over-scheduling charges during the Trading Day according to metered Demand.

(B) **Allocation.** The CAISO will allocate –

(i) the amounts apportioned to EIM Entity Balancing Authority Areas pursuant to Section 29.11(d)(3)(A) to the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator; and

(ii) the amounts apportioned to the CAISO Balancing Authority Area pursuant to Section 29.11(d)(3)(A) to Scheduling Coordinators in the CAISO Balancing Authority Area according to metered Demand.

(4) **Exemption.** An EIM Entity will be exempt from under-scheduling and over-scheduling charges under Section 29.11(d)(1) and (2) if it uses the Demand Forecast prepared by the CAISO in its EIM Resource Plan and it approves EIM Base Schedules for its resources within +/- 1% of the CAISO Demand Forecast, as determined according to the Business Practice Manual for the Energy Imbalance Market. This exemption will not apply to an EIM Entity that permits any EIM Sub-Entity located within its Balancing Authority Area to submit its own

Demand Forecast.

(e) **Neutrality Accounts.**

(1) **In General.** The CAISO will collect neutrality amounts from EIM Market Participants to recover differences in Real-Time Market payments made and Real-Time Market payments received.

(2) **Real-Time Congestion Offset.** The CAISO will assess EIM Entity Scheduling Coordinators Real-Time Congestion Offset allocation calculated pursuant to Section 11.5.4.1.2.

(3) **Real-Time Imbalance Energy Offset Allocation.** The CAISO will assess EIM Entity Scheduling Coordinators Real-Time Imbalance Energy Offset allocation calculated pursuant to Section 11.5.4.1.1.

(4) **Real-Time Marginal Cost of Losses Offset.** The CAISO will allocate the Real-Time Marginal Cost of Losses Offset to EIM Entity Scheduling Coordinators pursuant to Section 11.5.4.1.3.

(5) **Marginal Greenhouse Gas Cost Offset.** The CAISO will allocate the Marginal Greenhouse Gas Cost Offset to a GHG Regulation Area's metered Demand pursuant to Section 11.5.4.1.4.

(6) **EIM Transfer Revenue**. The CAISO will allocate EIM Transfer revenue to EIM Entity Scheduling Coordinators pursuant to Section 11.5.4.1.5.

(7) **Other Neutrality Adjustments.** The CAISO will levy additional charges on or make additional payments to EIM Market Participants as adjustments in accordance with Section 11.14.

(f) **Real-Time Bid Cost Recovery.**

(1) **In General.** The CAISO will provide EIM Participating Resources RTM Bid Cost Recovery. The CAISO will net RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses in accordance with Section 11.8.5 for EIM Participating Resources that are also EDAM Resources.

(2) **Calculation of Real-Time Bid Cost Recovery.** The CAISO will calculate Real-

Time Bid Cost Recovery in accordance with Section 11.8.4, except that the CAISO will treat a non-zero EIM Base Schedule of an EIM Participating Resource as an IFM Self-Schedule and the corresponding intervals as IFM self-commitment intervals.

(3) **RTM Energy Bid Cost for Storage Resources**

The CAISO will calculate Real-Time Market Energy Bid Cost for EIM Participating Resources that are storage resources and participate as Non-Generator Resources in accordance with 11.8.4.1.5.1, except that the CAISO will treat references to Day-Ahead Energy Schedules as EIM Base Schedules. The CAISO will not consider Day-Ahead Market Locational Marginal Prices in the calculation of Real-Time Market Energy Bid Costs for EIM Participating Resources that are storage resources and participate as Non-Generator Resources.

(4) **Application of Real-Time Performance Metric.**

The CAISO will adjust the RTM Energy Bid Cost, the RTM Market Revenues, and RTM Minimum Load Costs determined pursuant to Section 29.11(f)(2) by multiplying the Real-Time Performance Metric with those amounts for the applicable Settlement Interval pursuant to the rules specified in Section 11.8.4.4 and its subsections, except that the CAISO will treat an EIM Base Schedule as a Day-Ahead Schedule.

(5) **Allocation of EIM Entity RTM Bid Cost Uplift.**

(A) **Calculation of Charge.** The Net RTM Bid Cost Uplift will be determined for each EIM Entity Balancing Authority Area in accordance with the methodology set forth in Section 11.8.6.

(B) **Settlement.** The CAISO will assess the Net RTM Bid Cost Uplift calculated for each EIM Entity Balancing Authority Area to the applicable EIM Entity Scheduling Coordinator in accordance with Section 11.8.6.6.(ii).

(g) **EIM Sub-Entity Implementation Cost.**

The CAISO will charge electric utilities that enter into an EIM Sub-Entity Implementation Agreement pursuant to Section 29.2(c) a fee to cover the actual costs the CAISO incurs to separate the EIM Sub-Entity from the EIM Entity Balancing Authority Area. The EIM Sub-Entity is responsible for actual costs incurred by the CAISO in conducting implementation activities.

(1) The EIM Sub-Entity will provide the CAISO a $260,000 deposit for the implementation of the EIM Sub-Entity at the time of the request. The CAISO shall draw from the EIM Sub-Entity's deposit to cover actual costs incurred during implementation. Whenever the implementation costs exceed the deposit(s) received, the CAISO will invoice the EIM Sub-Entity for an additional deposit in $25,000 increments.

(2) Invoices shall be due no later than thirty (30) days after the date of receipt. Any invoice payment past due will accrue interest, per annum, calculated in accordance with 5 C.F.R. 1315.10.

(3) All eligible refunds will be processed following the CAISO's generally accepted accounting practices, including batch deposit refund disbursements. Any deadline for CAISO action will be tolled to the extent the EIM Sub-Entity has not provided the CAISO with the appropriate documents to facilitate the EIM Sub-Entity's refund.

(h) **EIM Initial Fee.** The CAISO will charge Balancing Authority Areas that enter into an EIM Implementation Agreement pursuant to Section 29.2(b) an initial fee to cover a share of the capital and operations and maintenance costs associated with setting up the Real-Time Market to accommodate the participation of the Balancing Authority as an EIM Entity. The fee will be established by the EIM Implementation Agreement entered into pursuant to Section 29.2(b)(1) as accepted by FERC.

(i) **EIM Administrative Charge.**

(1) **In General.** The CAISO will charge EIM Market Participants an EIM

Administrative Charge consisting of the real-time portion of the Market Services Charge and the system operations charges described in Section 11.22.2.

(2) **Market Services Charge.** The Market Services Charge shall be the product of the Market Services Charge for each Scheduling Coordinator as calculated according to the formula in Appendix F, Schedule 1, Part A, the real-time market percentage as calculated in the cost-of-service study according to Appendix F, Schedule 1, Part A, and the sum of Gross FMM Instructed Imbalance Energy (excluding FMM Manual Dispatch Energy) and Gross RTD Instructed Imbalance Energy (excluding RTD Manual Dispatch Energy Standard Ramping Deviation, Ramping Energy Deviation, Residual Imbalance Energy, and Operational Adjustments).

(3) **System Operations Charge.** In 2024 and 2025, the System Operations Charge will be the product of the System Operations Charge for each Scheduling Coordinator, as calculated according to the formula in Appendix F, Schedule 1, Part A, the real-time dispatch percentage as calculated in the cost-of-service study conducted according to Appendix F, Schedule 1, Part A, and the absolute difference between metered energy and the EIM Base Schedules.

(4) **System Operations Real-Time Dispatch Charge.** Beginning in 2026, the System Operations Real-Time Dispatch Charge will be the product of the System Operations Real-Time Dispatch Charge for each Scheduling Coordinator, as calculated according to the formula in Appendix F, Schedule 1, Part A, and the absolute difference between metered energy and the EIM Base Schedules.

(5) **Minimum EIM Administrative Charge.** The CAISO will calculate the minimum EIM Administrative Charge as the product of the sum of the real-time activities associated with Market Services Charge and the real-time activities associated with system operations, as well as –

(A) five percent of the total gross absolute value of Supply of all EIM Market Participants; plus

(B) five percent of the total gross absolute value of Demand of all EIM Market Participants.

(6) **Withdrawing EIM Entity.** If the EIM Entity notifies the CAISO of its intent to terminate participation in the Energy Imbalance Market and requests suspension of the Energy Imbalance Market in its Balancing Authority Area under Section 29.4(b)(4), the CAISO will charge the EIM Entity the minimum EIM Administrative Charge calculated under Section 29.11(i)(4) during the notice period.

(7) **Application of Revenues.** The CAISO will apply revenues received from the EIM Administrative Charge against the costs to be recovered through the Grid Management Charge as described in Appendix F, Schedule 1, Part A.

(8) **EDAM Administrative Charge.** An EIM Market Participant that is also an EDAM Market Participant will pay the EDAM Administrative Charge and will not pay the EIM Administrative Charge.

(j) **Variable Energy Resource and Hybrid Resource Forecast Charge.**

(1) **In General.** The CAISO will charge EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators a fee for the Variable Energy Resource or Hybrid Resource forecasting services in accordance with Appendix F, Schedule 4.

(2) **Waiver.** The CAISO will waive the Variable Energy Resource or Hybrid Resource forecast charge if an EIM Entity or EIM Sub-Entity has an independent forecast for its Variable Energy Resources or Hybrid Resource and provides the independent forecast to the CAISO.

(k) **Transmission Service.** The CAISO will charge EIM Market Participants for transmission service according to Section 29.26.

(l) **Settlement.** With regard to the CAISO's assessment and payment of charges to, and collection of charges from, EIM Market Participants pursuant to Sections 11 and 29.11, the CAISO shall assess, pay and collect such charges, address disputed invoices, assess, pay and collect Settlement-related fees and charges, including those under

Sections 11.21, 11.28, and 11.29, and make any financial adjustments in accordance with the terms and schedule set forth in Section 11.

(m) **Charges Related to RTM Participation of Interties.** In the event that an EIM Entity enables participation in the Real-Time Market on EIM External Interties, the EIM Entity Scheduling Coordinator shall also be subject to any applicable charges under Sections 11.31 and 11.32.

(n) **EIM Transfers and Settlement for Contingency Reserve Obligations.** The CAISO shall allocate Operating Reserve Obligations to EIM Entity Scheduling Coordinators for EIM Transfers as follows –

(1) EIM Entity Scheduling Coordinators will receive a credit equal to three (3) percent of the hourly MW EIM Transfer into the CAISO Balancing Authority Area multiplied by the hourly user rate for Spinning Reserves and Non-Spinning Reserves, as calculated per Section 11.10.3.3 and 11.10.4.3, respectively; and

(2) EIM Entity Scheduling Coordinators will receive a charge equal to three (3) percent of the hourly MW EIM Transfer out of the CAISO Balancing Authority Area multiplied by the hourly user rate for Spinning Reserves and Non-Spinning Reserves, as calculated per Section 11.10.3.3 and 11.10.4.3, respectively.

(o) **Application of Persistent Deviation Metric.**

The CAISO will modify the Bid Cost Recovery calculations described in Section 29.11(f) and Residual Imbalance Energy payments in Section 11.5.5 as described in Section 11.17, except that the CAISO will treat an EIM Base Schedule as a Day-Ahead Schedule.

(p) **Flexible Ramping Product.** The CAISO will allocate and settle payments and charges for the Flexible Ramping Product according to Section 11.25, where the CAISO will consider EIM Base Schedules of non-participating resources as Self-Schedules.

(q) **EIM Transfer System Resource Settlement Information.** The CAISO will provide EIM Entities with non-binding Settlement information associated with Energy transfer schedule changes from their respective base schedules between EIM Entity Balancing Authority Areas.

(r) **EIM Transfer System Resource Settlement.**

(1) **EIM Transfer System Resource Registration.** The CAISO will provide each EIM Entity with financially binding Settlement of Energy transfer schedule changes from its respective base schedules between EIM Entity Balancing Authority Areas, unless the EIM Entity Balancing Authority Areas are also EDAM Entity Balancing Authority Areas in which case transfer schedule changes will be referenced from the Day-Ahead Schedule for the EDAM Transfer, and will –

(A) establish for each EIM Entity that shares an EIM Internal Intertie a to/from EIM Transfer System Resource pricing location in their respective EIM Entity Balancing Authority Area;

(B) associate with each to/from EIM Transfer System Resource pricing location, a unique base EIM Transfer System Resource that accounts for Energy transfer schedule changes between EIM Entity Balancing Authority Areas;

(C) require each EIM Entity Scheduling Coordinator to submit EIM Base Schedules and E-Tags that identifies Energy transfer schedule changes at the registered base EIM Transfer System Resource; and

(D) reject EIM Base Schedule changes at the to/from EIM Transfer System Resource pricing location not associated with the registered base EIM Transfer System Resource.

(2) **Settlement for EIM Transfer System Resource Changes.** The CAISO will settle EIM Transfer System Resource changes established pursuant to Section 29.11(r)(1) as –

(A) FMM Instructed Imbalance Energy or RTD Instructed Energy based on the Settlement Interval in which the E-Tag is received, without regard for other Energy types identified in Sections 11.5.1.1 or 11.5.2.2, or as an Operational Adjustment if the E-Tag is received after the end of the Operating Hour for purposes of Energy accounting in accordance with

the applicable WECC business practices;

(B) based on the difference between the E-Tag and the EIM Transfer System Resource base schedule;

(C) at the relevant FMM or RTD Locational Marginal Price at each unique EIM Transfer System Resource pricing location associated with the base EIM Transfer System Resource; and

(D) including any contribution that the base EIM Transfer System Resource might have on the RTM Bid Cost Recovery pursuant to Section 29.11(f).

(s) **EIM Entity Access to EIM Sub-Entity Settlement Information.**

An EIM Entity shall have access to CAISO Settlement Statements and Invoices for all EIM Sub-Entities within the Balancing Authority Area for that EIM Entity.

(t) **Revenue and Surcharges for the Assistance Energy Transfer Product.**

The revenue from assistance Energy transfers paid by a participating Balancing Authority Area in the EIM Area that has elected to receive assistance Energy in accordance with Section 29.34(n)(3), *i.e.*, the EIM Assistance Energy Transfer Surcharge, will be calculated, allocated and distributed as follows—

(1) Assistance Energy Transfer Surcharge.

(A) Calculation. Other than amounts directly attributable to actions taken in coordination with the Reliability Coordinator, if a Balancing Authority Area in the EIM Area receives an assistance Energy transfer, then the EIM Assistance Energy Transfer Surcharge will apply to the lower of the quantities specified in Section 29.11(t)(1)(A)(i) or (ii):

(i) the higher of the quantity of the failure of the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m), or

(ii) the quantity of net EIM Transfers excluding base scheduled transfers as identified on all after-the-fact E-

Tags associated with EIM Transfers into the participating Balancing Authority Area.

(a) If the EIM Assistance Energy Transfer Surcharge is applied to the assistance Energy transfers received by an EIM Entity pursuant to Section 29.11(t)(1)(A)(ii), then the quantity of EIM Transfers subject to the EIM Assistance Energy Transfer Surcharge will be adjusted to reflect the EIM Upward Available Balancing Capacity as a credit.

(b) If the EIM Assistance Energy Transfer Surcharge is applied to the assistance Energy transfers received by the CAISO pursuant to Section 29.11(t)(1)(A)(ii), then the quantity of EIM Transfers subject to the EIM Assistance Energy Transfer Surcharge will be adjusted to reflect the sum of all Regulation Up (adjusted for Regulation non-compliance quantities) within the CAISO Balancing Authority Area as a credit.

(B) Allocation. The revenue collected through the EIM Assistance Energy Transfer Surcharge from participating Balancing Authority Areas in the EIM Area that fail the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) will be allocated, pro rata, to all other Balancing Authority Areas in the EIM Area with net EIM Transfers, excluding base scheduled transfers, in the export direction if such Balancing Authority Areas passed the upward capacity test in Section 29.34(l) and the upward flexibility test in Section

29.34(m). A Balancing Authority Area is eligible for a revenue allocation even if it has not elected to receive assistance Energy transfers.

(C) Distribution. The revenue collected through the EIM Assistance Energy Transfer Surcharge will be allocated to the net exporting Balancing Authority Areas in the EIM Area that pass the upward capacity test in Section 29.34(l) and the upward flexibility test in Section 29.34(m) in accordance with Section 29.11(t)(2) will be distributed as follows:

(1) to the EIM Entity Scheduling Coordinators for sub-allocation according to its OATT, or

(2) to the CAISO for sub-allocation to Scheduling Coordinators that provide incremental Energy net of FMM Instructed Imbalance Energy, RTD Instructed Imbalance Energy, and Uninstructed Imbalance Energy excluding non-Participating Load.

(2) Assistance Energy Transfer Surcharges.

(A) Any assistance Energy transfer surcharges allocated to the net importing Balancing Authority Areas in the EIM Area that fail the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) will be allocated to the EIM Entity Scheduling Coordinator for sub-allocation according to its OATT. Any assistance Energy transfer charges allocated to the CAISO Balancing Authority Area will be sub-allocated based on Measured Demand, excluding Demand associated with ETC or TOR Self-Schedules for which a RTM Congestion Credit was provided as specified in Section 11.5.7, and excluding Demand associated with ETC, Converted Right, or TOR Self-Schedules

for which an IFM Congestion Credit was provided as specified in Section 11.2.1.5; regardless of whether an MSS Operator has elected gross or net Settlement, Scheduling Coordinators for MSS Operators will receive their allocation based on the MSS Aggregation Net Non-ETC/TOR Measured Demand.

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29.34 EIM Operations

(a) **In General.** Section 34, as supplemented by provisions in Section 29.34, will govern the operation of the Real-Time Market within the EIM Area. Operation of the Real-Time Market within the EDAM Area is further supplemented by Section 33, which produces outcomes that satisfy or modify certain requirements otherwise applicable to EIM Market Participants, including a Day-Ahead Schedule instead of a submitted EIM Base Schedule and an initial EIM Base Load Schedule, pools of Balancing Authority Areas for purposes of the EIM Resource Sufficiency Evaluation, and Energy transfers between Balancing Authority Areas with equal scheduling priority to Demand.

(b) **Applicability.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators will submit EIM Base Schedules and other necessary information to the CAISO for use in the Real-Time Market pursuant to Section 29.34 and not pursuant to Section 34.

(c) **Submission Deadlines.** If an EIM Entity Scheduling Coordinator, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator fails to submit an EIM Base Schedule according to the timelines established in this Section 29.34, the CAISO will not accept the EIM Base Schedule or use it in the Real-Time Market.

(d) **Demand Forecast.**

(1) **In General.** In accordance with procedures set forth in the Business Practice Manual for the Energy Imbalance Market, the CAISO shall develop short-term

and mid-term Demand Forecasts by Demand Forecast zone within each EIM Entity Balancing Authority Area, separately from the CAISO Balancing Authority Area, and, as needed for the EDAM Upward Pool or EDAM Downward Pool.

(2) **Short Term Forecast.** The CAISO's short-term Demand Forecast for an EIM Entity Balancing Authority Area shall produce a value every five minutes for the duration of the CAISO's Dispatch horizon, which has five-minute granularity and extends several Dispatch Intervals.

(3) **Mid-Term Forecast.** The CAISO's mid-term Demand Forecast for an EIM Entity Balancing Authority Area shall produce hourly values for the next hour through the next 7 days.

(4) **EIM Entity Scheduling Coordinator Demand Forecast.**

(A) **In General.** An EIM Entity Scheduling Coordinator, and if permitted by the EIM Entity for its Balancing Authority Area, an EIM Sub-Entity Scheduling Coordinator, may opt to provide a non-binding EIM Entity Demand Forecast, net of behind-the-meter Generation that is not registered as an EIM Resource, as part of the hourly EIM Base Schedules.

(B) **Timing and Scope.** The EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator must provide any such Demand Forecasts by 10:00 a.m. for the next 7 days.

(C) **Updates.** The EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator must update any such Demand Forecast for each Operating Hour and the following 6 to 10 hours and submit the update to the CAISO no later than 75 minutes prior to the start of that Operating Hour, as part of its hourly EIM Base Schedule submission.

(D) **Effect on Bid Requirement.** If the EIM Entity Demand Forecast or EIM Sub-Entity Demand Forecast is less than the CAISO Demand Forecast, then the EIM Entity's or EIM Sub-Entity's EIM Resource Plan must

include sufficient Bids to cover the difference in Demand Forecasts.

(5) **Posting.** Between 6:00 p.m. of the seventh day prior to the start of the Operating Day and 6:00 p.m. of the day prior to the Operating Day, the CAISO shall post and update hourly Demand Forecasts by Demand Forecast zone.

(e) **EIM Resource Plan.**

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

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

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

(A) EIM Base Schedules of EIM Entities, EIM Sub-Entities as applicable, and EIM Participating Resources;

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

(C) EIM Upward Available Balancing Capacity;

(D) EIM Downward Available Balancing Capacity;

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

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

(4) **Contents of EIM Base Schedules.** EIM Base Schedules of EIM Entities and EIM Sub-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.

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

(f) **Real-Time EIM Base Schedules.**

(1) **In General.**

(A) **Initial Submission.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, EIM Participating Resource Scheduling Coordinators, and non-participating resources in the EIM Entity Balancing Authority Area that wish to submit real-time hourly EIM Base Schedules, or, with regard to non-participating resources, wish to submit EIM Base Schedule information pursuant to Section 29.34(f)(4), must submit such schedules or other information consistent with the requirements of the Business Practice Manual for the Energy Imbalance Market and at least 75 minutes before the start of the Operating Hour.

(B) **Interim Revisions.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, EIM Participating Resource Scheduling Coordinators, and non-participating resources in the EIM Entity Balancing Authority Area may revise hourly Real-Time EIM Base Schedules, or, with regard to non-participating resources, revise EIM Base Schedule information submitted pursuant to Section 29.34(f)(4), meeting the requirements of the Business Practice Manual for the Energy Imbalance Market at or before 55 minutes before the start of the Operating Hour.

(C) **Final Revision.** EIM Entity Scheduling Coordinators may further revise hourly Real-Time EIM Base Schedules, including EIM Base Schedules for EIM Sub-Entities and EIM Participating Resources, at or before 40

minutes before the start of the Operating Hour, provided that any financial or operational impact resulting from such EIM Base Schedule changes for an EIM Sub-Entity shall be resolved in accordance with the applicable tariff or contractual arrangements between the EIM Entity and the EIM Sub-Entity.

(2) **EIM Base Schedule for EIM Participating Resources.** The EIM Base Schedule for each EIM Participating Resource must be within the Economic Bid range of the submitted Energy Bids for each Operating Hour for EIM Resources, which the CAISO will make available to the EIM Entity without price information, provided that an EIM Participating Resource Scheduling Coordinator may also include Energy below PMin in an EIM Base Schedule.

(3) **EIM Base Schedule for Imports and Exports.** EIM Base Schedules must-

(A) disaggregate Day-Ahead import/export schedules between the EIM Entity Balancing Authority Area and the CAISO Balancing Authority Area;

(B) identify the relevant EIM Interties for imports and exports to an EIM Entity Balancing Authority Area from Balancing Authority Areas other than the CAISO Balancing Authority Area; and

(C) include approved, pending, and adjusted E-Tags for imports and exports.

(4) **EIM Base Schedule Aggregation.** In response to a request by an EIM Entity Scheduling Coordinator or an EIM Sub-Entity Scheduling Coordinator, the CAISO will establish an electronic interface by which non-participating resources, Loads, and other customers of the EIM Entity or EIM Sub-Entity may submit EIM Base Schedule information to the EIM Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and to the CAISO.

(g) **Initial EIM Base Load Schedule.** The CAISO will derive an initial EIM Base Load Schedule for each EIM Entity and EIM Sub-Entity from the Demand Forecast used for the EIM Entity Balancing Authority Area and EIM Sub-Entity area, estimated Transmission Losses, and an assumed Load distribution, pursuant to the methodology set forth in the

Business Practice Manual for the Energy Imbalance Market.

(h) **Energy Bids.** EIM Participating Resource Scheduling Coordinators may submit Energy Bids in accordance with the timelines, processes, and requirements applicable to other resources submitting Energy Bids under Section 34.

(i) **Interchange Schedules with Other Balancing Authorities.**

(1) **In General.** EIM Entity Scheduling Coordinators must submit Interchange Schedules with other Balancing Authority Areas at the relevant EIM Interties and must update these Interchange Schedules with any adjustments, when applicable, as part of the hourly EIM Resource Plan revision.

(2) **Economic Bidding of EIM Intertie Transactions.** An EIM Participating Resource Scheduling Coordinator may bid a transaction at an EIM External Intertie into the FMM if the EIM Entity supports economic bidding of EIM External Intertie transactions and the relevant transmission service providers or path operators support 15-minute scheduling at the EIM External Intertie under FERC Order No. 764.

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

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

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

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

(k) **EIM Resource Sufficiency Evaluation – Balancing Test.**

(1) **EIM Base Schedule Adjustment.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules according to Section

29.34(f)(1)(c), Supply in the EIM Base Schedules does not balance the Demand Forecast, the CAISO will adjust the Demand in the EIM Base Schedule to equal Supply.

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

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

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

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

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

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

(1) **Requirement.**

The Supply, as applicable and as detailed in Business Practice Manuals, included in—

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

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

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

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

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

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

(iii) a Multi-Stage Generating Resource transitioning between MSG Configurations or a Short Start Unit moving through a Forbidden Operating Region in the hour under evaluation, in both the

capacity test and the flexibility test performed in accordance with Section 29.34(m); or

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

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

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

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

(iii) an Import Bid or Export Bid for delivery to or export from the CAISO Balancing Authority Area lacking a transmission profile in a submitted E-Tag supporting its Interchange Schedule at the time the final binding capacity test and flexibility test for the CAISO Balancing Authority Area are performed in accordance with Section 29.34(m).

(C) Supply from a resource counted in accordance with Section 29.34(l)(2)(A)(i) may be adjusted by the CAISO in accordance with the timelines and procedures provided in the Business Practice Manual for the Energy Imbalance Market to address significant overcounting of

Supply available to the Real-Time Market, provided that the overcounting has been identified, supported with analysis and documented by the CAISO.

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

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

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

(B) the sum of Supply and the sum of the incremental or decremental offers in the Energy Bid range above or below the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM

Schedules is not sufficient to meet the total Demand Forecast for the CAISO Balancing Authority Area, provided that the benefit of the exclusion of the export schedules which may be curtailed in accordance with Section 34.12.4(a) or 34.12.4(b) will be reflected in the upward capacity test results for the CAISO Balancing Authority Area.

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

(1) **Review.**

(A) **Individual EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan for an EIM Entity Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv), 29.34(l)(2)(B)(iv) and 29.34(l)(2)(D), to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (7).

(B) **CAISO Balancing Authority Area.** The CAISO will review the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules in the CAISO Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv) and 29.34(l)(2)(B)(iv), to meet the CAISO Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (7), provided that the benefit of the exclusion of export schedules which may be curtailed in accordance with Section

34.12.4(a) or 34.12.4(b) will be reflected in the results of the upward flexibility test for the CAISO Balancing Authority Area.

(C) **EIM Resource Sufficiency Evaluation for the Balancing Authority Areas in the EDAM Area**. Consistent with Section 33.31.1.4, the CAISO will evaluate resource sufficiency of the Balancing Authority Areas in the EDAM Area solely pursuant to this Section 29.34(m). The CAISO will consider all Day-Ahead Market awards for Energy, Imbalance Reserves, and Reliability Capacity as supply prior to testing an individual Balancing Authority Area in the EDAM Area for EIM resource sufficiency. The CAISO will evaluate the EDAM Upward Pool to verify that it has sufficient Bids and Ramping capability to meet the Upward Uncertainty Requirement for the EDAM Upward Pool within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2)-(5). The CAISO will evaluate the EDAM Downward Pool to verify that it has sufficient Bids and Ramping capability to meet the Downward Uncertainty Requirement for the EDAM Downward Pool within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2)-(5). A Balancing Authority in the EDAM Area not included in the EDAM Upward Pool or EDAM Downward Pool will be evaluated in the same manner as an individual EIM Balancing Authority Area.

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

accordance with this Section 29.34(m)(1).

(2) **Determination of Diversity Benefits.** The CAISO will calculate separately the upward and downward EIM Diversity Benefits 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. The Diversity Benefits for a Balancing Authority Area in the EDAM Area is its proportional amount of the difference between the sum of each Balancing Authority Area's individual Imbalance Reserve requirement and the EDAM Area Imbalance Reserve requirements, with the CAISO calculating the Imbalance Reserve requirements for each Balancing Authority Area independently and for the EDAM Area as a whole.

(3) **Effects of Diversity Benefits for EIM Entities that Are Not Balancing Authorities in the EDAM Area.** For each Balancing Authority Area in the EIM Area that is not a Balancing Authority Area in the EDAM 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) **Effect of Diversity Benefit for Balancing Authority Areas that Are Within the Pool of EDAM Balancing Authority Areas.** For each Balancing Authority Area that is included in the pool of Balancing Authority Areas in the EDAM Area as provided in Section 33.31.1.4, the EIM RSE will hold a portion of the Diversity Benefit from allocation and reflect this quantity as additional global procurement of Imbalance Reserves for the EDAM Area as provided in the Business Practice Manuals for purposes of the EIM RSE. If the pool of Balancing Authority Areas in

the EDAM Area is subdivided for purposes of accepting the assistance Energy transfer product as provided in Section 29.34(n)(3)(C), each sub-pool will carry with it and leverage the Diversity Benefit of the entities within the sub-pool.

(5) **Effect of Diversity Benefit for Balancing Authority Areas in the EDAM Area that Are not Within the Pool of EDAM Balancing Authority Areas.** The EIM RSE will consider the effects of dynamic transfers from the members of the EDAM Upward Pool and EDAM Downward Pool to the Balancing Authority Area not included in the pool as provided in Section 33.31.1.4, pursuant to the procedures the Business Practice Manuals.

(6) **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.

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

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

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

(A) the CAISO will not include the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area in the Uncertainty Requirement for the group of Balancing Authority Areas that passes both the capacity test and flexibility tests in the upward and downward directions, as

applicable; and

(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 balance or the hourly Real-Time EIM Base Schedule corresponding to the 15-minute interval with insufficient Supply as described in the business practice manual.

(C) To facilitate procurement of the Flexible Ramping Product and determination of the Uncertainty Requirement in the manner provided by Section 44.2.4 within the existing RTUC processes and along the time intervals for RTUC runs set forth in Section 34.3.1 and further explained in the Business Practice Manual for Market Operations, and solely for the purpose of this subsection 29.34(n)(1), the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules for the first fifteen-minute interval of each hour will be that provided in Section 29.34(f)(1)(B) and the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules to allow for procurement of the Flexible Ramping Product for the remaining intervals of each hour will be that provided in Section 29.34(f)(1)(C).

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

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

(B) that an EIM Entity Balancing Authority Area or the CAISO Balancing

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

(C) To facilitate procurement of the Flexible Ramping Product and determination of the Uncertainty Requirement in the manner provided by Section 44.2.4 within the existing RTUC processes and along the time intervals for RTUC runs set forth in Section 34.3.1 and further explained in the Business Practice Manual for Market Operations, and solely for the purpose of this subsection 29.34(n)(2), the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules for the first fifteen-minute interval of each hour will be that provided in Section 29.34(f)(1)(B) and the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules to allow for procurement of the Flexible Ramping Product for the remaining intervals of each hour will be that provided in Section 29.34(f)(1)(C).

(3) **Assistance Energy Transfers**.

(A) **In General**. A Balancing Authority Area in the EIM Area may obtain assistance Energy transfers into its Balancing Authority Area if its Scheduling Coordinator has elected to accept automatically incremental EIM Transfer imports and pay the associated EIM Assistance Energy Transfer Surcharge following the failure of the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) in accordance with the timelines and procedures included in the Business Practice Manual for the Energy Imbalance Market. Consistent with the requirements in the Business Practice Manual, the CAISO will send a market notification prior to the CAISO Balancing Authority Area accepting assistance Energy transfers as provided in this section.

(B) **Assistance Energy Transfer Product**. If a participating Balancing Authority Area in the EIM Area has opted-in to receive assistance Energy transfers consistent with the process requirements set forth in the Business Practice Manuals and the participating Balancing Authority Area fails the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) then—

(i) the Balancing Authority Area will not be subject to the capacity test or flexibility test failure consequences for EIM Transfers in Section 29.34(n);

(ii) the Balancing Authority Area will pay the EIM Assistance Energy Transfer Surcharge according to Section 29.11(t).

(C) **Access to the Assistance Energy Transfer Product for pooled Balancing Authority Areas within the EDAM Area.** A Balancing Authority Area in the EDAM Area that is pooled together with other Balancing Authority Areas within the EDAM Area as part of the EDAM Upward Pool or EDAM Downward Pool pursuant to Section 33.31.1.4 may elect to receive assistance Energy transfers. If the Balancing Authority Areas in the EDAM Area that are pooled together for purposes of the EIM RSE do not uniformly elect to receive assistance Energy transfers, then the EDAM Upward Pool will be subdivided into two sub-pools: those Balancing Authority Areas in the EDAM Area that elect to receive assistance Energy transfers and those Balancing Authority Areas in the EDAM Area that do not elect to receive assistance Energy transfers. If the EDAM Upward Pool, or its sub-pool as applicable, elects to receive assistance Energy transfers and fails the upward flexibility test in Section 29.34(m) then:

(i) The EDAM Upward Pool, or its sub-pool as applicable, will not be subject to the failure consequences of Section 29.34(n)(1)(B)

or Section 29.34(n)(2)(B); and

(ii) the EDAM Upward Pool, or sub-pool as applicable, will receive an assistance Energy transfer and will be assessed the EIM Assistance Energy Transfer Surcharge according to Section 29.11(t), with any revenue or Surcharges distributed to the EDAM Upward Pool to be allocated *pro-rata* to the members of the EDAM Upward Pool, or sub-pool as applicable, that received the assistance Energy transfers.

(o) **Transmission Constraint Relaxation.** If an EIM Entity Scheduling Coordinator's approved EIM Resource Plan does not have sufficient Bids to resolve Congestion, the CAISO will relax the relevant Transmission Constraints in the Market Clearing and the EIM Entity will become responsible for managing its congested Transmission Constraints through other means, and the CAISO will determine prices for Congestion consistent with Transmission Constraint relaxation parameters established in the Business Practice Manual for the Energy Imbalance Market until the Transmission Constraint is no longer binding in the Real-Time Market.

(p) **Operating Reserves.**

(1) **Schedules.**

(A) **EIM Entity Responsibility.** Each EIM Entity is responsible for its contingency reserves, or share of such contingency reserves under the terms of a reserve sharing group agreement, and it and the reserve sharing group are responsible for deploying operating reserves, including regulating reserves, in conformance with NERC and WECC requirements.

(B) **EIM Entity Scheduling Coordinator Responsibility.** The EIM Entity Scheduling Coordinator shall -

(i) include any Energy deployed from reserves in the hourly EIM Base Schedules, if time permits, in which case they will be settled in the Real-Time Market;

(ii) otherwise include the Energy deployed from reserves as EIM Manual Dispatches, if time does not permit;

(iii) immediately inform the CAISO of events requiring Dispatch of operating reserves and resource EIM Base Schedule adjustments in response to contingencies;

(iv) if a resource's actual response differs from the resource EIM Base Schedule adjustment, provide a resource EIM Base Schedule update showing the actual resources dispatched during the event by no later than 1:00 a.m. seven days after the Operating Day in which the event occurred; and

(v) inform the CAISO of the amount of resource capacity that is reserved for contingency reserve responsibility by either ensuring that an Energy Bid for the resource is below the maximum operating limit of the resource or reducing the maximum operating limit of the resource.

(C) **CAISO Actions.**

(i) **Prior to Update.** Until the CAISO receives resource operating limit updates from an EIM Entity Scheduling Coordinator, the CAISO will continue to send Dispatch Instructions based upon pre-event operating limits.

(ii) **After Update.** After EIM Base Schedule updates are received and Dispatches in the Real-Time Market reflect the updated Self-Schedules and operating limits, the CAISO shall account for the Dispatches in the net scheduled Interchange values that it provides to EIM Entity Scheduling Coordinators.

(2) **Updates to Data for Reserve Sharing Event.**

(A) **Responsibilities.** Immediately following a reserve sharing event impacting the EIM Entity Balancing Authority Area-

(i) the EIM Entity must submit information regarding the assistance provided, including impacts to Balancing Authority Area Load schedules for each participant involved in the reserve sharing event; and

(ii) the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator must submit to the CAISO EIM Manual Dispatch instructions for resources in the EIM Entity Balancing Authority Area deployed in response to the reserve sharing event, pursuant to the reserve sharing group's criteria.

(B) **Offsets.** Until 1:00 a.m. seven days following the reserve sharing event impacting the EIM Entity Balancing Authority Area, the EIM Entity may offset the Load schedules created by the reserve sharing event by entering resource to Load schedules, reflecting generation resources actually utilized to assist in the event.

(q) **Variable Energy Resources and Hybrid Resources.** Provisions of Section 34 specifically applicable to Variable Energy Resources and Eligible Intermittent Resources appear in Sections 34.1.3, 34.1.6, 34.2.2, 34.5.1. 34.13.2. Provisions of Section 34 specifically applicable to Hybrid Resources appear in Section 34.1.6.3. The CAISO shall provide EIM Entities with access to review the forecast of all Variable Energy Resources in its Balancing Authority Area as outlined in the Business Practice Manual for the Energy Imbalance Market.

(r) **Use of EIM Available Balancing Capacity.**

(1) **In General.** The CAISO will use EIM Available Balancing Capacity identified in the EIM Resource Plan to address power balance constraint infeasibilities in the EIM Balancing Authority Area for which the EIM Available Balancing Capacity is designated by the responsible EIM Entity Scheduling Coordinator, while simultaneously participating in Congestion Management.

(2) **EIM Resource Sufficiency Evaluations.** The CAISO will not apply the EIM

Available Balancing Capacity towards its evaluation of the resource sufficiency tests specified in Section 29.34(k), (l), and (m).

(3) **Real-Time Market Scheduling Run.** In each interval of the Real-Time Market, the CAISO will use the EIM Available Balancing Capacity in the run of the market optimization used to establish scheduling priorities by -

(A) adding a penalty price factor to EIM Available Balancing Capacity Energy Bid prices so that the EIM Available Balancing Capacity is dispatched to address power balance violations, after Effective Economic Bids submitted for EIM Participating Resources in the respective EIM Balancing Authority Area not associated with the EIM Available Balancing Capacity have cleared, while respecting the economic merit order of the EIM Available Balancing Capacity Energy Bid prices;

(B) enforce a constraint that prevents the release of EIM Upward Available Balancing Capacity in excess of the difference between the EIM Entity's demand and the supply of Effective Economic Bids cleared within the applicable EIM Balancing Authority Area, minus the import transfer into that EIM Balancing Authority Area; and

(C) enforce a constraint that prevents the release of EIM Downward Available Balancing Capacity in excess of the difference between the supply of Effective Economic Bids cleared within the applicable EIM Balancing Authority Area and the EIM Entity's demand, minus the export transfer out of that EIM Balancing Authority Area.

(4) **Real-Time Market Pricing Run.** For each interval of the Real-Time Market, in the run of the market optimization used to set binding schedules and prices, the CAISO will -

(A) use the EIM Available Balancing Capacity released in the run of the market optimization to establish scheduling priorities based on the Energy Bid Curves for EIM Participating Resources and non-participating

resources created pursuant to Sections 29.30(c) and (d), respectively;

(B) change the Demand Forecast for the EIM Balancing Authority Area by a small tolerance to allow for price determination;

(C) clear the Real-Time Market and establish prices based on the pricing parameters in Sections 27.4.3.2 and 27.4.3.4, if the amount of EIM Available Balancing Capacity released in the scheduling run is not sufficient to clear the potential infeasibility identified in the scheduling run.

(s) **EIM Auto-Match.**

(1) **Designation.** An EIM Entity may submit a designation to the Master File of EIM non-participating resources, up to the number specified in the Business Practice Manual, in its Balancing Authority Area to automatically match import/export schedule changes outside of the Market Clearing of the Real-Time Market because of changes to E-Tags at one or more designated EIM Interties or Scheduling Points, up to the number designated in the Business Practice Manual for the Energy Imbalance Market.

(2) **Duration of Designation.** Any designation under paragraph (1) of this subsection shall remain in effect until the EIM Entity notifies the CAISO that it is terminating the designation by a submission to the Master File.

(3) **CAISO Actions in Response to Intertie Schedule Change.** If an EIM Entity designates a non-participating resource under paragraph (1) of this subsection, the CAISO, upon identification of an associated EIM Intertie or Scheduling Point schedule change outside of the Market Clearing of the Real-Time Market, shall -

(A) reflect a matching schedule change to the EIM non-participating resource in the Real-Time Market using the EIM Auto-Match feature; and

(B) omit the EIM Intertie or Scheduling Point schedule change from the historical intertie schedule over/under-scheduling histogram for the determination of additional capacity test requirements for relevant EIM

Balancing Authority Area(s) under Sections 29.34(l)(4)(B) and 29.34(m)(6)(ii) that are registered for EIM Auto-Match in accordance with the procedures specified in the Business Practice Manual for the Energy Imbalance Market.

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29.39 EIM Market Power Mitigation.

(a) **EIM Market Power Mitigation Procedure.** The CAISO shall apply the Real-Time Local Market Power Mitigation procedure in Section 39.7 to the Energy Imbalance Market, including EIM Transfer constraints into an EIM Entity Balancing Authority Area on an EIM Internal Intertie, except as provided in Section 29.39. In relation to power balance constraints within the EDAM Area and EIM Area, the Marginal Energy Cost in the CAISO Balancing Authority Area will reflect a competitive marginal energy price. For this purpose, when an EDAM Balancing Authority Area's or EIM Balancing Authority Area's Marginal Energy Cost is greater than CAISO Balancing Authority Area's Marginal Energy Cost, then Real-Time Local Market Power Mitigation process will apply the competitive path assessment. If non-competitive conditions exist, the Real-Time Local Market Power Mitigation process will treat the differential between the Marginal Energy Cost in the CAISO Balancing Authority Area and the Marginal Energy Cost in the EDAM Balancing Authority Area or EIM Balancing Authority Area similar to the non-competitive component of the Marginal Cost of Congestion in CAISO's Local Market Power Mitigation process and will subject resources' Bids to mitigation procedures.

(b) **Competitive Path Assessment.** The CAISO shall conduct the competitive path assessment to determine for each EDAM Balancing Authority Area and EIM Entity Balancing Authority Area whether a path is competitive or non-competitive, consistent with Section 39.7.2, except that –

(1) EDAM Resource Scheduling Coordinators and EIM Participating Resource

Scheduling Coordinators shall submit information required by the CAISO to perform the competitive path assessment;

(2) the competitive path assessment shall not exclude EDAM Resources or EIM Participating Resources from the test used to determine the competitiveness of Transmission Constraints on the basis that they may be net buyers of Energy in the Real-Time Market; and

(3) the CAISO may establish different Reference Buses for each Balancing Authority Area, which need not be within the Balancing Authority Area, for calculating the LMP decomposition which is used to trigger Bid mitigation, based on the topology of each Balancing Authority Area and consideration of the bus at which the Marginal Cost of Congestion component of Locational Marginal Prices is least influenced by market power.

(c) **Locational Marginal Price Decomposition.** The CAISO shall perform the Locational Marginal Price decomposition within each EDAM Entity Balancing Authority Area and EIM Entity Balancing Authority Area using the results of the competitive path assessment and the Congestion pricing results of the pre-market run to determine which resources may have local market power due to Congestion on a non-competitive Transmission Constraint, consistent with Section 34.2.3 and 39.7.

(d) **Default Energy Bids.** The CAISO shall use the methods and standards set forth in Section 39.7 to determine Default Energy Bids for EDAM Resources and EIM Participating Resources, except that the CAISO will use the Market Services Charge and system operations charges described in Section 33.11.6 reflected in the EDAM Administrative Charge or Section 11.22.2 reflected in the EIM Administrative Charge.

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Section 30

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30.5.1 General Bidding Rules

(a) All Bids submitted by Scheduling Coordinators to the DAM for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day, but no sooner than seven (7) days prior to the Trading Day. All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the RTM for the following Trading Day shall be submitted starting from the time of publication of DAM results for the Trading Day, and ending seventy-five (75) minutes prior to each applicable Trading Hour in the RTM. Scheduling Coordinators may submit only one set of Bids to the RTM for a given Trading Hour, which the CAISO uses for all Real-Time Market processes

(b) Bid prices submitted by a Scheduling Coordinator for Energy accepted and cleared in the IFM and scheduled in the Day-Ahead Schedule may be increased or decreased in the RTM . Bid prices for Energy submitted but not scheduled in the Day-Ahead Schedule may be increased or decreased in the RTM. Incremental Bid prices for Energy associated with Day-Ahead AS or RUC Awards in Bids submitted to the RTM may be revised.

(c) A Scheduling Coordinator may submit in the Real-Time Market new daily Start-Up Bids, Minimum Load Bids, and Transition Bids for resources and MSG Configurations for which the Scheduling Coordinator previously submitted such Bids in the Day-Ahead Market, except for: (1) Trading Hours in which a resource or MSG Configuration has received a Day-Ahead Schedule or has received a Start-Up Instruction in RUC; and (2) Trading Hours that span the Minimum Run Time of the resource or MSG Configuration after the CAISO has committed the resource or the Scheduling Coordinator has self-committed the resource in the RTM.

(d) Scheduling Coordinators may revise ETC Self-Schedules for Supply in the RTM to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Participating TO in accordance with Section 16.

(e) Scheduling Coordinators may revise TOR Self-Schedules for Supply only in the HASP to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Non-Participating TO in accordance with Section 17. Energy associated with awarded Ancillary Services capacity cannot be offered in the Real-Time Market separate and apart from the awarded Ancillary Services capacity.

(f) Scheduling Coordinators may submit Energy Bids, AS Bids and RUC Bids in the DAM that are different for each Trading Hour of the Trading Day.

(g) Bids for Energy or capacity that are submitted to one CAISO Market, but are not accepted in that market are no longer a binding commitment and Scheduling Coordinators may submit Bids in a subsequent CAISO Market at a different price.

(h) The CAISO shall be entitled to take all reasonable measures to verify that Scheduling Coordinators meet the technical and financial criteria set forth in Section 4.5.1 and the accuracy of information submitted to the CAISO pursuant to this Section 30.

(i) In order to retain the priorities specified in Section 31.4 and 34.12 for scheduled amounts in the Day-Ahead Schedule associated with ETC and TOR Self-Schedules or Self-Schedules associated with Regulatory Must-Take Generation, a Scheduling Coordinator must submit to the Real-Time Market ETC or TOR Self-Schedules, or Self-Schedules associated with Regulatory Must-Take Generation, at or below the Day-Ahead Schedule quantities associated with the scheduled ETC, TOR, or Regulatory Must-Take Generation Self-Schedules. If the Scheduling Coordinator fails to submit such Real-Time Market ETC, TOR, or Regulatory Must-Take Generation Self-Schedules, the defined scheduling priorities of the ETC, TOR, or Regulatory Must-Take Generation Day-Ahead Schedule quantities may be subject to adjustment in the HASP and the Real-Time Market as further provided in Sections 31.4 and 34.12 in order to meet operating conditions.

(j) For Multi-Stage Generating Resources that receive a Day-Ahead Schedule, RUC Award, or Ancillary Services Award the Scheduling Coordinator must submit an Energy Bid in the Real-Time Market for the same Trading Hour(s). If the Scheduling Coordinator submits an Economic Bid for such Trading Hour(s), the Economic Bid must be for either: the

same MSG Configuration scheduled or awarded in the Integrated Forward Market, or the MSG Configuration committed in RUC. If the Scheduling Coordinator submits a Self-Schedule in the Real-Time Market for such Trading Hour(s), then the Energy Self-Schedule may be submitted in any registered MSG Configuration, including the MSG Configuration awarded in the Day-Ahead Market, that can support the awarded Ancillary Services (as further required by Section 8).

(k) Scheduling Coordinators for Multi-Stage Generating Resources may submit into the Real-Time Market bids from up to six (6) MSG Configurations in addition to the MSG Configuration scheduled or awarded in the Integrated Forward Market and Residual Unit Commitment, provided that the MSG Transitions between the MSG Configurations bid into the Real-Time Market are feasible and the transition from the previous Trading Hour are also feasible.

(l) For the Trading Hours that Multi-Stage Generating Resources do not have a CAISO Schedule or award from a prior CAISO Market run, the Scheduling Coordinator can submit up to six (6) MSG Configurations into the RTM.

(m) A Scheduling Coordinator cannot submit a Bid to the CAISO Markets for a MSG Configuration into which the Multi-Stage Generating Resource cannot transition due to lack of Bids for the specific Multi-Stage Generating Resource in other MSG Configurations that are required for the requisite MSG Transition.

(n) In order for Multi-Stage Generating Resource to meet any Resource Adequacy must-offer obligations, the responsible Scheduling Coordinator must submit either an Economic Bid or Self-Schedule for at least one MSG Configuration into the Day-Ahead Market and Real-Time Market that is capable of fulfilling that Resource Adequacy obligation, as feasible. The Economic Bid shall cover the entire capacity range between the maximum bid-in Energy MW and the higher of Self-Scheduled Energy MW and the Multi-Stage Generating Resource plant-level PMin as registered in the Master File.

(o) For any given Trading Hour, a Scheduling Coordinator may submit Self-Schedules and/or Submissions to Self-Provide Ancillary Services in only one MSG Configuration for each

Generating Unit.

(p) In any given Trading Hour in which a Scheduling Coordinator has submitted a Self-Schedule for a Multi-Stage Generating Resource, the Scheduling Coordinator may also submit Bids for other MSG Configurations provided that they concurrently submit Bids that enable the applicable CAISO Market to transition the Multi-Stage Generating Resource to other MSG Configurations.

(q) If in any given Trading Hour the Multi-Stage Generating Resource was awarded Regulation or Operating Reserves in the IFM, any Self-Schedules or Submissions to Self-Provide Ancillary Services the Scheduling Coordinator submits for that Multi-Stage Generating Resource in the RTM must be for the same MSG Configuration for which Regulation or Operating Reserve is Awarded in IFM for that Multi-Stage Generating Resource in that given Trading Hour.

(r) If a Multi-Stage Generating Resource has received a binding RUC Start-Up Instruction as provided in Section 31, any Self-Schedule or Submission to Self-Provide Ancillary Services in the RTM must be in the same MSG Configuration committed in RUC.

(s) If in any given Trading Hour the Multi-Stage Generating Resource is scheduled for Energy in the IFM, any Self-Schedules the Scheduling Coordinator submits for that Multi-Stage Generating Resource in the RTM must be for the same MSG Configuration for which Energy is scheduled in IFM for that Multi-Stage Generating Resource in that given Trading Hour.

(t) For a Multi-Stage Generating Resource, the Bid(s) submitted for the resource's configuration(s) shall collectively cover the entire capacity range between the maximum bid-in Energy MW and the higher of the Self-Scheduled Energy MW and the Multi-Stage Generating Resource plant-level PMin as registered in the Master File. This rule shall apply separately to the Day-Ahead Market and the Real-Time Market.

(u) A Scheduling Coordinator may submit a Self-Schedule Hourly Block for the RTM as an import to or an export from the CAISO Balancing Authority Area and may also submit Self-Scheduled Hourly Blocks for Ancillary Services imports. Such a Bid shall be for the

same MWh quantity for each of the four (4) fifteen (15)-minute intervals that make up the applicable Trading Hour.

(v) A Scheduling Coordinator may submit a Variable Energy Resource Self-Schedule for the RTM can be submitted from a Variable Energy Resource. A Scheduling Coordinator can use either the CAISO forecast for Expected Energy in the RTM or can provide its own forecast for Expected Energy pursuant to the requirements specified in Section 4.8.2. The Scheduling Coordinator must indicate in the Master File whether it is using its own forecast or the CAISO forecast for its resource in support of the Variable Energy Self-Schedule. The Scheduling Coordinator is not required to include the same MWh quantity for each of the four (4) fifteen (15)-minute intervals that make up the applicable Trading Hour for the Variable Energy Resource Self-Schedule include. If an external Variable Energy Resource that is not using a forecast of its output provided by the CAISO submits a Variable Energy Resource Self-Schedule and the Expected Energy is not delivered in the FMM, the Scheduling Coordinator for the Variable Energy Resource will be subject to the Under/Over Delivery Charge as described in Section 11.31. Scheduling Coordinators for Dynamically Scheduled Variable Energy Resources that provide the CAISO with a two (2)-hour rolling forecast with five (5)-minute granularity can submit Variable Energy Resource Self-Schedules.

(w) Scheduling Coordinators can 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 (4) FMM intervals. Scheduling Coordinator can also submit Economic Hourly Block Bids for Ancillary Services. As specified in Section 11, a cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery.

(x) Scheduling Coordinators can submit Economic Hourly Block Bids with Intra-Hour Option. If accepted in the HASP, such a Bid creates a binding schedule with same MWh awards for each of the four (4) FMM intervals. After that, the RTM can optimize such schedules for economic reasons once through an FMM during the Trading Hour. As specified in Section 11, a cleared Economic Hourly Block Bid with Intra-Hour Option is not eligible for

Bid Cost Recovery.

(y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.

(z) [Not Used]

(aa) A Scheduling Coordinator for a CAISO Balancing Authority Area resource will indicate through a resource parameter as prescribed in the Business Practice Manual that it has sold capacity to an out-of-balancing authority area Load Serving Entity, and no CAISO Load Serving Entity has a right to such capacity. If the Scheduling Coordinator does not indicate this status, the resource cannot be a designated resource for an export Self-Schedule at Scheduling Points backed by non-Resource Adequacy Capacity. The CAISO will notify a Scheduling Coordinator hourly, to the extent practicable, that its resource, which is flagged to support an export, is designated by another entity to support export Self-Schedules at Scheduling Points backed by non-Resource Adequacy Capacity. Upon receiving the notice, the Scheduling Coordinator for the designated resource shall notify the CAISO if it does not have a contractual commitment to support such export Self-Schedule or does not have a reasonable expectation to be available to support the export Self Schedule. The Scheduling Coordinator for the designated resource and the Scheduling Coordinator for the export Self-Schedule shall designate a resource to support such export only if the resource is expected to have sufficient available capacity to support the export quantity throughout the entire hour. For Variable Energy Resources, this requirement can only be satisfied if the resource's forecasted output for each of the applicable four (4) fifteen (15) minute intervals in the applicable hour for which a bid has been submitted, based on the most recent forecast for that hour, is for Generation that is equal to or greater than the Self Schedule export quantity. The designated capacity must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status

that is shown on the CAISO's NQC list.

(bb) In addition to meeting any obligations applicable to Resource Adequacy Resources, a Scheduling Coordinator for a resource supporting Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity shall submit a RUC Availability Bid for RCU for a quantity equal to or greater than the quantity of the export.

(cc) The Scheduling Coordinator for the resource shall offer Energy Bids into the Real-Time Market to support Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity.

(dd) The positive difference in quantity between the higher of a designated resource's Day-Ahead Schedule or a designated resource's RUC Schedule and the Day-Ahead Schedule of the corresponding Self-Schedule at a Scheduling Point backed by non-Resource Adequacy Capacity cannot back additional exports at a Scheduling Point backed by non-Resource Adequacy Capacity scheduled in the Real-Time Market.

(ee) A Scheduling Coordinator shall not schedule an import Self-Schedule to support an export Self-Schedule of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity. The transaction is properly scheduled as a Wheeling Through transaction as described in section 30.5.4.

30.5.2 Supply Bids

30.5.2.1 Common Elements for Supply Bids

In addition to the resource-specific Bid requirements of this Section, all Supply Bids must contain the following components: Scheduling Coordinator ID Code; Resource Location or Resource ID, as appropriate; MSG Configuration ID, as applicable; PNode or Aggregated Pricing Node as applicable; Energy Bid Curve, as applicable; Self-Schedule component; Ancillary Services Bid; RUC Availability Bid as applicable; Imbalance Reserves Bid as applicable; the CAISO Market to which the Bid applies; Trading Day to which the Bid applies; Priority Type (if any), and a Transaction ID as created by the CAISO. Supply Bids offered in the CAISO Markets must be monotonically increasing. Energy Bids in the RTM must also contain a Bid for Ancillary Services to the extent the resource is certified and capable of providing Ancillary Service in the RTM up to the registered certified capacity for that Ancillary Service less

any Day-Ahead Ancillary Services Awards.

Scheduling Coordinators must submit the applicable Supply Bid components, including Self-Schedules, for the submitted MSG Configuration.

Scheduling Coordinators submitting Bids for Scheduling Points must adhere to the E-Tagging requirements outlined in Section 30.5.7.

30.5.2.2 Supply Bids for Participating Generators

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Participating Generators shall contain the following components as applicable: Start-Up Bid, Minimum Load Bid, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, Regulatory Must-Take/Must-Run Generation; Contingency Flag; and Contract Reference Number (if any). Scheduling Coordinators submitting these Bid components for a Multi-Stage Generating Resource must do so for the submitted MSG Configuration. Scheduling quantities that a Scheduling Coordinator schedules as Regulatory Must-Take Generation for a CHP Resource shall be limited to the quantity necessary in any hour to meet the reasonably anticipated industrial host's thermal requirements and shall not exceed any established RMTMax values. The CHP Resource owner or operator shall provide its Scheduling Coordinator with the Regulatory Must-Take Generation values and is solely responsible for the accuracy of the information. The Scheduling Coordinator for the CHP Resource will schedule the quantities consistent with information provided subject to any contract rights between the CHP Resource Generating Unit owner or operator and its counter-party to any power purchase agreement regarding curtailment or dispatchability of the CHP Resource. If the CHP Resource Generating Unit has a power purchase agreement and its counter-party is not the Scheduling Coordinator for the resource, the parties to the agreement share the responsibility for ensuring that the Scheduling Coordinator schedules the resource consistent with contractual rights of the counter-parties. A Scheduling Coordinator for a Physical Scheduling Plant or a System Unit may include Generation Distribution Factors as part of its Supply Bid. If the Scheduling Coordinator has not submitted the Generation Distribution Factors applicable for the Bid, the CAISO will use default Generation Distribution Factors stored in the Master File. All Generation Distribution Factors used by the CAISO will be normalized based on Outage data that is available to the automated market systems. A Multi-Stage Generating Resource and its MSG Configurations are registered under a single Resource ID

and Scheduling Coordinator for the Multi-Stage Generating Resource must submit all Bids for the resource's MSG Configurations under the same Resource ID. For Multi-Stage Generating Resources, Scheduling Coordinators may submit bid curves for up to ten individual MSG Configurations of their Multi-Stage Generating Resources into the Day-Ahead Market and up to three individual MSG Configurations into the Real-Time Market. Scheduling Coordinators for Multi-Stage Generating Resources must submit a single Operational Ramp Rate for each MSG Configuration for which it submits a supply Bid either in the Day-Ahead Market or Real-Time Market. For Multi-Stage Generating Resources the Scheduling Coordinator may submit the Transition Times, which cannot be greater than the maximum Transition Time registered in the Master File. To the extent the Scheduling Coordinator does not submit the Transition Time that is a registered feasible transition the CAISO will use the registered maximum Transition Time for that MSG Transition for the specific Multi-Stage Generating Resource.

30.5.2.3 Supply Bids for Participating Loads, Including Pumped-Storage Hydro Units and Aggregated Participating Loads

In addition to the common elements listed in Section 30.5.2.1, Scheduling Coordinators submitting Supply Bids for Participating Loads, which includes Pumping Load or Pumped-Storage Hydro Units, may include the following components: Pumping Level (MW), Minimum Load Bid (Generation mode only of a Pumped-Storage Hydro Unit), Load Distribution Factor, Ramp Rate, Energy Limit, Pumping Cost, and Pump Shut-Down Costs. If no values for Pumping Cost or Pump Shut-Down Costs are submitted, the CAISO will generate these Bid components based on values in the Master File. Scheduling Coordinators may only submit Supply Bids for Aggregated Participating Loads by using a Generating Unit or Physical Scheduling Plant Resource ID for the Demand reduction capacity represented by the Aggregated Participating Load as set forth in a Business Practice Manual. The CAISO will use Generation Distribution Factors provided by the Scheduling Coordinator for the Aggregated Participating Load.

30.5.2.4 Supply Bids for System Resources

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Resource-Specific System Resources shall also contain Start-Up Bids and Minimum Load Bids. Resource-Specific System Resources are subject to the Proxy Cost methodology or the Registered Cost methodology for Default Start-Up Bids and Default Minimum Load Bids as provided in Section 30.4, and Transaction ID as created

by the CAISO. Other System Resources are not eligible to recover Start-Up Costs and Minimum Load Costs. Resource-Specific System Resources are eligible to participate in the Day-Ahead Market on an equivalent basis as Generating Units and are not obligated to participate in RUC or the RTM if the resource did not receive a Day-Ahead Schedule unless the resource is a Resource Adequacy Resource. A Scheduling Coordinator for a Non-Resource-Specific System Resource that is a Resource Adequacy Resource or that supports a renewable portfolio standard transaction and that has met the registration requirements set forth in the CAISO's Business Practice Manual may submit a Bid at an CAISO BAA EDAM Transfer location, if the Scheduling Coordinator does not the know the source of Non-Resource-Specific System Resource at time of Day-Ahead Market Bid submission or the source is otherwise outside of the EDAM Area. If the Resource-Specific System Resource is a Resource Adequacy Resource, the Scheduling Coordinator for the resource is obligated to make it available to the CAISO Market as prescribed by Section 40.6. Dynamic Resource-Specific System Resources are also eligible to participate in the RTM on an equivalent basis as Generating Units. The quantity (in MWh) of Energy categorized as Interruptible Imports (non-firm imports) can only be submitted through Self-Schedules in the Day-Ahead Market and cannot be incrementally increased in the RTM. Bids submitted to the Day-Ahead Market for ELS Resources will be applicable for two days after they have been submitted and cannot be changed the day after they have been submitted. Bids for System Resources that exceed the Soft Energy Bid Cap are subject to the rules in Sections 30.7.12, as applicable.

30.5.2.4.1 Intertie Block Bids

Intertie Block Bids must contain the same energy Bid price for all hours of the period for which the Intertie Block Bid is submitted. Intertie Block Bids may only be submitted in the DAM.

30.5.2.5 Supply Bids for Metered Subsystems

Consistent with the bidding rules specified in this Section 30.5, Scheduling Coordinators that represent MSS Operators may submit Bids, including Self-Schedules and Submissions to Self-Provide an Ancillary Service, to the DAM. All Bids to supply Energy by MSS Operators must identify each Generating Unit on an individual unit basis. The CAISO will not accept aggregated Generation Bids without complying with the requirements of Section 4.9.12 of the CAISO Tariff. All Scheduling Coordinators that represent MSS Operators must submit Demand Bids at the relevant MSS LAP. Scheduling Coordinators that represent

MSS Operators must comply with Section 4.9 of the CAISO Tariff. For an MSS that elects Load following, the MSS Operator shall also self-schedule or bid Supply to match the Demand Forecast. All Bids for MSSs must identify each Generating Unit on an individual unit basis or a System Unit. For an MSS that elects Load following consistent with Section 4.9.13.2, the Scheduling Coordinator for the MSS Operator must include the following additional information with its Bids: the Generating Unit(s) that are Load following; the range of the Generating Unit(s) being reserved for Load following; whether the quantity of Load following capacity is either up or down; and, if there are multiple Generating Units in the MSS, the priority list or distribution factors among the Generating Units. The CAISO will not dispatch the resource within the range declared as Load following capacity, leaving that capacity entirely available for the MSS to dispatch. The CAISO uses this information in the IFM runs and the RUC to simulate MSS Load following. The Scheduling Coordinator for the MSS Operator may change these characteristics through the Bid submission process in the RTM.

If the Load following resource is also an RMR Unit, the MSS Operator must not specify the RMR Contract Capacity specified in the RMR Contract as Load following up or down capacity to allow the CAISO to access such capacity for RMR Dispatch.

30.5.2.6 Supply Bids for Distributed Energy Resource Aggregations

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Distributed Energy Resource Aggregations will contain the following components as applicable: Generation Distribution Factors, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, and Contingency Flag. If the Scheduling Coordinator does not submit the Generation Distribution Factors for the Bid, the CAISO will use default Generation Distribution Factors registered in Master File. The CAISO will apply a net benefits test to determine a threshold Market Clearing Price for Demand Response Providers and Distributed Energy Resource Aggregations that include Distributed Curtailment Resources. The CAISO will not accept Bids from Distributed Energy Resource Aggregations that include Distributed Curtailment Resources for Energy below this threshold Market Clearing Price in the CAISO Markets.

30.5.2.7 Ancillary Service Bids

There are four distinct Ancillary Services: Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve. A resource shall be eligible to provide Ancillary Service if it has complied with the

CAISO's certification and testing requirements as contained in Appendix K and the CAISO's Operating Procedures. Scheduling Coordinators may use Dynamic System Resources to Self-Provide Ancillary Services as specified in Section 8. All System Resources, including Dynamic System Resources and Non-Dynamic System Resources, will be charged the Shadow Price as prescribed in Section 11.10, for any awarded Ancillary Services. A Scheduling Coordinator may submit Ancillary Services Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve for the same capacity by providing a separate price in $/MW per hour as desired for each Ancillary Service. The Bid for each Ancillary Services is a single Bid segment. Only resources certified by the CAISO as capable of providing Ancillary Services are eligible to provide Ancillary Services and submit Ancillary Services Bids. In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; (2) Ramp Rate (Operating Reserve Ramp Rate and Regulation Ramp Rate, if applicable); and (3) Distribution Curve for Physical Scheduling Plant or System Unit. A Scheduling Coordinator may only submit an Ancillary Services Bid or Submission to Self-Provide an Ancillary Service for Multi-Stage Generating Resources for the Ancillary Service for which the specific MSG Configurations are certified. For any such certified MSG Configurations the Scheduling Coordinator may submit only one Operating Reserve Ramp Rate and Regulation Ramp Rate. An Ancillary Services Bid or Submission to Self-Provide an Ancillary Service submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but is not required to be, accompanied by an Energy Bid that covers the capacity offered for the Ancillary Service. Notwithstanding any other provision, Scheduling Coordinators for storage resources participating as Non-Generator Resources must submit accompanying Energy Bids in the Real-Time Market that cover at least half the capacity awarded for Ancillary Services from the Day-Ahead Market. Such covering Energy Bids must be the opposite direction of the Ancillary Service; namely, Bids to charge must accompany capacity awarded for Regulation Up, Spinning Reserve, and Non-Spinning Reserve; and Bids to discharge must accompany capacity awarded for Regulation Down. If a Scheduling Coordinator's Submission to Self-Provide an Ancillary Service is qualified as specified in Section 8.6, the Scheduling Coordinator must submit an Energy Bid that covers the self-provided capacity prior to the close of the Real-Time Market for the day immediately following the Day-Ahead Market in which the

Ancillary Service Bid was submitted. Except as provided below, the Self-Schedule for Energy need not include a Self-Schedule for Energy from the resource that will be self-providing the Ancillary Service. If a Scheduling Coordinator is self-providing an Ancillary Service from a Short Start Unit, no Self-Schedule for Energy for that resource is required. If a Scheduling Coordinator proposes to self-provide Spinning Reserve, the Scheduling Coordinator is obligated to submit a Self-Schedule for Energy for that particular resource, unless as discussed above the particular resource is a Short Start Unit. When submitting Ancillary Service Bids in the Real-Time Market, Scheduling Coordinators for resources that either have been awarded or self-provide Spinning Reserve or Non-Spinning Reserve capacity in the Day-Ahead Market must submit an Energy Bid for at least the awarded or self-provided Spinning Reserve or Non-Spinning Reserve capacity, otherwise the CAISO will apply the Bid validation rules described in Section 30.7.6.1.

As provided in Section 30.5.2.6.4, a Submission to Self-Provide an Ancillary Service shall contain all of the requirements of a Bid for Ancillary Services with the exception of Ancillary Service Bid price information. In addition, Scheduling Coordinators must comply with the Ancillary Services requirements of Section 8. Scheduling Coordinators submitting Self-Schedule Hourly Blocks for Ancillary Services Bids for the Real-Time Market must also submit an Energy Bid for the associated Ancillary Services Bid under the same Resource ID, otherwise the bid validation rules in Section 30.7.6.1 will apply to cover any portion of the Ancillary Services Bid not accompanied by an Energy Bid. As described in Section 34.2.3, if the resource submits a Self-Scheduled Hourly Block, the CAISO will only use the Ancillary Services Bid in the RTM optimization and will not use the associated Energy Bid for the same Resource ID to schedule Energy from the Non-Dynamic System Resource in the RTM. Scheduling Coordinators must also comply with the bidding rules associated with the must offer requirements for Ancillary Services specified in Section 40.6.

30.5.2.7.1 Regulation Up or Regulation Down Bid Information

In the case of Regulation Up or Regulation Down, the Ancillary Services Bid or submission to self-provide must also contain: (a) the upward and downward range of generating capacity over which the resource is willing to provide Regulation in ten (10) minutes; (b) the Bid price of the capacity reservation, stated separately for Regulation Up and Regulation Down ($/MW); and (c) the Bid price ($) of the Mileage stated

separately for Regulation Up and Regulation Down. For submissions to self-provide Regulation Up or Regulation Down, the price for the capacity reservation shall be $0/MWh and the price for Mileage shall be $0. In the case of Regulation Up or Regulation Down from Dynamic System Resources, the Ancillary Services Bid must also contain the Contract Reference Number, if applicable. Scheduling Coordinators may include inter-temporal opportunity costs in their Regulation capacity bids, but these inter-temporal opportunity costs must be verifiable. Ancillary Services Bids submitted to the Day-Ahead or Real-Time Market for Regulation need not be accompanied by an Energy Supply Bid that covers the Ancillary Services capacity being offered. A Regulation Down Bid will be erased unless there is an Energy Supply Bid or Energy Self-Schedule at a level that would permit the resource to provide Regulation Down to its lower Regulation Limit. A submission to self-provide Regulation Down will be erased unless there is an Energy Self-Schedule at a level that would permit the resource to provide Regulation Down to its lower Regulation Limit. A Regulation Up Bid will be erased unless there is an Energy Supply Bid or Energy Self-Schedule at a level that would permit the resource to provide Regulation Up within its Regulation Limit. A submission to self-provide Regulation Up will be erased unless there is an Energy Self-Schedule at a level that would permit the resource to provide Regulation Up within its Regulation Limit.

30.5.2.7.2 Spinning Reserve Capacity Bid Information

In the case of Spinning Reserve capacity, the Ancillary Services Bid must also contain: (a) MW of additional capability synchronized to the system, immediately responsive to system frequency, and available within ten (10) minutes; (b) Bid price of capacity reservation, and (c) an indication whether the capacity reserved would be available to supply imbalance energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag). In the case of Spinning Reserve capacity from System Resources, the Ancillary Services Bid must also contain: (a) Schedule ID (NERC ID number); and (b) a Contract Reference Number, if applicable. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

30.5.2.7.3 Non-Spinning Reserve Capacity

In the case of Non-Spinning Reserve, the Ancillary Service Bid must also contain: (a) the MW capability available within ten (10) minutes; (b) the Bid price of the capacity reservation; (c) time of synchronization following notification (minutes); and (d) an indication whether the capacity reserved would be available to supply imbalance energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag). In the case of Non-Spinning Reserve Capacity from System Resources, the Ancillary Services Bid must also contain: (a) Schedule ID (NERC ID number); and (b) a Contract Reference Number, if applicable. In the case of Non-Spinning Reserve Capacity from Participating Load within the CAISO Balancing Authority Area, the Ancillary Service Bid must also contain: (a) a Load identification name and Location Code; (b) Demand reduction available within ten (10) minutes; (c) time to interruption following notification (minutes); and (d) maximum allowable curtailment duration (hour). In the case of Aggregated Participating Load, and Proxy Demand Resources, Scheduling Coordinators must submit Bids using a Generating Unit, Physical Scheduling Plant Resource ID, or Resource ID for the Proxy Demand Resource for the Demand reduction capacity of the Aggregated Participating Load through a Bid to provide Non-Spinning Reserve or a Submission to Self-Provide an Ancillary Service for Non-Spinning Reserve. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Non-Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

30.5.2.7.4 Additional Rules for Self-Provided Ancillary Services

Scheduling Coordinators electing to self-provide Ancillary Services shall supply the information referred to in this Section 30.5 in relation to each Ancillary Service to be self-provided, excluding the capacity price information, but including the name of the trading Scheduling Coordinator in the case of Inter-Scheduling Coordinator Ancillary Service Trades. The portion of the Energy Bid that corresponds to the high end of the resource's operating range, shall be allocated to any awarded or Self-Provided Ancillary Services in the following order from higher to lower capacity: (a) Regulation Up; (b) Spinning Reserve; and (c) Non-Spinning Reserve. For resources providing Regulation Up, the upper regulating limit shall be used if it is lower than the highest operating limit. The remaining portion of the Energy Bid (i.e. that portion not associated with capacity committed to provide Ancillary Services) shall constitute a Bid to provide Energy.

30.5.2.8 RUC Availability Bids

Scheduling Coordinators may submit RUC Availability Bids to seek a RUC Award. Scheduling Coordinators submit separate RUC Availability Bids for RCU and RCD. For Multi-Stage Generating Resources, the RUC Availability Bids shall be submitted at the MSG Configuration. The RUC Availability Bid is a MW quantity in $/MW per hour. The quantity of a RUC Availability Bid for RCU or RCD cannot exceed the lower of the following two values: (1) the resource's 60-minute ramp capability; or (2) the Upper Economic Limit. In the case of Non-Generator Resources, however, the quantity of a RUC Availability Bid for RCU or RCD cannot exceed the lower of: (1) the resource's 60-minute ramp capability; or (2) the difference between the Upper Economic Limit and the Lower Economic Limit. The value for the $/MW per hour component of the Bid must be between 0 and 250.

Resources offering Economic Bids for Energy to the IFM must submit a RUC Availability Bid for RCU at a quantity no less than the quantity of the Economic Bid for Energy.

30.5.2.9 Imbalance Reserves Bids

Scheduling Coordinators may submit Imbalance Reserves Bids to seek an Imbalance Reserves Award. Scheduling Coordinators submit separate Imbalance Reserves Bids for IRU and IRD. For Multi-Stage Generating Resources, the Imbalance Reserves Bids shall be submitted at the MSG Configuration level. The Imbalance Reserves component is MW-quantity in $/MW per hour. The value for the $/MW per hour component of the Bid must be between 0 and 55.

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30.7.12 Validation of Bids in Excess of Soft Energy Bid Cap, Hard Energy Bid Cap, or Minimum Load Cost Hard Cap

30.7.12.1 Generally

Except as otherwise stated in this Section 30.7.12, the validation rules in this Section 30.7.12 apply to all Energy Bids and Minimum Load Bids submitted by Scheduling Coordinators. The provisions of Sections 30.7.12.1 through 30.7.12.4 do not apply to Virtual Bids and Energy Bids submitted for Non-Resource-Specific System Resources; the provisions of Section 30.7.12.5 apply to Virtual Bids and Energy Bids submitted for Non-Resource-Specific System Resources. The CAISO will allow Bids for Non-Resource-

Specific System Resources that are Resource Adequacy Resources and that exceed the Soft Energy Bid Cap subject to the Bid price screens described in Section 30.7.12.5.1. The CAISO will allow Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources and that exceed the Soft Energy Bid Cap subject to the rules specified in Section 30.7.12.5.2. The CAISO will reject Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that exceed the Hard Energy Bid Cap.

30.7.12.2 Energy Bids that Exceed the Soft Energy Bid Cap

In addition to all other Bid validation rules that apply to Energy Bids, if a Scheduling Coordinator submits an Energy Bid price that exceeds the Soft Energy Bid Cap, the CAISO will modify the Energy Bid price for purposes of clearing the relevant CAISO Market Process to the higher of the Soft Energy Bid Cap or the resource's Default Energy Bid, including when the Default Energy Bid is modified pursuant to a Reference Level Change Request pursuant to Section 30.11 or when the Default Energy Bid would rise above the Soft Energy Bid Cap based upon its general calculation. Energy Bids for storage resources may exceed the Soft Energy Bid Cap pursuant to Section 30.7.12.6.

30.7.12.3 Energy Bids that Exceed the Hard Energy Bid Cap and Minimum Load Bids that Exceed the Minimum Load Cost Hard Cap

All Energy Bid prices and Minimum Load Bid prices used in the CAISO Market Processes shall not exceed the Hard Energy Bid Cap or the Minimum Load Cost Hard Cap, respectively.

30.7.12.4 After-Market Cost Recovery

For any Energy Bid, except for Energy Bids for Non-Resource-Specific System Resources, Virtual Bids, Export Bids, Demand Bids, or Minimum Load Bid price submitted above the Energy Bid price or the Minimum Load Bid price the CAISO uses in the CAISO Market Processes, the Scheduling Coordinators may be eligible for after-market cost recovery pursuant to Section 30.12.

30.7.12.5 Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources

30.7.12.5.1 Bids for Non-Resource-Specific System Resources that are Resource Adequacy Resources

The CAISO will reduce Bids for Non-Resource-Specific System Resources that are Resource Adequacy

Resources that exceed the Maximum Import Bid Price to the greater of the Soft Energy Bid Cap, the Maximum Import Bid Price, or the highest-priced Energy Bid from a Resource-Specific System Resource that the CAISO has accepted for the applicable Trading Hour pursuant to Section 30.7.12.2.

30.7.12.5.2 Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources

The CAISO will accept Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources that exceed the Soft Energy Bid consistent with the conditions specified in Section 30.5.8. The CAISO will not accept Export Bids, Demand Bids, Virtual Bids, or Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources that exceed the Hard Energy Bid Cap.

30.7.12.5.3 Maximum Import Bid Price

The CAISO calculates hourly Maximum Import Bid Prices for the Day-Ahead Market and Real-Time Market, separately, including for on-peak and off-peak hours. The CAISO calculates the Maximum Import Bid Price as 110 percent of the greater of the published bilateral electric index prices for the Mid-Columbia or Palo Verde trading hub locations, multiplied by an hourly shaping ratio. As detailed in the CAISO Business Practice Manual, the CAISO calculates the hourly shaping ratio for each hour by dividing the Day-Ahead Market Marginal Energy Cost for the CAISO Balancing Authority Area in that hour of a previous representative Trading Day by the average Day-Ahead Market System Marginal Energy Cost for the CAISO Balancing Authority Area in all on-peak hours of the same previous representative Trading Day. If for any given Trading Hour the CAISO cannot calculate the Maximum Import Bid Price, the applicable Maximum Import Bid Price will be the most recently available calculated Maximum Import Bid Price.

30.7.12.6 Energy Storage Bids

For energy storage resources using the Non-Generator Resource model, the CAISO will allow Energy Bids that exceed the Soft Energy Bid Cap subject to the Bid price screens described here. This Section 30.7.12.6 does not apply to Hybrid Resources. Notwithstanding any other provision, the CAISO will reject Energy Bids that exceed the Hard Energy Bid Cap. In the Real-Time Market, the CAISO will accept Energy Bids from Scheduling Coordinators for storage resources using the Non-Generator Resource model up to the higher of (a) the fourth-highest calculated hourly value of the Maximum Import Bid Price

for that Trading Day in the applicable CAISO Market Process; (b) the highest-priced Energy Bid from a resource subject to a Default Energy Bid that the CAISO has accepted for the applicable Trading Hour pursuant to Section 30.7.12.2, excluding without limitation Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources; and (c) the resource's Default Energy Bid if it uses the Variable Cost Option, LMP Option, or the Negotiated Rate Option. The CAISO will reduce Bids for storage resources that exceed (a), (b), and (c) to the maximum permissible value. In the Day-Ahead Market, the CAISO will accept Energy Bids from Scheduling Coordinators for storage resources using the Non-Generator Resource model up to the resource's Default Energy Bid if it uses the Variable Cost Option, LMP Option, or the Negotiated Rate Option.

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Section 31

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31.2.1 Determining Competitive and Non-Competitive Congestion Components in the IFM

The IFM MPM process enforces all Transmission Constraints that are expected to be enforced in the relevant market, in the base case of meeting Demand and in the separate cases of modeling the dispatch of Energy from all capacity awarded IRU and IRD, and produces dispatch levels for all resources with submitted Bids and LMPs for all Locations. Bid mitigation is determined by decomposing the Congestion component of each LMP determined in the IFM MPM process into competitive Congestion and non-competitive Congestion components. The non-competitive Congestion component of each LMP is calculated as the sum of the product of the shift factor and the Shadow Price for all non-competitive Transmission Constraints. The non-competitive Congestion component of an LMP can be based on a Transmission Constraint deemed non-competitive in the base case of meeting Demand or in the separate case of modeling the dispatch for Energy of all capacity awarded IRU. The Reference Bus used in the MPM process will be either: (1) the Midway 500kV bus if Path 26 flow is from north to south; or (2) the Vincent 500kV bus if Path 26 flow is from south to north. The treatment of a particular Transmission

Constraint as competitive or non-competitive for purposes of the IFM MPM process is determined pursuant to Section 39.7.2.

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31.5.3 RUC Procurement Target

Subject to Sections 31.5.3.1 and 31.5.4, the RUC Procurement Target for each Balancing Authority Area participating in the Day-Ahead Market is based on the relationship between the CAISO Forecast of BAA Demand for that BAA and the Supply cleared in the IFM for that Trading Hour (excluding Virtual Supply).

If the CAISO Forecast of BAA Demand exceeds the Supply cleared in the IFM for a Trading Hour (excluding Virtual Supply), then the RUC Procurement Target for that Balancing Authority Area is RCU in the amount of the excess Demand.

If the Supply (excluding Virtual Supply) cleared in the IFM for a Trading Hour exceeds the CAISO Forecast of BAA Demand, then the RUC Procurement Target for that Balancing Authority Area is RCD in the amount of the excess Supply.

If the Supply (excluding Virtual Supply) cleared in the IFM for a Trading Hour equals the CAISO Forecast of BAA Demand, then the RUC Procurement Target for that Balancing Authority Area is zero RCU and zero RCD.

The adjustments listed in Sections 31.5.3.1 to 31.5.3.1.6 will be made to the CAISO Forecast of BAA Demand to account for the conditions as provided therein. The RUC Procurement Target setting procedure is designed to meet the requirements of reliable grid operation without unnecessary over-procurement of RUC Capacity or over-commitment of resources. Additional detail on the process for setting the RUC Procurement Target is specified in the Business Practice Manuals.

31.5.3.1 CAISO Operator Review & Adjustment

The CAISO Operator reviews the CAISO Forecast of BAA Demand and all calculated adjustments as provided in Sections 31.5.3.1.1 through 31.5.3.1.6. The CAISO Operator may accept, modify, or reject such adjustments based on Good Utility Practice. If the CAISO Operator determines it must modify the CAISO Forecast of BAA Demand, the CAISO Operator shall log sufficient information as to reason,

Operating Hour, and specific modification(s) made to the CAISO Forecast of BAA Demand.

31.5.3.1.1 RUC Net Short Conditions

The CAISO Operator may conform the CAISO Forecast of BAA Demand in the event the CAISO Operator has determined that additional capacity may need to be procured in RUC to meet anticipated Real-Time system conditions. The CAISO Operator will consider factors such as: CAISO Forecast of BAA Demand error; weather pattern that is expected to continue or change within the next Trading Day; generator outage resulting in different Supply availability than was bid into the Day-Ahead Market; fire that threatens transmission lines and/or corridors; the expectation that the amount of Generation committed in the IFM will not be sufficient to meet the anticipated Demand; and Reliability Coordinator next-day analysis of system conditions.

31.5.3.1.2 Demand Response Adjustments.

The CAISO may adjust the CAISO Forecast of CAISO Demand to account for Demand response that is clearly communicated to the CAISO as certain to be curtailed for the next Trading Day. Such adjustments may be made only for the two following types of Demand response: (1) Demand response triggered by a staged System Emergency event; and (2) Demand response that is triggered by a price or an event known in advance.

31.5.3.1.3 [Not Used]

31.5.3.1.4 Eligible Intermittent Resource Adjustment

Scheduling Coordinators for Eligible Intermittent Resources may submit Bids, including Self-Schedules, in the Day-Ahead Market and the quantity ultimately scheduled from Eligible Intermittent Resources may differ from the CAISO forecasted deliveries from the Eligible Intermittent Resources. The CAISO may adjust the forecasted Demand either up or down for such differences by RUC Zone in which the Eligible Intermittent Resource resides. If the EIR's expected output participating in the Day-Ahead Market, as reflected in the EIR's Bid, including a Self-Schedule, or lack thereof, is less than CAISO's forecast of the EIR, the CAISO may make a Supply-side adjustment to the resource's expected output by using the CAISO's forecast of the EIR. If on the other hand, the EIR's expected output participating in the Day-Ahead Market, as reflected in the EIR's Bid, including a Self-Schedule, or lack thereof, is greater than the

CAISO's forecast of the EIR, the CAISO may make a Demand side adjustment to the RUC Zone Demand equal to the difference between the EIR's Day-Ahead Schedule and the CAISO forecasted quantity.

31.5.3.1.5 Real-Time Expected Incremental Supply Self-Schedule Adjustment

In order to avoid over procurement of RUC, the CAISO may, using a similar-day approach, estimate the RTM Self-Schedules for resources that usually submit RTM Self-Schedules that are greater than their Day-Ahead Schedules. The CAISO Operator may set the length of the Self-Schedule moving average window. Initially this moving average window shall be set by default to seven (7) days; in which case the weekday estimate is based on the average of five (5) most recent weekdays and the weekend estimate is based on the average of the two (2) most recent weekend days. To the extent weather conditions differ significantly from the historical days, additional adjustment may be necessary. After determining the estimate of Real-Time Self-Schedules, using a similar day forecasting approach, the CAISO may adjust the CAISO Forecast of BAA Demand of a RUC Zone based on the forecasted quantity changes in Supply as a result of Self-Schedules submitted in the RTM. This adjustment for forecasted Real-Time Self-Schedules may result in positive or negative adjustments. Demand adjustments to the CAISO Forecast of BAA Demand result when there is a net forecast decrease in Real-Time Self-Schedule Supply relative to the Day-Ahead Schedule Supply. Supply adjustments to the individual resources occur when there is a net forecast increase in Real-Time Self-Schedule Supply relative to the Day-Ahead Schedule Supply of the individual resource.

31.5.3.1.6 Day-Ahead Ancillary Service Procurement Deficiency Adjustment

While the CAISO intends to procure one hundred percent (100%) of its forecasted Operating Reserve requirement in the IFM based on the CAISO Forecast of BAA Demand as specified in Section 8.3.1, the CAISO may make adjustments to the CAISO Forecast of BAA Demand used in RUC to ensure sufficient capacity is available or resources committed in cases that the CAISO is unable to procure one hundred percent (100%) of its forecasted Operating Reserve requirement in the IFM; provided, however, that the CAISO shall not procure specific Ancillary Services products in RUC, nor will the RUC optimization consider AS-related performance requirements of available capacity.

31.5.3.2 RUC Zones

31.5.3.2.1 Use of RUC Zones

The CAISO shall adjust the CAISO Forecast of BAA Demand by RUC Zone for the conditions described in Sections 31.5.3.2 through 31.5.3.6. If any adjustments are made throughout the affected RUC Zone, such adjustments will be made consistent with the subset of system LDFs for the Nodes that define the RUC Zone(s). The CAISO will adjust the CAISO Forecast of BAA Demand of each affected RUC Zone, preserving the LDFs within each RUC Zone, but the relative weighting of the LDFs across the system will deviate from the original LDFs.

31.5.3.2.2 Designation of RUC Zones

The CAISO shall define RUC Zones as areas that represent UDC or MSS Service Areas, Local Capacity Areas, or any other collection of Nodes. RUC Zones will be designated by the CAISO as necessary and to the extent that the CAISO has developed sufficient data on historical Demand in a BAA and weather conditions to allow it to perform Demand Forecasts. Once the CAISO has established RUC zones, the mapping of RUC Zones to Nodes shall be static data and shall be maintained in the Master File. The CAISO may add new Nodes to a RUC Zone if new Nodes are added to the FNM. The status of each RUC Zone shall remain active for as long as the CAISO maintains regional forecasting capabilities, but once a RUC Zone is designated the CAISO will only adjust the CAISO Forecast of BAA Demand as necessary to address RUC procurement constraints and not as a normal course for all CAISO Market functions. The actual RUC Zones used by the CAISO in its operation of RUC are posted on the CAISO Website.

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31.5.5 Selection and Commitment of RUC Capacity

Capacity that is not already scheduled in the IFM may be selected as RUC Capacity to meet a RUC Procurement Target.

31.5.5.1 Nodal Procurement and Deliverability of Reliability Capacity

RUC optimizes procurement of Reliability Capacity such that, in the event the Real-Time Market awards the incremental or decremental Energy Bids corresponding to the Reliability Capacity Awards, the dispatch of Energy from the Reliability Capacity in the market would not result in flows exceeding

Transmission Constraints and scheduling limits, including EDAM Transfer limits.

The RUC optimization distributes an EDAM Entity's RUC procurement target to the Demand Locations within each EDAM Entity based on distribution factors derived from historical and/or forecasted information that reflect the relative contributions of Demand to the RUC procurement targets.

31.5.5.2 The RUC Optimization

The RUC optimization will select RUC Capacity and produce nodal RUC Prices by minimizing total Bid cost based on RUC Availability Bids and Start-Up, Minimum Load Bids and Transition Costs. RUC will not consider Start-Up, Minimum Load Bids, or Transition Costs for resources already committed in the IFM. The CAISO will only issue RUC Start-Up Instructions to resources committed in RUC that must receive a Start-Up Instruction in the Day-Ahead in order to be available to meet Real-Time Demand. RUC Schedules will be provided to Scheduling Coordinators even if a RUC Start-Up Instruction is not issued at that time. RUC shall not Shut Down resources scheduled through the IFM but RUC may commit a Multi-Stage Generating Resource to a lower MSG Configuration. If the RUC process cannot find a feasible solution given the resources committed in the IFM, the RUC process will adjust constraints as described in Section 31.5.4 to arrive at a feasible solution that accommodates all the resources committed in the IFM.

31.5.5.3 Limitations on RUC Awards

A RUC Award to a specific resource only can consist of RCU or RCD, and not both. RUC shall not Shut Down resources scheduled through the IFM. RUC shall not provide a RUC Award to a Multi-Stage Generating Resource that would require it to make an infeasible transition from the MSG Configuration applicable to its Day-Ahead Schedule to the MSG Configuration applicable to meeting the requirements of the potential RUC Award.

The RUC optimization applies a constraint such that the sum of awards for Energy, Ancillary Services, Imbalance Reserves, and Reliability Capacity is feasible given the resource's capacity, operating and economic limitations.

The RUC optimization only awards a RUC Award to a storage resource using the Non-Generator Resource model to the extent its modeled State of Charge can support such schedule or award.

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Section 33

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33.11.6 Administrative Charge

The CAISO will charge each EDAM Market Participant an EDAM Administrative Charge, which consists of the System Operations Real-Time Dispatch Charge and the Market Services Charge, both volumetric charges. The CAISO will no longer collect the EIM Administrative Charge from an EDAM Market Participant. The Systems Operations Real-Time Dispatch Charge and the Market Services Charge are described in Appendix F, Schedule 1, Part A.

33.11.6.1 Temporary EDAM Administrative Charge Transitional Load Ramp-in

The EDAM Administrative Charge assessed to Scheduling Coordinators' demand-related charge codes will be assessed on an incremental percentage at the outset of EDAM. Each incremental percentage will apply to the calendar year, January to December, such that the CAISO would assess the incremental percentage to an EDAM Entity joining after January to the remaining part of the calendar year only. The first year EDAM is available for participation, the CAISO will assess five (5) percent of the MWh of each EDAM Scheduling Coordinator's metered demand to apply the EDAM Administrative Charge. In the second year, the CAISO will assess twenty-five (25) percent. In the third year, the CAISO will assess fifty (50) percent. In the fourth year and thereafter, the CAISO will assess seventy-five (75) percent. In the fifth year and thereafter, the CAISO will assess one-hundred (100) percent. The foregoing does not apply to EDAM Scheduling Coordinators' MWh of Energy or Supply: The CAISO will assess one-hundred (100) percent of the MWh of each EDAM Scheduling Coordinator's Energy to apply the EDAM Administrative Charge at the outset of EDAM and thereafter.

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33.30.5 Start-Up and Minimum Load

For the determination of Proxy Start-Up Costs and Proxy Minimum Load Costs, the CAISO will utilize the Market Services Charge and System Operations Real-Time Dispatch Charge reflected in the EDAM Administrative Charge.

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Section 40

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40.6.1 Day-Ahead Availability

Except as otherwise provided in Sections 40.6.1.1 and 40.6.4, Scheduling Coordinators supplying Resource Adequacy Capacity shall make such Resource Adequacy Capacity, available Day-Ahead to the CAISO as follows:

(1) Resource Adequacy Resources physically capable of operating must submit: (a) Economic Bids for Energy and/or Self-Schedules for all their Resource Adequacy Capacity and (b) Economic Bids for Ancillary Services and/or a Submission to Self-Provide Ancillary Services in the IFM for all of their Resource Adequacy Capacity that is certified to provide Ancillary Services. For Resource Adequacy Capacity that is certified to provide Ancillary Services and is not covered by a Submission to Self-Provide Ancillary Services, the resource must submit Economic Bids for each Ancillary Service for which the resource is certified. For Resource Adequacy Capacity subject to this requirement for which no Economic Energy Bid or Self-Schedule has been submitted, the CAISO shall insert a Generated Bid in accordance with Section 40.6.8. For Resource Adequacy Capacity subject to this requirement for which no Economic Bids for Ancillary Services or

Submissions to Self-Provide Ancillary Services have been submitted, the CAISO shall insert a Generated Bid in accordance with Section 40.6.8 for each Ancillary Service the resource is certified to provide.

(2) Resource Adequacy Resources must be available except for limitations specified in the Master File, legal or regulatory prohibitions or as otherwise required by this CAISO Tariff or by Good Utility Practice.

(3) Through the IFM co-optimization process, the CAISO will utilize available Resource Adequacy Capacity to provide Energy, Imbalance Reserves, or Ancillary Services in the most efficient manner to clear the Energy market, manage congestion and procure required Ancillary Services. In so doing, the IFM will honor submitted Energy Self-Schedules of Resource Adequacy Capacity unless the CAISO is unable to satisfy one hundred percent (100%) of the Ancillary Services requirements. In such cases, the CAISO may curtail all or a portion of a submitted Energy Self-Schedule to allow Ancillary Service-certified Resource Adequacy Capacity to be used to meet the Ancillary Service requirements. The CAISO will not curtail for the purpose of meeting Ancillary Service requirements a Self-Schedule of a resource internal to a Metered Subsystem that was submitted by the Scheduling Coordinator for that Metered Subsystem. If the IFM reduces the Energy Self-Schedule of Resource Adequacy Capacity to provide an Ancillary Service, the Ancillary Service Marginal Price for that Ancillary Service will be calculated in accordance with Section 27.1.2 using the Ancillary Service Bids submitted by the Scheduling Coordinator for the Resource Adequacy Resource or inserted by the CAISO pursuant to this Section 40.6.1, and using the resource's Generated Energy Bid to determine the Resource Adequacy Resource's opportunity cost of Energy. If the Scheduling Coordinator for the Resource Adequacy Resource believes that the opportunity cost of Energy based on the Resource Adequacy Resource's Generated Energy Bid is insufficient to compensate for the resource's actual opportunity cost, the Scheduling Coordinator may submit evidence justifying the increased amount to the CAISO and to the FERC no later than seven (7) days after the end of the month in which

the submitted Energy Self-Schedule was reduced by the CAISO to provide an Ancillary Service.

The CAISO will treat such information as confidential and will apply the procedures in Section 20.4 of this CAISO Tariff with regard to requests for disclosure of such information. The CAISO shall credit any higher opportunity costs approved by FERC.

(4) Resource Adequacy Resources must submit RUC Availability Bids for RCU for their Resource Adequacy Capacity.

(5) Resource Adequacy Resources eligible to provide Imbalance Reserves must submit Bids for IRU and IRD for all RA Capacity that meets its obligation pursuant to 40.6.1(1)(a) by submitting an Economic Bid.

40.6.1.1 Day-Ahead Availability - Specific RA Resource Types

(a) **Distributed Generation Facilities.** Distributed Generation Facilities shall comply with the IFM and RUC bidding requirements that apply to the same technology type of a resource connected to the CAISO Controlled Grid.

(b) **Non-Generator Resources**

(1) Non-Generator Resources that do not use Regulation Energy Management shall submit: Economic Bids or Self-Schedules into the IFM for all RA Capacity for all hours of the month the resource is physically capable of operating; and RUC Availability Bids for both RCU and RCD for all RA Capacity for all hours of the month the resource is physically capable of operating.

(2) Non-Generator Resources using Regulation Energy Management shall submit Economic Bids or Self-Schedules into the IFM for all RA Capacity for Regulation for all hours of the month the resource is physically capable of operating.

(c) **Extremely Long-Start Resources.** Extremely Long-Start Resources that are Resource Adequacy Resources must make themselves available to the CAISO by complying with:

(1) the Extremely Long-Start Commitment Process under Section 31.7 or otherwise committing the ELS Resource upon instruction from the CAISO, if physically capable; and

(2) the applicable provisions of Section 40.6.1 regarding Day-Ahead availability for the Trading Days for which it was committed.

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Appendix A

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- EIM Upward Available Balancing Capacity

Any upward capacity from an EIM Resources or a non-participating resource that an EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator has identified in the EIM Resource Plan as available to address power balance and transmission violations in the EIM Balancing Authority Area.

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- Generating Unit

An individual electric generator, or storage for later injection of electricity, and its associated plant and apparatus whose electrical output is capable of being separately identified and metered or a Physical Scheduling Plant that, in either case, is: (a) located within the CAISO Balancing Authority Area (which includes a Pseudo-Tie of a generating unit to the CAISO Balancing Authority Area), or, for purposes of scheduling and operating the Day-Ahead Market only, an EDAM Entity Balancing Authority Area, or, for purposes of scheduling and operating the Real-Time Market only, an EIM Entity Balancing Authority Area; (b) connected to the CAISO Controlled Grid, either directly or via interconnected transmission, or distribution facilities or via a Pseudo-Tie; and (c) capable of producing or storing and then delivering net Energy (Energy in excess of a generating station's internal power requirements).

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Appendix F Rate Schedules

Schedule 1

Grid Management Charge

Part A - Calculation of Grid Management Charge (GMC)

The GMC consists of the following separate service charges for 2024 and 2025: (1) the Market Services Charge; (2) the System Operations Charge; and (3) the CRR Services Charge. The GMC revenue requirement, determined in accordance with Part C of this Schedule 1, will be allocated to the service charges specified in Part A of this Schedule 1 as follows: forty-nine (49) percent to Market Services; forty-nine (49) percent to System Operations; and two (2) percent to CRR Services. Beginning in 2026, the GMC will consist of the following separate service charges: (1) the Market Services Charge; (2) the System Operations Real-Time Dispatch Charge; (3) the System Operations Balancing Authority Area Services Charge; and (4) the CRR Services Charge. The GMC revenue requirement, determined in accordance with Part C of this Schedule 1, will be allocated to the service charges specified in Part A of this Schedule 1 as follows: forty-nine (49) percent to Market Services; twenty-three (23) percent to System Operations Real-Time Dispatch Charge; twenty-six (26) percent to System Operations Balancing Authority Area Services Charge; and two (2) percent to CRR Services.

Every three (3) years, the CAISO will conduct an updated cost of service study, in consultation with stakeholders and using costs from the previous year. In conducting each cost-of-service study, the CAISO will recalculate the service charge percentages and the rates for the fees and charges that constitute the Grid Management Charge as set forth in Section 11.22. In addition, the cost-of-service study results will be used to update the RC Funding Percentage used to calculate the annual RC Funding Requirement, as well as the real-time percentages of the Market Services Charge. The cost-of-service study results will also be used to update the real-time market percentage used to calculate the EDAM System Operations charge. If, based on the cost-of-service study results, the service category revenue requirement allocation percentages or the level of fees and charges have changed, the CAISO will submit tariff amendments to reflect such changes pursuant to Section 205 of the FPA.

1. The rate for the Market Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category net the projected Bid Segment Fees, Inter-SC Trade Transaction Fees, and the SCID Charge by the forecast annual gross absolute value of MW per hour of Ancillary Services capacity awarded in the Day-Ahead and Real-Time Markets, MWh of Energy cleared in the Day-Ahead market, MWh of Imbalance Reserves cleared in the Day-Ahead market, MWh of Reliability capacity cleared in the Day-Ahead market, Virtual Demand Award, Virtual Supply Award, and FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy, less the forecast annual gross absolute value of such Energy as may be excluded for a load following MSS pursuant to an MSS agreement, Standard Ramping Energy, Regulation Energy, Ramping Energy Deviation, Residual Imbalance Energy, Exceptional Dispatch Energy and Operational Adjustments for the Day-Ahead and Real-Time.

2. The rate for the System Operations Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category, net the projected TOR Charges by forecast annual gross absolute value of MWh of real-time energy flows on the CAISO Controlled Grid.

3. Beginning in 2026, the rate for the System Operations Real-Time Dispatch Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category net the proportional projected TOR Charges by forecast annual gross absolute value of MWh of real-time energy flows of CAISO, EIM, and EDAM Market Participants.

4. Beginning in 2026, the rate for the System Operations Balancing Authority Area Services

Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category by forecast annual gross absolute value of MWh of real-time energy flows on the CAISO Controlled Grid.

5. The rate for the CRR Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category, net the projected CRR Auction Bid Fees, by the forecast annual sum of awarded MW of CRRs per hour.

The rates for the foregoing charges will be adjusted automatically each year, effective January 1 for the following twelve (12) months, in the manner set forth in Part D of this Schedule.

Part B - Quarterly Adjustment, If Required

Each component rate of the GMC will be adjusted automatically on a quarterly basis, up or down, so that rates reflect the annual revenue requirement as posted on the CAISO Website, as applicable, if the estimated revenue collections for that component, after accounting for revenue collected from the Bid Segment Transaction Fee, the CRR Transaction Fee, the Inter-Scheduling Coordinator Trade Transaction Fee, the Scheduling Coordinator ID Charge and the TOR Charge, on an annual basis, change by more than two (2) percent or $1 million, whichever is greater, during the year. Such adjustment may be implemented not more than once per calendar quarter, and will be effective the first day of the next calendar month.

The rates will be adjusted according to the formulae listed in Appendix F, Schedule 1, Part A with the billing determinant(s) readjusted on a going-forward basis to reflect the change of more than two (2) percent or $1 million, whichever is greater, from the estimated revenue collections provided in the annual informational filing.

Part C - Costs Recovered through the GMC

As provided in Section 11.22.2 of the CAISO Tariff, the GMC includes the following costs, as projected in the CAISO's budget for the year to which the GMC applies:

- CAISO Operating Costs;
- CAISO Financing Costs, including debt service on CAISO capital expenditures;
- CAISO Other Costs and Revenues, including penalties, interest earnings and other revenues;
- CAISO Operating Cost Reserve adjustment; and
- CAISO Cash Funded Capital and Project Costs

Such costs, for the CAISO as a whole, are allocated to the service charges that comprise the GMC: (1) market services, (2) system operations, and (3) CRR services, according to the factors listed in Part A of this Schedule 1, and

adjusted annually for:

- any surplus revenues from the previous year as deposited in the CAISO Operating Reserve Account, or deficiency of revenues, as recorded in a memorandum account;

divided by:

- forecasted annual billing determinant volumes;

adjusted quarterly for:

- a change in the volume estimate used to calculate the individual GMC components, if, on an annual basis, the change is two (2) percent or $1 million, whichever is greater, from the estimated revenue collections provided in the annual informational filing.

The GMC revenue requirement formula is as follows:

GMC revenue requirement =

CAISO Operating Costs + CAISO Financing Costs + CAISO Other Costs and Revenues + CAISO Operating Cost Reserve adjustment + CAISO Cash Funded Capital and Project Costs,

[The "USoA" reference below is the FERC Uniform System of Accounts, and is intended to include subsequent re-numbering or re-designation of the same accounts or subaccounts.]

Where,

(1) CAISO Operating Costs include:

(a) Transmission expenses (USoA 560-574);

(b) Regional market expenses (USoA 575.1-575.8);

(c) Maintenance accounts (USoA 576-576.5)

(d) Customer accounting expenses (USoA 901-905);

(e) Customer service and informational expenses (USoA 906-910);

(f) Sales expenses (USoA 911-917);

(g) Administrative & general expenses (USoA 920-935);

(h) Taxes other than income taxes that relate to CAISO operating income (USoA 408.1); and

(i) Miscellaneous, non-operating expenses, penalties and other deductions (USoA 426 subaccounts).

(2) CAISO Financing Costs include:

(a) For any fiscal year, scheduled principal and interest payments, sinking fund payments related to balloon maturities, repayment of commercial paper notes, net payments required pursuant to a payment obligation, or payments due on any CAISO notes. This amount includes the current year accrued principal and interest payments due in the first one hundred twenty (120) days of the following year.

(b) The debt service coverage requirement, which is a percentage of the senior lien debt service, i.e., all debt service that has a first lien on CAISO net operating revenues. The coverage requirement is twenty-five (25) percent, unless otherwise specified by the rate covenants of the official statements for each CAISO bond offering.

(3) CAISO Other Costs and Revenues include:

(a) Interest earnings (USoA 419) on funds not restricted by bond or note proceeds specifically designated for capital projects or capitalized interest. Unrealized gains or losses shall be excluded and realized gains and losses shall be included. If it has been determined that a permanent impairment in an investment has occurred, it shall be included.

(b) Miscellaneous revenues, which includes fees and fines assessed and collected by the CAISO (USoA 421, 456, 457.1 and 457.2 subaccounts).

(c) Other interest expenses (USoA 431) not provided for elsewhere.

(4) CAISO Operating Cost Reserve adjustment is the sum of:

(a) The actual excess or shortfall in collections of the prior year's rates compared to the budgeted amounts;

(b) The actual excess or shortfall in CAISO Operating Costs, CAISO Other Costs and Revenues and CAISO Financing Costs for the prior year compared to the

budgeted amounts except any excess in the prior year budgeted amount for self-insured healthcare costs compared to actual self-insured healthcare costs;

(c) The estimate of current year collections and costs compared to budgeted amounts for the current year; and

(d) The change in CAISO Operating Cost Reserve consistent with the level of the CAISO Operating Cost Reserve requirement.

(5) CAISO Cash-Funded Capital and Project Costs include funding from current year revenue for approved capital and projects.

A separate revenue requirement shall be established for each component of the GMC by developing the revenue requirement for the CAISO as a whole and then assigning such costs to the service categories using the allocation factors provided in Appendix F, Schedule 1, Part A.

Part D - Information Requirements

Budget Schedule

The CAISO will convene, prior to the commencement of the annual budget process, an initial meeting with stakeholders to: (a) receive ideas to control CAISO costs; (b) receive ideas for projects to be considered in the capital budget development process; and, (c) receive suggestions for reordering CAISO priorities in the coming year.

Within two (2) weeks of the initial meeting, the ideas presented by the stakeholders shall be communicated in writing to the CAISO's officers, directors and managers as part of the budget development process, and a copy of this communication shall be made available to stakeholders.

The CAISO shall submit the following information either at the initial meeting with stakeholders or subsequent to the initial submission of the draft budget to the CAISO Governing Board: (a) proposed capital budget with indicative projects for the next subsequent calendar year, a budget-to-actual review for capital expenditures for the previous calendar year, and a budget-to-actual review of current year capital costs; and, (b) budget-to-actual review of expenditures and activities for the previous calendar year, and a budget-to-actual review of expenditures for the current year.

Subsequent to the initial submission of the draft budget to the CAISO Governing Board, the CAISO will provide stakeholders expenditures and activities in detail for the next subsequent calendar year (in the form of a draft of the budget book for the CAISO Governing Board). Certain of this detailed information which is deemed commercially sensitive will only be made available to parties that pay the CAISO's GMC (or regulators) who execute a confidentiality agreement.

The CAISO shall provide such materials on a timely basis to provide stakeholders at least one full Board meeting cycle to review and prepare comments on the draft annual budget to the CAISO Governing Board.

At least one month prior to the CAISO Governing Board meeting scheduled to consider approval of the proposed budget, the CAISO will hold a meeting open to all stakeholders to discuss the details of the CAISO's budget and revenue requirement for the forthcoming year.

Prior to a final recommendation by the CAISO Governing Board on the CAISO's draft annual budget, the CAISO shall respond in writing to all written comments on the draft annual budget submitted by stakeholders and/or the CAISO shall issue a revised draft budget indicating in detail the manner in which the stakeholders' comments have been taken into consideration.

The CAISO will provide no fewer than forty-five (45) days for stakeholder review of its annual budget between initial budget posting and final approval of the budget by the CAISO Governing Board.

Budget Posting

After the approval of the annual budget by the CAISO Governing Board, the CAISO will post on the CAISO Website the CAISO operating and capital budget to be effective during the subsequent fiscal year, and the billing determinant volumes used to develop the rate for each component of the GMC, together with workpapers showing the calculation of such rates.

Periodic Financial Reports

The CAISO will create periodic financial reports consisting of an income statement, balance sheet, capital projects report and such other reports as are required by the CAISO Governing Board. The periodic financial reports will be posted on the CAISO Website not less than quarterly.

Part E - [Not used]

Part F - [Not Used]

Schedule 2

[Not Used]

Schedule 3

Regional Access Charge and Wheeling Access Charge

1. Objectives and Definitions.

1.1 Objectives.

(a) The Access Charge is the charge assessed for using the CAISO Controlled Grid. It consists of two components, the Regional Access Charge (RAC) and the Local Access Charge (LAC).

(b) The RAC is based on one CAISO Grid-wide rate.

(c) The LAC will be determined by each Participating TO. The LAC of Non-Load-Serving Participating TOs may also be project specific. Each Participating TO will charge for and collect the LAC, subject to Section 26.1 of the CAISO Tariff and Section 13 of this Schedule 3.

(d) The Wheeling Access Charge is paid by Scheduling Coordinators for Wheeling as set forth in Section 26.1.4 of the CAISO Tariff. The CAISO will collect the Wheeling revenues from Scheduling Coordinators on a Trading Interval basis and repay these to the Participating TOs based on the ratio of each Participating TO's Transmission Revenue Requirement to the sum of all Participating TOs' Transmission Revenue Requirements.

(e) The Non-Subscriber Usage Payment Amount (NSUPA) is provided by the CAISO to Subscriber Participating TOs for Non-Subscriber use of the Subscriber Participating TO's transmission assets and Entitlements and Subscriber Encumbrances used to provide Subscriber Rights, subject to Section 26.1.4 of the CAISO Tariff, provided that a Subscriber Participating TO will not otherwise be entitled to establish any other element of a Transmission Revenue Requirement unless justified for the recovery of costs associated with transmission facilities authorized in accordance with Section 24 or Section 25 of the CAISO Tariff.

1.2 Definitions

Unless the context otherwise requires, any word or expression defined in the Master Definition Supplement shall have the same meaning where used in this Schedule 3.

2. Assessment of Regional Access Charge.

All UDCs and MSS Operators in a PTO Service Territory serving Gross Loads directly connected to the transmission facilities or Distribution System of a UDC or MSS Operator in a PTO Service Territory shall pay to the CAISO a charge for transmission service on the Regional Transmission Facilities included in the CAISO Controlled Grid. A UDC or MSS Operator that is also a Participating TO shall pay, or receive payment of, if applicable, the difference between (i) the Regional Access Charge applicable to its transactions as a UDC or MSS Operator; and (ii) the disbursement of Regional Access Charge revenues to which it is entitled pursuant to Section 26.1.3 of the CAISO Tariff.

3. TAC Areas.

3.1 TAC Areas are based on the Control Areas in California prior to the CAISO Operations Date. Three TAC Areas will be established based on the Original Participating TOs: (1) a Northern Area consisting of the PTO Service Territory of Pacific Gas and Electric Company and the PTO Service Territory of any entity listed in Section 3.3 or 3.5 of this Schedule; (2) an East Central Area consisting of the PTO Service Territory of Southern California Edison Company and the PTO Service Territory of any entity listed in Section 3.4, 3.5 or 3.6 (as indicated therein) of this Schedule 3; and (3) a Southern Area consisting of the PTO Service Territory of San Diego Gas & Electric Company. Participating TOs that are not in one of the above cited PTO Service Territories are addressed below.

3.2 If the Los Angeles Department of Water and Power joins the CAISO and becomes a Participating TO, its PTO Service Territory will form a fourth TAC Area, the West Central Area.

3.3 If any of the following entities becomes a Participating TO, its PTO Service Territory will become part of the Northern Area: Sacramento Municipal Utility District, Western Area Power Administration - Sierra Nevada Region, the Department of Energy California Labs, Northern California Power Agency, City of Redding, Silicon Valley Power, City of Palo Alto, City and County of San Francisco, Alameda Bureau of Electricity, City of Biggs, City of Gridley, City of Healdsburg, City of Lodi, City of Lompoc Utility Department, Modesto Irrigation District, Turlock Irrigation District, Plumas County Water Agency, City of Roseville Electric Department, City of Shasta Lake, and City of Ukiah or any other entity owning or having contractual rights to Regional or Local Transmission Facilities in Pacific Gas and Electric Company's Control Area prior to the CAISO Operations Date.

3.4 If any of the following entities becomes a Participating TO, its PTO Service Territory will become part of the East Central Area: City of Anaheim Public Utility Department, City of Riverside Public Utility Department, City of Azusa Light and Water, City of Banning Electric, City of Colton, City of Pasadena Water and Power Department, The Metropolitan Water District of Southern California and City of Vernon or any other entity owning or having contractual rights to Regional or Local Transmission Facilities in Southern California Edison Company's Control Area prior to the CAISO Operations Date.

3.5 If the California Department of Water Resources becomes a Participating TO, its Regional Transmission Revenue Requirements associated with Regional Transmission Facilities in the Northern Area would become part of the Regional Transmission Revenue Requirement for the Northern Area while the remainder would be included in the East Central Area.

3.6 If the City of Burbank Public Service Department (Burbank) and/or the City of Glendale Public Service Department (Glendale) become Participating TOs after or at the same time as the Los Angeles Department of Water and Power becomes a Participating TO, then the PTO Service Territory of Burbank and/or Glendale would become part of the West Central Area. Otherwise, if Burbank or Glendale becomes a Participating TO, prior to Los Angeles, its PTO Service Territory will become part of the East Central Area. Once either Burbank or Glendale are part of the East Central Area, they will not move to the West Central Area if such area is established.

3.7 If the Imperial Irrigation District or an entity outside the State of California should apply to become a Participating TO (other than a Subscriber Participating TO), the CAISO Governing Board will review the reasonableness of integrating the entity into one of the existing TAC Areas. If the entity cannot be integrated without the potential for significant cost shifts, the CAISO Governing Board may establish a separate TAC Area. Each Subscriber Participating TO will have its own TAC Area.

4. [NOT USED]

5. Determination of the Access Charge.

5.1 The Access Charge consists of a Regional Access Charge (RAC) and a Local Access Charge (LAC) that is based on a utility-specific rate established by each Participating TO in accordance with its TO Tariff.

5.2 Each Participating TO and Approved Project Sponsor will develop, in accordance with Section 6 of this Schedule 3, a Regional Transmission Revenue Requirement (RTRR PTO) consisting of a Transmission Revenue Requirement for (i) Regional Transmission Facilities; (2) Transmission Facilities that are not yet in operation but have been approved under Section 24 and assigned to the Approved Project Sponsor, that will be Regional Transmission Facilities when placed under the CAISO's Operational Control; and (iii) to the extent the costs have not been recovered, Location Constrained Interconnection Facilities. The RTRR PTO includes the TRBA adjustment described in Section 6.1 of this Schedule 3. If an Approved Project Sponsor that is a Non-Load-Serving Participating Transmission Owner has been assigned responsibility to construct and own a Local Transmission Facility because the CAISO concluded, pursuant to Section 24.4.10, that it

was not reasonable to divide construction responsibility, the Approved Project Sponsor shall include any authorized pre-operational cost recovery for the Local Transmission Facility in its Local Transmission Revenue Requirement. The division of the total revenue requirement associated with the facility between Regional and Local Transmission Revenue Requirements shall be consistent with Appendix F, Schedule 3, Sections 11 and 12.

5.3 The Gross Load amount in MWh shall be established by each Participating TO and filed at FERC with each Participating TO's Transmission Revenue Requirement (GLPTO).

5.4 The Regional Access Charge shall be equal to the sum of the Regional Transmission Revenue Requirements of all Participating TOs and Approved Project Sponsors, divided by the sum of the Gross Loads of all Participating TOs.

6. Regional Transmission Revenue Requirement.

6.1 The Regional Transmission Revenue Requirement of a Participating TO or an Approved Project Sponsor will be determined consistent with CAISO procedures posted on the CAISO Website and shall be the sum of:

(a) the Participating TO's Regional Transmission Revenue Requirement (including costs related to Existing Contracts associated with transmission by others and deducting transmission revenues actually expected to be received by the Participating TO related to transmission for others in accordance with Existing Contracts and Interregional Transmission Projects, less the sum of the Standby Transmission Revenues) or the Approved Project Sponsors Regional Transmission Revenue Requirement; and

(b) the annual Regional TRBA adjustment, which shall be based on the principal balance in the Regional TRBA as of September 30 and shall be calculated as a dollar amount based on the projected Transmission Revenue Credits as adjusted for the true up of the prior year's difference between projected and actual credits. A Non-Load-Serving Participating TO shall include any over- or under-recovery of its annual Regional Transmission Revenue Requirement in its Regional TRBA. If the annual Regional TRBA adjustment involves only a partial year of operations, the Non-Load-Serving Participating TO's over- or under-recovery shall be based on a partial year revenue requirement, calculated by multiplying the Non-Load-Serving Participating TO's Regional Transmission Revenue Requirement by the number of days the Regional Transmission Facilities were under the CAISO's Operational Control divided by the number of days in the year. An Approved Project Sponsor shall include any over- or under-recovery of its annual Regional Transmission Revenue Requirement in its Regional TRBA. If the annual Regional TRBA adjustment involves only a partial year, the Approved Project Sponsor's over- or under-recovery shall be based on a partial year revenue requirement, calculated by multiplying the Approved Project Sponsor's Regional Transmission Revenue Requirement by the number of days the transmission facilities were under construction based on the construction plan required in accordance with Section 24.6.1, as such plan may be updated by the construction plan status report, divided by the number of days in the year.

7. Determination and Updates to the Non-Subscriber Usage Rate

7.1 Each Subscriber Participating TO shall develop a Non-Subscriber Usage Rate in accordance with its TO Tariff, including a $/MWh charge that will be no greater than the applicable Regional Access Charge rate at the time the Subscriber Participating TO files its Non-Subscriber Usage Rate for approval by FERC consistent with Section 8 of this Schedule 3 of Appendix F.

7.2 If the applicable Regional Access Charge rate later decreases below the $/MWh charge contained in a Subscriber Participating TO's FERC-approved Non-Subscriber Usage Rate, the CAISO will limit the disbursement of revenues pursuant to Section 15 of this Schedule 3 to the applicable Regional Access Charge rate until the Subscriber Participating TO refiles its Non-Subscriber Usage Rate to be no greater than the applicable Regional Access Charge rate.

8. Updates to Regional Access Charges.

8.1 Regional Access Charges and Regional Wheeling Access Charges shall be adjusted: (1) on January 1 and July 1 of each year when necessary to reflect the addition of any New Participating TO and (2) on the date FERC makes effective a change to the Regional Transmission Revenue Requirements of any Participating TO or Approved Project Sponsor. Using the Regional Transmission Revenue Requirement accepted or authorized by FERC, consistent with Section 9 of this Schedule 3, for each Participating TO and Approved Project Sponsor, the CAISO will recalculate on a monthly basis the Regional Access Charge applicable during such period. Revisions to the Transmission Revenue Balancing Account adjustment shall be made effective annually on January 1 based on the principal balance in the TRBA as of September 30 of the prior year and a forecast of Transmission Revenue Credits for the next year. If a Subscriber Participating TO joins the CAISO, the Non-Subscriber Usage Payment Amount will be adjusted in accordance with Section 8.4 of this Schedule 3. The CAISO will not adjust or recalculate Regional Access Charges or Regional Wheeling Access Charges to account for FERC-approved Non-Subscriber Usage Rates.

8.2 Any refund associated with a Participating TO's or Approved Project Sponsor's Transmission Revenue Requirement that has been accepted by FERC, subject to refund, shall be provided as ordered by FERC. Such refund shall be invoiced in the CAISO Market Invoice.

8.3 If the Participating TO withdraws one or more of its transmission facilities from the CAISO Operational Control in accordance with Section 3.4 of the Transmission Control Agreement, then the CAISO will no longer collect the TRR for that transmission facility through the CAISO's Access Charge effective upon the date the transmission facility is no longer under the Operational Control of the CAISO. The withdrawing Participating TO shall be obligated to provide the CAISO with all necessary information to implement the withdrawal of the Participating TO's transmission facilities and to make any necessary filings at FERC to revise its TRR. The CAISO shall revise its transmission Access Charge to reflect the withdrawal of one or more transmission facilities from CAISO Operational Control.

8.4 After receiving notice of a change to the Non-Subscriber Usage Rates of any Subscriber Participating TO, the CAISO will recalculate on a monthly basis the Non-Subscriber Usage Payment Amount, if necessary, as of the date on which FERC makes effective a change to the Non-Subscriber Usage Rates.

9. Approval of Updated Regional Revenue Requirements.

9.1 Participating TOs and Approved Project Sponsors will make the appropriate filings at FERC to establish their Transmission Revenue Requirements for their Local Access Charges and the Regional Access Charge, and to obtain approval of any changes thereto. All such filings with the FERC will include a separate appendix that states the RTRR, LTRR (if applicable) and the appropriate Gross Load data and other information required by the FERC to support the Access Charges. The Participating TO or Approved Project Sponsor will provide a copy of its filing to the CAISO and the other Participating TOs and Approved Project Sponsors in accordance with the notice provisions in the Transmission Control Agreement.

9.2 Federal power marketing agencies whose transmission facilities are under CAISO Operational Control shall develop their Regional Transmission Revenue Requirements pursuant to applicable federal laws and regulations, including filing with FERC. All such filings with FERC will include a separate appendix that states the RTRR, LTRR (if applicable) and the appropriate Gross Load data and other information required by the FERC to support the Access Charges. The procedures for public participation in a federal power marketing agency's ratemaking process shall be posted on the federal power marketing agency's website. The federal power marketing agency shall also post on the website the Federal Register Notices and FERC orders for rate making processes that impact the federal power marketing agency's Regional Transmission Revenue Requirement. The Participating TO will provide a copy of its filing to the CAISO and the other Participating TOs in accordance with the notice provisions in the Transmission Control Agreement.

9.3 Subscriber Participating TOs will make the appropriate filings at FERC to establish their $/MWh

Non-Subscriber Usage Rates, and to obtain approval of any changes thereto. All such filings with FERC will include a separate appendix that states the Non-Subscriber Usage Rate and other information required by the FERC to support the Non-Subscriber Usage Rate. The Subscriber Participating TO will provide a copy of its filing to the CAISO and the other Participating TOs and Approved Project Sponsors in accordance with the notice provisions in the Transmission Control Agreement.

10. Disbursement of Regional Access Charge Revenues.

10.1 Regional Access Charge revenues shall be calculated for disbursement to each Participating TO, Approved Project Sponsor, and Subscriber Participating TO on a monthly basis as follows:

(a) the amount determined in accordance with Section 26.1.2 of the CAISO Tariff ("Billed RAC").

(b)

(i) for a Participating TO that is a UDC or MSS Operator and has Gross Load in its TO Tariff in accordance with Appendix F, Schedule 3, Section 9, then calculate the amount each UDC or MSS Operator would have paid and the Participating TO would have received by multiplying the Regional Utility-Specific Rates for the Participating TO whose Regional Transmission Facilities served such UDC and MSS Operator times the actual Gross Load of such UDCs and MSS Operators;

(ii) for a Non-Load-Serving Participating TO and Approved Project Sponsors, then calculate the Non-Load-Serving Participating TO's or Approved Project Sponsor's portion of the total Billed RAC in subsection (a) based on the ratio of the Non-Load-Serving Participating TO's and Approved Project Sponsors Regional Transmission Revenue Requirement to the sum of all Participating TOs' and Approved Project Sponsor's Regional Revenue Requirements; or

(iii) for a Subscriber Participating TO, then calculate the Subscriber Participating TO's portion of the total Billed RAC in subsection (a) based on the absolute value of MWh, in each direction, of Non-Subscriber usage on the Subscriber Participating TO's transmission assets and Entitlements and Subscriber Encumbrances used to provide Subscriber Rights, pursuant to Section 15 of this Schedule 3 of Appendix F.

(c) if the total Billed RAC in subsection (a) received by the CAISO less the total dollar amounts calculated in subsection (b)(i), subsection (b)(ii), and subsection (b)(iii) is different from zero, the CAISO shall allocate the positive or negative difference among those Participating TOs that are subject to the calculations in subsection (b)(i) based on the ratio of each Participating TO's Regional Transmission Revenue Requirement to the sum of all of those Participating TOs' Regional Transmission Revenue Requirements that are subject to the calculations in subsection (b)(i). This monthly distribution amount is the "RAC Revenue Adjustment."

(d) the sum of the RAC revenue share determined in subsection (b) and the RAC Revenue Adjustment in subsection (c) will be the monthly disbursement to the Participating TO.

10.2 If the same entity is both a Participating TO and a UDC or MSS Operator, then the monthly Regional Access Charge amount billed by the CAISO will be the charges payable by the UDC or MSS Operator in accordance with Section 26.1.2 of the CAISO Tariff less the disbursement determined in accordance with Section 10.1(d) of this Schedule 3. If this difference is negative, that amount will be paid by the CAISO to the Participating TO.

11. Determination of Transmission Revenue Requirement Allocation Between Regional and Local Transmission Facilities.

11.1 Each Participating TO shall allocate its Transmission Revenue Requirement between the

Regional Transmission Revenue Requirement and Local Transmission Revenue Requirement based on the Procedure for Division of Certain Costs Between the Regional and Local Transmission Access Charges contained in Section 12 of this Schedule.

12. Procedure for Division of Certain Costs Between the Regional and Local Transmission Access Charges.

12.1 Division of Costs:

(a) **Substations**

Costs for substations and substation equipment, including transformers:

(i) If the Participating TO has substation TRR information by facility and voltage, then the TRR for facilities and equipment at or above 200 kV should be allocated to the RTRR and the TRR for facilities and equipment below 200 kV should be allocated to the LTRR;

(ii) If the Participating TO has substation TRR information by facility but not by voltage, then the TRR for facilities and equipment should be allocated to the RTRR and to the LTRR based on the ratio of gross substation investment allocated to RTRR to gross substation investment allocated to LTRR pursuant to Section 12.1(a)(i); or

(iii) If the Participating TO does not have substation TRR information by facility or voltage, then the TRR for facilities and equipment should be allocated to the RTRR and to the LTRR based on the Participating TO's transmission system-wide gross plant ratio. The system-wide gross plant ratio is determined once the costs that can be split between Regional Transmission Facilities and Local Transmission Facilities for all facilities has been developed in accordance with Sections 12.1(a) through (c), then the resulting cost ratio between Regional Transmission Facilities and Local Transmission Facilities shall be used as the system-wide gross plant ratio.

(iv) Costs of transformers that step down from Regional Transmission Facility to a Local Transmission Facility, to the extent the Participating TO does not have the revenue requirement information available to allocate the costs, should be allocated consistent with the procedures for substations addressed above.

(b) **Transmission Towers and Land with Circuits on Multiple Voltages**

For transmission towers that carry both Regional Transmission Facilities and Local Transmission Facilities on the same tower, the cost of these assets should be allocated two-thirds to the RTRR and one-third to the LTRR. If the transmission tower has only Regional Transmission Facilities, then the costs of these assets should be allocated entirely to the RTRR. If the transmission tower has only Local Transmission Facilities, then the TRR of these assets should be allocated entirely to the LTRR. Provided that the Participating TO does not have land cost information available on a basis that distinguishes the Local and Regional Transmission Facilities, in which case the costs should be allocated on that basis, the costs for land used for transmission rights-of-way for towers that carry both Local and Regional Transmission Facilities should be allocated two-thirds to the RTRR component and one-third to the LTRR.

(c) **Operation and Maintenance, Transmission Wages & Salaries, Taxes, Depreciation and Amortization, and Capital Costs**

If the Participating TO can delineate costs for transmission operations and maintenance (O&M), transmission wages and salaries, taxes, depreciation and amortization, or capital costs on a voltage basis, the costs shall be applied on a bright-line voltage basis. If the costs for O&M, transmission wages and salaries, taxes, depreciation and amortization, or capital costs, are not available on voltage levels, the allocation to the RTRR and the LTRR should be based on the Participating TO's system-wide gross plant ratio defined in

Section 12.1(a).

(d) **Existing Transmission Contracts**

If the Take-Out Point for the Existing Contract is a Regional Transmission Facility, the Existing Contract revenue will be credited to the RTRR of the Participating TO receiving such revenue. Similarly, the Participating TO that is paying charges under such an Existing Contract may include the costs in its RTRR. If the Take-Out Point for the Existing Contract is a Local Transmission Facility, the Existing Contract revenue will be credited to the RTRR and the LTRR of the receiving Participating TO based on the ratio of the Participating TO's RTRR to its LTRR, prior to any adjustments for such revenues. The Participating TO that is paying the charges under the Existing Contract will include the costs in its RTRR and LTRR in the same ratio as the revenues are recognized by the Participating TO receiving the payments.

(e) **Division of the TRBA Adjustment between RTRR and LTRR**

(i) Wheeling revenues associated with transactions exiting the CAISO Controlled Grid at Scheduling Points or Take-Out Points that are at Regional Transmission Facilities shall be reflected as Regional TRBA adjustment components;

(ii) Wheeling revenues associated with transactions exiting the CAISO Controlled Grid at Scheduling Points or Take-Out Points that are at Local Transmission Facilities shall be attributed between Regional and Local TRBA adjustment components based on the Regional and Local Wheeling Access Charge rates assessed to such transactions by the CAISO and/or the Participating TO;

(iii) Any Local Access Charge amounts paid pursuant to Section 26.1 of the CAISO Tariff for the Local Transmission Facilities of a Non-Load-Serving Participating TO shall be reflected as a component of the Local TRBA adjustment associated with the Local Access Charge;

(iv) CRR revenues from CRRs allocated to Participating TOs shall be assigned to Regional or Local TRBA adjustment components based on whether the path related to the CRR is Regional or Local; and,

(v) Other Transmission Revenue Credits shall be allocated between Regional and Local TRBA adjustment components on a gross plant basis.

13. Local Access Charge for a Non-Load-Serving Participating TO. Pursuant to Section 26.1 of the CAISO Tariff, the provisions of this Section 13 of this Schedule 3 shall apply to a Non-Load-Serving Participating TO that has Local Transmission Facilities.

13.1 Local Transmission Revenue Requirement. The Local Transmission Revenue Requirement of a Non-Load-Serving Participating TO shall be calculated separately for each individual project that includes one or more Local Transmission Facilities or shall be calculated for a group of Local Transmission Facilities if all are part of projects directly connected to the facilities of the same Participating TO(s). The Local Transmission Revenue Requirement will be determined consistent with CAISO procedures posted on the CAISO Website and shall be the sum of:

(a) the Non-Load-Serving Participating TO's Local Transmission Revenue Requirement for the relevant Local Transmission Facility or group of facilities; and

(b) the annual Local TRBA adjustment for the relevant Local Transmission Facility or group of facilities, which shall be based on the principal balance in the Local TRBA as of September 30 and shall be calculated as a dollar amount based on the projected Transmission Revenue Credits as adjusted for the true up of the prior year's difference between projected and actual credits. In accordance with Section 26.1 of the CAISO Tariff, the Non-Load-Serving Participating TO shall include any over- or under-recovery of its annual Local Transmission Revenue Requirement in its Local TRBA. If the annual Local TRBA adjustment involves only a partial year of operations, the Non-Load-Serving Participating TO's over- or under-recovery shall be based on a partial year revenue

requirement, calculated by multiplying the Non-Load-Serving Participating TO's Local Transmission Revenue Requirement by the number of days the Local Transmission Facilities were under the CAISO's Operational Control divided by the number of days in the year.

13.2 Updates to Local Access Charges. Unless otherwise agreed by the affected Participating TOs, a Non-Load-Serving Participating TO shall adjust its Local Access Charges and Local Wheeling Access Charges (1) when necessary to reflect any new transmission addition directly connecting a Participating TO to the Local Transmission Facilities of the Non-Load-Serving Participating TO; (2) on the date FERC makes effective a change to the Local Transmission Revenue Requirement of the Non-Load-Serving Participating TO; and (3) on the date FERC makes effective a change to Gross Load of a Participating TO directly connected to the Non-Load-Serving Participating TO. Using the Local Transmission Revenue Requirement accepted or authorized by FERC, consistent with Section 9 of this Schedule 3, for the Non-Load-Serving Participating TO, the CAISO will recalculate the Local Access Charge applicable during such period. Revisions to the Local TRBA adjustment shall be made effective annually on January 1 based on the principal balance in the Local TRBA as of September 30 of the prior year and a forecast of Transmission Revenue Credits for the next year.

For service provided by a Non-Load-Serving Participating TO, any refund associated with a Non-Load-Serving Participating TO's Transmission Revenue Requirement that has been accepted by FERC, subject to refund, shall be provided as ordered by FERC. Such refund shall be invoiced in the CAISO Market Invoice.

If the Non-Load-Serving Participating TO withdraws one or more of its transmission facilities from the CAISO Operational Control in accordance with Section 3.4 of the Transmission Control Agreement, then the CAISO will no longer collect the TRR for that transmission facility through the CAISO's Access Charge effective upon the date the transmission facility is no longer under the Operational Control of the CAISO. The withdrawing Non-Load-Serving Participating TO shall be obligated to provide the CAISO will all necessary information to implement the withdrawal of the Participating TO's transmission facilities and to make any necessary filings at FERC to revise its TRR. The CAISO shall revise its transmission Access Charge to reflect the withdrawal of one or more transmission facilities from CAISO Operational Control.

13.3 Approval of Updated Local Transmission Revenue Requirement. A Non-Load-Serving Participating TO will make the appropriate filings at FERC to establish its Transmission Revenue Requirement for its Local Access Charge, and to obtain approval of any changes thereto. All such filings with the FERC will include a separate appendix that states the LTRR and other information required by the FERC to support the Local Access Charge. The Non-Load-Serving Participating TO will provide a copy of its filing to the CAISO and the other Participating TOs in accordance with the notice provisions in the Transmission Control Agreement.

Federal power marketing agencies whose transmission facilities are under CAISO Operational Control shall develop their Local Transmission Revenue Requirements pursuant to applicable federal laws and regulations, including filing with FERC. All such filings with FERC will include a separate appendix that states the LTRR and other information required by the FERC to support the Access Charges. The procedures for public participation in a federal power marketing agency's ratemaking process shall be posted on the federal power marketing agency's website. The federal power marketing agency shall also post on the website the Federal Register Notices and FERC orders for rate making processes that impact the federal power marketing agency's Local Transmission Revenue Requirement.

13.4 Disbursement of Local Access Charge Revenues. Unless otherwise agreed by the affected Participating TOs, Local Access Charge revenues of a Non-Load-Serving Participating TO shall be calculated for disbursement to that Non-Load-Serving Participating TO on a monthly basis as the sum of Local Access Charges billed by the CAISO to the UDCs or MSS Operators of Participating TOs pursuant to Section 26.1 of the CAISO Tariff.

13.5 Payment of Local Access Charge. Notwithstanding the separate accounting for the Local

Access Charge specified in Section 26.1 of the CAISO Tariff and this Section 13 of this Schedule 3, if the same entity is both a Participating TO and a UDC or MSS Operator, then the monthly Regional Access Charge amount, and any Local Access Charge amount pursuant to this Section 13 of this Schedule 3, billed by the CAISO will be the charges payable by the UDC or MSS Operator in accordance with Sections 26.1.2 and 26.1 of the CAISO Tariff less the disbursement determined in accordance with Section 10.1(d) of this Schedule 3. If this difference is negative, that amount will be paid by the CAISO to the Participating TO.

14. Wheeling Access Charges.

14.1 CAISO Charges on Scheduling Coordinators for Wheeling. The CAISO will charge Scheduling Coordinators for a Wheeling Out or a Wheeling Through transaction the product of the Wheeling Access Charge and the total of the hourly Schedules or awards of Wheeling in MWh for each Trading Interval at each Scheduling Point associated with that transaction pursuant to Section 26.1.4 of the CAISO Tariff.

14.2 Wheeling Access Charge. The Wheeling Access Charge for each Participating TO shall be as specified in Section 26.1.4 of the CAISO Tariff.

14.3 CAISO Payments to Transmission Owners for Wheeling. The CAISO will pay all Wheeling revenues to Participating TOs on the basis of the ratio of each Participating TO's Transmission Revenue Requirement (less the TRR associated with Existing Rights and Interregional Transmission Projects) to the sum of all Participating TOs' TRRs (less the TRRs associated with Existing Rights and Interregional Transmission Projects) as specified in Section 26.1.4.3 of the CAISO Tariff and in the applicable Business Practice Manual. The Local Wheeling Access Charge shall be disbursed to the appropriate Participating TO in accordance with the applicable Business Practice Manual.

14.4 Weighted Average Rate for Wheeling Service. The weighted average rate payable for Wheeling over joint facilities at each Scheduling Point shall be calculated as the sum of the applicable Wheeling Access Charge rates for each applicable TAC Area or Participating TO as these rates are weighted by the ratio of the Available Transfer Capability for each Participating TO that is not a Subscriber Participating TO at the particular Scheduling Point to the total Available Transfer Capability for the Scheduling Point. The calculation of this rate is set forth in more detail in the applicable Business Practice Manual.

15 Payments by Non-Subscribers for Use of Subscriber Participating TO Facilities.

15.1 Subscriber Participating TO Facilities Used to Provide Subscriber Rights.

(a) **Provision of Non-Subscriber Usage Payment Amounts.** The CAISO will provide Non-Subscriber Usage Payment Amounts to a Subscriber Participating TO for Non-Subscriber use of the Subscriber Participating TO's transmission assets and Entitlements and Subscriber Encumbrances used to provide Subscriber Rights each month. The Non-Subscriber Usage Payment Amounts will be funded first by using Wheeling Access Charge revenue received by the CAISO pursuant to this Section 15.1(a) of Schedule 3 and, if the Wheeling Access Charge revenue is insufficient to fully pay the Non-Subscriber Usage Payment Amounts, second by using Access Charge revenue received by the CAISO. Each Non-Subscriber Usage Payment Amount equals (i) the applicable Non-Subscriber Usage Rate, not to exceed the applicable Regional Access Charge rate, multiplied by (ii) the sum of the absolute value of the MWh flow of a Non-Subscriber's imports at the applicable Scheduling Point plus the sum of the absolute value of the MWh flow of a Non-Subscriber's exports at the applicable Scheduling Point. If any Subscriber Participating TO's Non-Subscriber Usage Rate exceeds the then-applicable Regional Access Charge rate, that Subscriber Participating TO will promptly file for FERC acceptance of an update to its Non-Subscriber Usage Rate so it is no greater than the

decreased applicable Regional Access Charge rate and will propose that the decreased $/MWh charge become effective as of the same date the decreased applicable Regional Access Charge rate went into effect. The CAISO will limit the disbursement of the Non-Subscriber Usage Payment Amounts to a maximum rate of the applicable Regional Access Charge as of the date the FERC-approved decreased Non-Subscriber Usage Rate is made effective.

(b) **Treatment of Excess Amounts.** For each month and Subscriber Participating TO,

(i) If the total Regional Access Charge and Wheeling Access Charge revenue received by the CAISO pursuant to this Section 15.1 of Schedule 3 exceeds the total calculated Non-Subscriber Usage Payment Amounts, then the excess amount will be added back to the RAC for allocation to the other Participating TOs besides the Subscriber Participating TO.

15.2 Subscriber Participating TO Facilities Not Used to Provide Subscriber Rights. Each Non-Subscriber that uses Subscriber Participating TO transmission assets, Entitlements, or Subscriber Encumbrances other than those used to provide Subscriber Rights will pay for such use pursuant to the applicable provisions of the CAISO Tariff rather than this Section 15.1 of Schedule 3.

Schedule 4

Eligible Intermittent Resources Forecast Fee

A charge up to $.10 per MWh shall be assessed on the metered Energy from (a) Eligible Intermittent Resources; (b) Variable Energy Resources that are EIM Participating Resources; and (c) the variable component of Hybrid Resources as a Forecast Fee, provided that Generating Units smaller than 10 MW that are not Participating Intermittent Resources and that sell power pursuant to a power purchase agreement entered into pursuant to PURPA prior to entering into a PGA or Net Scheduled PGA shall be exempt from the Forecast Fee.

The rate of the Forecast Fee shall be determined so as to recover the projected annual costs related to developing Energy forecasting systems, generating forecasts, validating forecasts, and monitoring forecast performance, that are incurred by the CAISO as a direct result of participation by Eligible Intermittent Resources, Variable Energy Resources that are EIM Participating Resources, and the variable component of Hybrid Resources in CAISO Markets, divided by their projected annual Energy production.

The initial Forecast Fee, and all subsequent changes as may be necessary from time to time to recover costs incurred by the CAISO for the forecasting conducted on the behalf of Eligible Intermittent Resources, Variable Energy Resources that are EIM Participating Resources, and the variable component of Hybrid Resources pursuant to the foregoing rate formula, shall be set forth in a Business Practice Manual.

Schedule 5

[NOT USED]

Schedule 6

CPM SCHEDULES FOR CPM DESIGNATIONS UNDER SECTION 43A

Monthly CPM Capacity Payment

The monthly CPM Capacity Payment shall be calculated in accordance with Section 43A.7.1.

Availability

The target availability for a resource designated under CPM is 95%. Incentives and penalties for availability above and below the target are as set forth in the table below, entitled "Availability Factor Table." The CAISO shall calculate availability on a monthly basis using actual availability data. The CPM Availability Factor for Forced Outages for each month shall be calculated using the following curve:

AVAILABILITY FACTOR TABLE

Availability	Capacity Payment Factor	CPM Availability Factor
100%	3.3%	1.139
99%	3.3%	1.106
98%	3.3%	1.073
97%	2.5%	1.040
96%	1.5%	1.015
95%	-	1.000
94%	-1.5%	.985
93%	-1.5%	.970
92%	-1.5%	.955
91%	-1.5%	.940
90%	-1.5%	.925
89-80%	-1.7%*	.908-.755
79-41%	-1.9%*	.736-.014
-40%	-	0.0

*The “Capacity Payment Factor” decreases by 1.7% and 1.9% respectively for every 1% decrease in availability.

The CPM Capacity Payment shall be adjusted upward from the 95% availability starting point by the positive percentages listed as the "Capacity Payment Factor" above, by multiplication by the amounts listed for each CPM Availability Factor above 95%, so that, for example, if a 97% availability is achieved for the month, then the CPM Capacity Payment for that month would be the monthly value for 95% plus an additional 4% (1.5% for the first percent availability above 95%, and 2.5% for the second percent availability above 95%), i.e., multiplication of the otherwise applicable CPM Capacity Payment by the CPM Availability Factor of 1.040. Reductions in the CPM Capacity Payment shall be made correspondingly according to the "Capacity Payment Factor" above for monthly availability levels falling short of the 95% availability starting point, by multiplication by the amounts listed for each CPM Availability Factor below 95%.

Schedule 7

Reliability Coordinator Services Charge

The Reliability Coordinator Services Charge shall be based on the RC Funding Requirement. The RC Funding Requirement will consist of the annual costs associated with the CAISO's provision of Reliability Coordinator Services, including the annual costs associated with maintaining shared reliability coordinator tools such as the Western Interchange Tool and the Enhanced Curtailment Calculator. The CAISO will determine the RC Funding Requirement based on the percentage of its overall revenue requirement attributable to the cost of providing RC Services. This percentage, known as the RC Funding Percentage, will initially be determined by assessing the costs associated with providing RC Services, using data from the CAISO's 2016 cost-of-service study modified to reflect the assessed RC Services costs, and based on the expected number of customers that will have committed to take RC Services by the RC Services Dates provided in Section 19.2(b)(6). This percentage will be updated in conjunction with the triennial cost-of-service study conducted by the CAISO as described in Schedule 1, Part A of this Appendix F. The RC Funding Requirement will be calculated, on an annual basis, as the product of this percentage multiplied by the annual revenue requirement for the same year.

The RC Funding Requirement will be developed utilizing the procedures associated with the development of the GMC revenue requirement, as set forth in Schedule 1, Part D of this Appendix F. Entities taking RC Services from the CAISO will have the opportunity to participate in that annual budget process. The RC Funding Percentage will be 8%, which will thereafter be used to calculate the annual RC Funding Requirement. The annual RC Funding Requirement will be assessed to applicable RC Customers, including Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, in proportion to the Net Energy for Load or Net Generation for the period during which this rate is in effect.

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The RC Funding Requirement will be treated as a component of the revenue in the CAISO Other Costs and Revenues category, for purposes of calculating the costs recovered through the GMC, as set forth in Schedule 1, Part C of this Appendix F.

The annual RC rate per MWh is calculated by taking the annual RC Funding Requirement less the known minimum RC Services Charge for the applicable year divided by the sum of 1) the annual Net Energy for Load MWh for all Balancing Authorities with load and Transmission Operators and 2) the annual Net Generation MWh for all generators connected to generation-only Balancing Authorities and Transmission Operators that the CAISO anticipates will take RC Services for the applicable year. The rates for the RC Services Charge shall be adjusted each year, effective January 1.

The annual RC Services Charge for each RC Customer will be calculated as follows:

- For RC Customers that that are, or are located in, generation-only Balancing Authorities, multiplying the annual RC Services Charge rate by the total Net Generation in MWh as determined in accordance with Section 19.6. The RC Services Charge for such RC Customers that are Balancing Authorities shall be calculated by removing any total Net Generation associated with Transmission Operators within such Balancing Authorities that have elected to receive direct billing of RC Services from the CAISO.
- For RC Customers that are, or are located in, Balancing Authority Areas with load, multiplying the annual RC Services Charge rate by the total Net Energy for Load in MWh as determined in accordance with Section 19.6 of the CAISO Tariff. The RC Services Charge for such RC Customers that are Balancing Authorities shall be calculated by removing any total Net Energy for Load associated with transmission operators within such Balancing Authorities that have elected to receive direct billing of RC Services from the CAISO.
- For RC Customers that are located in the CAISO's Balancing Authority Area and Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, multiplying the annual RC Services Charge rate by the RC Customer's share of the total NERC/WECC Metered Demand in MWh for the CAISO Balancing Authority Area determined in accordance with Section 11.20.9.

- There will be a minimum annual RC Services Charge of $5,000. This charge will be applied to RC Customers that either have no Net Energy for Load or Net Generation for a particular period as set forth in Section 19.6 of the CAISO Tariff, as well as RC Customers whose annual RC Services Charge, as calculated in accordance with this Schedule 7, would otherwise be less than $5,000.
- For RC Customers that take RC Services for less than a full year in either the initial or final year of participation, the annual RC Services Charge will be pro-rated according to the period that the RC Customer takes service during such year, rounded up to the nearest month.

Any excess or shortfall in the RC Services Charge collected as compared to the RC Funding Requirement for a particular year will be credited or debited, as applicable, to the CAISO Operating Reserve Account.

Attachment B – Redline Tariff Sheets (informational only)

Compliance Filing Reconciling Overlapping Tariff Records – DAME-EDAM

California Independent System Operator Corporation

June 29, 2026

Note: No redline changes are proposed in this filing. The redlines below are for informational purposes only, merging the EDAM-DAME changes into the current baseline language for each tariff record.

Section 4

* * * * *

4.5.3 Responsibilities of a Scheduling Coordinator

Each Scheduling Coordinator shall be responsible for:

4.5.3.1 Obligation to Pay

Paying the CAISO's charges in accordance with this CAISO Tariff;

4.5.3.2 Submit Bids and Interchange Schedules

4.5.3.2.1 Submitting Bids, including Self-Schedules, ~~for Energy~~ in CAISO Markets that relate to the Market Participants for which it serves as Scheduling Coordinator;

4.5.3.2.2 Submitting Interchange Schedules prepared in accordance with all NERC, WECC and CAISO requirements, including providing E-Tags for all applicable transactions pursuant to WECC practices. The CAISO shall not accept E-Tags for ten-minute recallable reserve transactions (i.e., transactions with a WECC energy product code of "C-RE")~~.~~, unless the E-Tag is associated with delivery of emergency assistance Energy between another Balancing Authority Area and the CAISO Balancing Authority Area. The CAISO is not, and shall not be listed as, the "Purchasing Selling Entity" for purposes of E-Tags. Title to Energy shall pass directly from the entity that holds title when the Energy enters the CAISO Controlled Grid to the entity that removes the Energy from the CAISO Controlled Grid, in each case in accordance with the terms of this CAISO Tariff.

4.5.3.3 Modifications in Demand and Supply

Coordinating and allocating modifications in Demand and exports and Generation and imports at the direction of the CAISO in accordance with this CAISO Tariff;

4.5.3.4 Inter-SC Trades

Submitting any applicable Inter-SC Trades that the Market Participants intend to have settled through the

CAISO Markets, pursuant to this CAISO Tariff;

4.5.3.5 Tracking and Settling Trades

Tracking and settling all intermediate trades, including bilateral transactions and Inter-SC Trades, among the entities for which it serves as Scheduling Coordinator;

4.5.3.6 Ancillary Services

Providing Ancillary Services in accordance with Section 8;

4.5.3.7 [Not Used]

4.5.3.8 Business Practice Manuals

Complying with all CAISO Business Practice Manuals and ensuring compliance by each of the Market Participants which it represents with all applicable provisions of the Business Practice Manuals;

4.5.3.9 Interruptible Imports

Identifying any Interruptible Imports included in its Bids or Inter-SC Trades;

4.5.3.10 Participating Intermittent Resources

Submitting Bids, including Self-Schedules, for Participating Intermittent Resources consistent with the CAISO Tariff;

4.5.3.11 Day-Ahead Market Published Schedules and Awards

Starting-up units and timely achieving specified operating levels in response to Dispatch Instructions, in accordance with CAISO published Schedules and awards;

4.5.3.12 Financial Responsibility

Assuming financial responsibility for all Schedules, AS Awards and Dispatch Instructions issued in the CAISO Markets, and all Virtual Awards in accordance with the provisions of this CAISO Tariff;

4.5.3.13 Compliance with Environmental Constraints, Operating Permits and Applicable Law

Submitting Bids so that any service provided in accordance with such Bids does not violate environmental constraints, operating permits or applicable law. All submitted Bids must reflect resource limitations and other constraints as such are required to be reported to the CAISO Control Center.

4.5.3.14 Tax Compliance

Providing, as described in the Business Practice Manuals, resale certificates or other proof acceptable to

CAISO that its purchases of energy are exempt from any sales and use taxes that otherwise might apply; and

4.5.3.15 SQMD Plan

Complying with the SQMD Pan for eligible entities it serves pursuant to Section 10.3.7.

4.5.3.16 RA Plans and Supply Plans

Providing RA Plans for LSEs or CPEs for which it serves as Scheduling Coordinator and providing Supply Plans for Resource Adequacy Resources for which it serves as Scheduling Coordinator. If a CPE is also a Load Serving Entity and the CPE and Load Serving Entity are represented by the same Scheduling Coordinator, that Scheduling Coordinator must use distinct Scheduling Coordinator ID Codes for its activities related to the CPE and Load Serving Entity functions.

4.5.4 Operations of a Scheduling Coordinator

4.5.4.1 Maintain Twenty-four (24) Hour Scheduling Centers

Each Scheduling Coordinator other than a Scheduling Coordinator that represents only Convergence Bidding Entities shall operate and maintain a twenty-four (24) hour, seven (7) days per week, scheduling center. Each Scheduling Coordinator shall designate a senior member of staff as its scheduling center manager who shall be responsible for operational communications with the CAISO and who shall have sufficient authority to commit and bind the Scheduling Coordinator.

4.5.4.2 [Not Used]

4.5.4.3 Dynamic Scheduling

4.5.4.3.1 Dynamic Scheduling of Imports

Scheduling Coordinators may submit Bids for imports of Energy, Imbalance Reserves, Reliability Capacity, and Ancillary Services for which associated Energy is delivered from Dynamic System Resources located outside of the CAISO Balancing Authority Area, provided that: (a) such dynamic scheduling is technically feasible and consistent with NERC and WECC reliability standards and any requirements of the NRC, (b) all operating, technical, and business requirements for dynamic scheduling functionality, as set forth in the Dynamic Scheduling Protocol in Appendix M or posted in standards on the CAISO Website, are satisfied, (c) the Scheduling Coordinator for the Dynamic System Resource executes a Dynamic Scheduling Agreement for Scheduling Coordinators as provided in Appendix B.5 with the

CAISO for the operation of dynamic scheduling functionality, and (d) all affected Balancing Authorities each execute with the CAISO a Dynamic Scheduling Host Balancing Authority Operating Agreement as provided in Appendix B.9, or a special operating agreement particular to the operation of dynamic functionality.

4.5.4.3.2 Dynamic Scheduling of Exports of Energy

Scheduling Coordinators may submit Bids for Dynamic Schedules of exports of Energy from Generating Units located in the CAISO Balancing Authority Area, provided that: (a) such dynamic scheduling is technically feasible and consistent with NERC and WECC reliability standards and any requirements of the NRC, (b) all operating, technical, and business requirements for dynamic scheduling functionality, as set forth in the Dynamic Scheduling Protocol in Appendix M or posted in standards on the CAISO Website, are satisfied, (c) the Scheduling Coordinator for the Generating Unit executes a Dynamic Scheduling Agreement for Scheduling Coordinators as provided in Appendix B.5 with the CAISO for the operation of dynamic scheduling functionality, and (d) all affected Balancing Authorities each execute with the CAISO an operating agreement particular to the operation of dynamic functionality. Scheduling Coordinators may not submit Bids for Dynamic Schedules of exports of Ancillary Services from resources located in the CAISO Balancing Authority Area, nor may Scheduling Coordinators submit Bids for Dynamic Schedules of exports from Loads located in the CAISO Balancing Authority Area.

4.5.4.4 Termination of Scheduling Coordinator Agreement and Suspension of Certification

(a) A Scheduling Coordinator's Scheduling Coordinator Agreement may be terminated by the CAISO on written notice to the Scheduling Coordinator:

(i) if the Scheduling Coordinator no longer meets the requirements for eligibility set out in Section 4.5 and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default;

(ii) if the Scheduling Coordinator fails to pay any sum under this CAISO Tariff and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default;

(iii) if the Scheduling Coordinator commits any other default under this CAISO Tariff or any of the CAISO Business Practice Manuals which, if capable of being

remedied, is not remedied within thirty (30) days after the CAISO has given it written notice of the default; or

(iv) if the Scheduling Coordinator does not participate in the CAISO's markets for Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services for a period of twelve (12) consecutive months and fails to comply with the provisions of Section 4.5.4.4.2 within 120 days after the CAISO has given it written notice of the CAISO's intent to terminate its Scheduling Coordinator Agreement.

(b) A Scheduling Coordinator's Scheduling Coordinator Agreement may be terminated by the Scheduling Coordinator on ninety (90) days written notice to the CAISO, provided that such notice shall not be effective to terminate the Scheduling Coordinator Agreement until the Scheduling Coordinator has complied with all applicable requirements of Section 4.5.2.

(c) The CAISO shall, following termination of a Scheduling Coordinator Agreement and within thirty (30) days of being satisfied that no sums remain owing by the Scheduling Coordinator under the CAISO Tariff, return or release to the Scheduling Coordinator, as appropriate, any money or credit support provided by such Scheduling Coordinator to the CAISO under Section 12.

4.5.4.4.1 Pending the effective date of termination of service pursuant to Section 4.5.4.5.1, the CAISO will suspend the certification of a Scheduling Coordinator which has received a notice of termination under Section 4.5.4.4(a) and the Scheduling Coordinator will not be eligible to participate in the CAISO's markets for Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services ~~Energy and Ancillary Services markets~~.

4.5.4.4.2 A Scheduling Coordinator that has received a notice of the CAISO's intent to terminate its Scheduling Coordinator Agreement for failure to participate in the CAISO's markets for Energy, Imbalance Reserves, Reliability Capacity, or Ancillary Services ~~Energy and Ancillary Services~~ for a period of twelve (12) consecutive months pursuant to Section 4.5.4.4(a)(iv) will avoid having its Scheduling Coordinator Agreement terminated and will have its certification reinstated if it completes the testing and training required for Scheduling Coordinator certification as set forth in the applicable Business Practice

Manual within 120 days after the CAISO's issuance of the notice of intent to terminate.

4.5.4.5 Notification of Termination

The CAISO shall, promptly after providing written notice of default to a Scheduling Coordinator as specified in Section 4.5.4.4(a), notify the Scheduling Coordinators that could be required to represent End User Eligible Customers of the Scheduling Coordinator under Section 4.5.4.6.2 if the default is not cured. The CAISO shall, as soon as reasonably practicable following the occurrence of any of the events specified in Section 4.5.4.4, notify the Scheduling Coordinator and the Scheduling Coordinators that could be required to represent End User Eligible Customers of the defaulting Scheduling Coordinator, and the UDCs, and shall as soon as reasonably practicable after the issuance of such notice of termination post such notice on the CAISO Website. Termination of the Scheduling Coordinator Agreement will automatically remove the Scheduling Coordinator's certification under Section 4.5 and Section 8.4.

4.5.4.5.1 Filing of Notice of Termination

Any notice of termination given pursuant to Section 4.5.4.4 shall also be filed by the CAISO with FERC, if required by FERC rules, if the non-compliance is not remedied within the period specified in Section 4.5.4.4, and it shall be effective in accordance with FERC rules.

4.5.4.6 Continuation of Service on Termination

4.5.4.6.1 Option for Eligible Customers to choose a new Scheduling Coordinator

When the CAISO suspends the certification of a Scheduling Coordinator pending termination, Eligible Customers of the defaulting Scheduling Coordinator shall be entitled to select another Scheduling Coordinator to represent them. The CAISO will post notice of any suspension on the CAISO Website. Until the CAISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of the defaulting Scheduling Coordinator, the Eligible Customer of the defaulting Scheduling Coordinator will receive interim service in accordance with Section 4.5.4.6.2.

4.5.4.6.2 Interim Service

The CAISO shall maintain a list of Scheduling Coordinators willing to represent Eligible Customers of a defaulting Scheduling Coordinator, which list may be differentiated by UDC service area. Scheduling Coordinators who indicate to the CAISO their desire to be on such list shall be placed thereon by the CAISO in random order.

(a) When the CAISO suspends the certification of a Scheduling Coordinator in accordance with Section 4.5.4.4.1, Eligible Customers of the defaulting Scheduling Coordinators shall be assigned to all Scheduling Coordinators on the list established pursuant to this Section 4.5.4.6.2 in a non-discriminatory manner to be established by the CAISO, and each Eligible Customer shall thereafter be represented by the Scheduling Coordinator to which it is assigned unless and until it selects another Scheduling Coordinator in accordance with Section 4.5.4.6.1, subject to this Section 4.5.4.6.2 subsection (b).

(b) Unless the CAISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of a defaulting Scheduling Coordinator within seven (7) days of the notice of termination being posted on the CAISO Website, the Scheduling Coordinator to which that Eligible Customer has been assigned in accordance with subsection (a) may establish a reasonable minimum period for service, not to exceed thirty (30) days.

(c) In the event no Scheduling Coordinator indicates its willingness to represent Eligible Customers of a defaulting Scheduling Coordinator, the UDC that has the obligation to serve End-Use Customers of the Eligible Customer, if any, shall arrange to serve those End-Use Customers of such Eligible Customers that are located within the service area of the UDC. Such service will be provided in a manner consistent with that which the UDC provides, pursuant to the rules and tariffs of the Local Regulatory Authority, for its bundled End-Use Customers.

(d) This Section shall not in any way require a UDC to provide or arrange for Scheduling Coordinator service for wholesale Eligible Customers.

* * * * *

4.17.6 Operating Requirements

Distributed Energy Resource Aggregations will respond to (1) CAISO Dispatch Instructions and (2) instructions from the Utility Distribution Company to maintain the safety and reliability of the Distribution System. The CAISO may dispatch a Distributed Energy Resource Aggregation to the extent the Distributed Energy Resource Aggregation bids or schedules ~~Energy or Ancillary Services~~ into the CAISO

Markets and receives an award. The CAISO may also issue an Exceptional Dispatch Instruction for the Distributed Energy Resource Aggregation for reliability pursuant to Section 34.11. Distributed Energy Resource Aggregations shall respond to Dispatch Instructions consistent with Generation Distribution Factors for the Distributed Energy Resource Aggregation.

Each Distributed Energy Resource Provider will operate its Distributed Energy Resource Aggregation(s) in a manner consistent with limitations or operating orders established by the Utility Distribution Company or Metered Subsystem. Scheduling Coordinators for Distributed Energy Resources Providers shall submit Outages to the CAISO as necessary to reflect any distribution constraints impacting Distributed Energy Resources that comprise a Distributed Energy Resource Aggregation under its control. The CAISO shall have the authority to coordinate and approve Outage schedules for the Distributed Energy Resource Aggregation(s) listed in a Distributed Energy Resource Provider Agreement, in accordance with the provisions of Section 9. Where the Utility Distribution Company requires its own direct communication with the Distributed Energy Resource Provider for the safety and reliability of the Distribution System, those communication and data protocols will be established in Schedule 4 to the Distributed Energy Resource Provider Agreement.

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Section 8

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8.4.1.1 Regulation

A resource offering Regulation must have the following operating characteristics and technical capabilities:

(a) it must be capable of being controlled and monitored by the CAISO EMS by means of the installation and use of a standard CAISO direct communication and direct control system, a description of which and criteria for any temporary exemption from which, the CAISO shall publish on the CAISO Website;

(b) it must be capable of achieving at least the Ramp Rates (increase and decrease in MW/minute) stated in its Bid for the full amount of Regulation capacity offered;

(c) the Regulation capacity offered must not exceed the maximum Ramp Rate (MW/minute) of that resource times ten (10) minutes;

(d) the resource to CAISO Control Center telemetry must, in a manner meeting CAISO standards, include indications of whether the resource is on or off CAISO EMS control at the resource terminal equipment;

(e) the resource must be capable of the full range of movement within the amount of Regulation capability offered without manual resource operator intervention of any kind;

(f) each Ancillary Service Provider must ensure that its CAISO EMS control and related SCADA equipment for its resource are operational throughout the time period during which Regulation is required to be provided;

(g) Regulation capacity offered must be dispatchable on a continuous basis for at least sixty (60) minutes in the Day-Ahead Market and at least thirty (30) minutes in the Real-Time Market after issuance of the Dispatch Instruction. The CAISO will measure continuous Energy from the time a resource reaches its award capacity. In the Real-Time Market, where a storage resource using the Non-Generator Resource model will not have sufficient State of Charge to meet its Ancillary Services Schedule, Imbalance Reserves Award, or RUC Award, the CAISO will dispatch the storage resource to have sufficient State of Charge to meet its Ancillary Services Schedule, Imbalance Reserves Award, or RUC Award. Scheduling Coordinators for Non-Generator Resources located within the CAISO Balancing Authority Area that require Energy from the Real-Time Market to offer their full capacity as Regulation may request the use of Regulation Energy Management as described in Section 8.4.1.2. Consistent with the requirements of this Section, the CAISO will use all reasonable efforts to commit, schedule, and dispatch Non-Generator Resources offering Regulation while recognizing the impact of Regulation awards on their State of Charge in the Day-Ahead and Real-Time Markets. The CAISO will include examples in the Business Practice Manual detailing how the Day-Ahead and Real-Time optimizations will account for Regulation awards in determining the State of Charge in subsequent intervals; and

(h) Regulation capacity offered must meet or exceed the minimum performance threshold of twenty-five (25) percent measured accuracy as specified in Section 8.2.3.1.1.

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Section 11

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11.2 Settlement of Day-Ahead Market Transactions

All transactions in the IFM and RUC as specified in the Day-Ahead Schedule, AS Awards and RUC Awards, respectively, are financially binding and will be settled based on the Day-Ahead LMP, ASMP or RUC Price for the relevant Location for the specific resource or transaction identified for the Bid. The CAISO will settle the costs of Demand, ~~capacity~~Energy, Imbalance Reserves, Reliability Capacity, or~~and~~ Ancillary Services as separate Settlement debits and credits for each Settlement Period ~~of the Day-Ahead Schedule, Day-Ahead AS Award or RUC Award,~~ as appropriate.

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11.2.3 IFM Energy Charges and Payments for Metered Subsystems

11.2.3.1 Gross Energy Settlement for Metered Subsystems

For Scheduling Coordinators that submit Bids for MSS Operators that have selected gross Energy Settlement, CAISO shall settle Energy, the MSS Demand and MSS Supply, in the Day-Ahead Schedules pursuant to Section 11.2.3.1.1 and 11.2.3.1.2.

11.2.3.1.1 IFM Charges for MSS Demand under Gross Energy Settlement

The CAISO shall charge Scheduling Coordinators that submit Bids for MSS Operators that have selected or are subject to gross Energy Settlement an amount equal to the product of the MWh quantity of Demand internal to the MSS in its Day-Ahead Schedule at the price at the Default LAP where the MSS LAP is located.

11.2.3.1.2 IFM Payments for MSS Supply under Gross Energy Settlement

The CAISO shall credit Scheduling Coordinators that submit Bids for MSS Operators that have selected

or are subject to gross Energy Settlement an amount equal to the product of the MWh quantity of Supply from the MSS in its Day-Ahead Schedule at the corresponding PNode and the applicable IFM LMP.

11.2.3.1.3 IFM Payments for MSSs providing Imbalance Reserves

A MSS that receives an Imbalance Reserves Award will be settled per Section 11.2.1.1 irrespective of that MSS's election under Section 4.9.13 of net or gross Settlement.

11.2.3.2 Net Energy Settlement for Metered Subsystems

For Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement, the CAISO shall settle the net MSS Demand and MSS Supply in the Day-Ahead Schedules pursuant to Section 11.2.3.2.1 and 11.2.3.2.2.

11.2.3.2.1 IFM Charges for MSS Demand under Net Energy Settlement

The CAISO shall charge Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement an amount equal to the product of the net MSS Demand in the Day-Ahead Schedule and the IFM MSS Price. The net MSS Demand is the quantity of MSS Demand that exceeds MSS Generation for the applicable MSS.

11.2.3.2.2 IFM Payment for MSS Supply under Net Energy Settlement

The CAISO shall credit Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement an amount equal to the product of the net MSS Supply in the Day-Ahead Schedule and the weighted average price of all IFM LMPs for all applicable PNodes within the relevant MSS. The net MSS Supply is the quantity of MSS Generation that exceeds the MSS Demand for the applicable MSS. The weights used to compute the weighted average LMPs shall be equal to MSS Generation scheduled in the Day-Ahead Schedule.

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11.2.4 CRR Settlements

The CAISO will credit or debit CRR Holders as further specified in this Section 11.2.4 and its subsections.

11.2.4.1 Calculation of the IFM Congestion Charge

For each Settlement Period of the IFM, the CAISO will calculate the IFM Congestion Charge as the IFM MCC amount for all scheduled Demand and Virtual Demand Awards, minus the IFM MCC amount for all

scheduled Supply and Virtual Supply Awards.

The IFM MCC amount for all scheduled Demand and Virtual Demand Awards is the sum of part (a), part (b), and part (c) of this Section 11.2.4.1.

The IFM MCC amount for all scheduled Supply and Virtual Supply Awards is the sum of part (d), part (e) and part (f) of this Section 11.2.4.1.

Part (a) is the sum of the products of the IFM MCC of Energy and the total ~~of the~~ MWh of Demand scheduled in the Day-Ahead Schedule and Virtual Demand Awards at all the applicable PNodes and Aggregated Pricing Nodes for the Settlement Period.

Part (b) is the sum of the products of the MCC for the Locational IRU Price and the nodally distributed Upward Imbalance Reserves Requirement specified in Section 31.3.1.6.3.2, as adjusted by any procurement relaxation specified in Section 31.3.1.6.2.

Part (c) is the sum of the products of the MCC for the Locational IRD Price and the nodally distributed Downward Imbalance Reserves Requirement specified in Section 31.3.1.6.3.2, as adjusted by any procurement relaxation specified in Section 31.3.1.6.2.

Part (d) is ~~The IFM MCC amount for all scheduled Supply and Virtual Supply Awards is~~ the sum of the products of the IFM MCC and the total of the MWh of Supply scheduled in the Day-Ahead Schedule and the Virtual Supply Awards at all the applicable PNodes for the Settlement Period.

Part (e) is the sum of the products of the MCC for the Locational IRU Price and the IRU Awards.

Part (f) is the sum of the products of the MCC for the Locational IRD Price and the IRD Awards.

11.2.4.1.1 [Not Used]

11.2.4.1.2 Calculation of Hourly CRR Congestion Fund

The CAISO calculates an Hourly CRR Congestion Fund for every Transmission Constraint in the CAISO BAA that is congested in the IFM in a Settlement Period. The Hourly CRR Congestion Fund specific to a particular binding Transmission Constraint in a given Settlement Period is the sum of the: (a) portion of the IFM Congestion ~~Fund~~ Charge in that Settlement Period attributable to congestion on the Transmission Constraint to which the Hourly CRR Congestion Fund~~congestion fund~~ corresponds; (b) charges specific to the Transmission Constraint calculated pursuant to Section 11.2.4.4.1; and (c) CRR credit adjustments the CAISO may make pursuant to Sections 11.2.4.6 or 11.2.4.7 that are associated

with the Transmission Constraint. Part (a) does not include funds needed to make a Congestion difference allocation to an EDAM Entity Balancing Authority Area as specified in Section 33.11.1.2.1. The Hourly CRR Congestion Fund for a Transmission Constraint in an EDAM Entity Balancing Authority Area is set to zero dollars ($0).

11.2.4.2 Settlement Calculation for the Different CRR Types

For the purposes of settling the various CRR Types, the CAISO will calculate the Settlement of CRRs as described in this Section 11.2.4.2. When a CRR Source or CRR Sink is a LAP, the CAISO will use the Load Distribution Factors used in the IFM to produce the LAP Price at which it will settle the CRR. When a CRR Source or CRR Sink is a Trading Hub, the CAISO will use the weighting factors used in the IFM, and in the CRR Allocation and CRR Auction processes, to produce the Trading Hub prices that it will use to settle the various CRR Types.

11.2.4.2.1 [Not Used]

11.2.4.2.2 [Not Used]

11.2.4.3 Credits and Debits for Monthly and Annual Auctions

The CAISO will charge CRR Holders for the Market Clearing Price for CRRs obtained through the clearing of the CRR Auction as described in Section 36.13.6. To the extent the CRR Holder purchases a CRR through a CRR Auction that has a negative value, the CAISO will retain the CRR Auction proceeds and apply them to credit requirements of the applicable CRR Holder, in accordance with Section 12.6.3 of the CAISO Tariff. The CAISO will net all credits and debits issued through this process to determine the net revenue amount. CRR Auction net revenue amounts for on-peak and off-peak usage from each CRR Auction will be separated. The CAISO will allocate CRR Auction revenues for each season coming from the annual auction uniformly across the three months comprising each season based on time of use. The CAISO will then add these on-peak and off-peak monthly amounts from the seasonal auctions to the corresponding monthly on-peak and off-peak amounts from the monthly CRR Auction for the same month to form the monthly net CRR Auction on-peak and off-peak revenues, respectively. Furthermore, the CAISO will convert these monthly net CRR Auction revenues into daily values and add them to the daily CRR Balancing Account. In particular, the daily CRR Balancing Account contribution will be the sum of: (1) the monthly net CRR Auction on-peak amount multiplied by the ratio of daily on-peak hours to monthly

on-peak hours; and (2) the monthly net CRR Auction off-peak amount multiplied by the ratio of daily off-peak hours to monthly off-peak hours.

11.2.4.4 Hourly CRR Calculations, Daily CRR Settlement, and Potential Monthly Surplus Distribution Payments

11.2.4.4.1 Calculating CRR Holders' Congestion-Supported Values

For each Settlement Period, the CAISO uses the funds in the Hourly Congestion Funds calculated in Section 11.2.4.1.2 to determine the Congestion-Supported Values credited and charged to CRR Holders, by first determining all Net Modeled CRR Flow quantities. The CAISO then determines whether the Net Modeled CRR Flow results in a credit or debit to the CRR Holder.

For a CRR Holder whose Net Modeled CRR Flow over a binding Transmission Constraint is in the prevailing direction, the Congestion-Supported Value is a credit equal to the ratio of that CRR Holder's prevailing Net Modeled CRR Flow over that Transmission Constraint (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7), as compared to the sum of all CRR Holders' prevailing Net Modeled CRR Flow over that Transmission Constraint (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7). The CAISO will not credit a CRR Holder from an Hourly CRR Congestion Fund in excess of the CRR Holder's Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint, minus any adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7 that are allocated to that Transmission Constraint.

For a CRR Holder whose Net Modeled CRR Flow over a binding Transmission Constraint is in the counter-flow direction, the Congestion-Supported Value is a charge equal to the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint.

The lower bound of the sum of Congestion-Supported Values for a CRR Option across the Settlement Periods of a day is zero.

The CAISO transfers any funds in an Hourly CRR Congestion Fund associated with binding Transmission Constraints to which no CRR has a positive or negative difference between the source and sink PTDFs to the CRR Balancing Account.

Any funds remaining in an Hourly CRR Congestion Fund after all funds have been allocated to CRRs or transferred to the CRR Balancing Account for that hour are reserved for potential Daily CRR Surplus

Distribution Payments or Monthly CRR Surplus Distribution Payments to CRR Holders. The funds the CAISO holds in reserve for a CRR Holder pertaining to a Transmission Constraint are held in proportion to that CRR Holder's Net Modeled CRR Flow in that Settlement Period (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7) relative to the Net Modeled CRR Flow over that Transmission Constraint for all CRR Holders in that Settlement Period (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7).

11.2.4.4.2 Calculating Daily CRR Surplus Payments

The CAISO allocates the funds in a Daily Congestion Fund as a Daily CRR Surplus Distribution Payment to CRR Holders that have funds reserved for them in a Daily CRR Congestion Fund pursuant to Section 11.2.4.4.1, and whose total Congestion-Supported Values pertaining to that Transmission Constraint during the day are less than the sum of the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint across the day (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7). A Daily CRR Surplus Distribution Payments specific to a CRR Holder and Transmission Constraint cannot exceed the sum of the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint across all Settlement Periods of the day (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7). The CAISO adds any funds remaining in a Daily CRR Congestion Fund after it has made all necessary Daily CRR Surplus Distribution Payments to that Transmission Constraint's Monthly CRR Congestion Fund.

11.2.4.4.3 Monthly Clearing of the Monthly Constraint-Specific CRR Congestion Fund

The CAISO distributes the total of the Monthly CRR Congestion Fund at the end of each month. The CAISO first distributes the funds in a Monthly CRR Congestion Fund as Monthly CRR Surplus Distribution Payments to CRR Holders that have funds reserved for them in a Monthly CRR Congestion Fund pursuant to Section 11.2.4.4.1 and whose total Congestion-Supported Values pertaining to that Transmission Constraint during the month, plus the Daily CRR Surplus Distribution Payments, are less than the sum of the Net Modeled CRR Flow multiplied by the Shadow Price of that binding Transmission Constraint across all Settlement Periods of the month (accounting for adjustments made pursuant to Sections 11.2.4.6 or 11.2.4.7).

The CAISO distributes any funds remaining in a Monthly CRR Congestion Fund after it has made all

required Monthly CRR Surplus Distribution Payments to Scheduling Coordinators in an amount equal to: (a) the funds in the Monthly CRR Congestion Fund, multiplied by (b) the ratio of each Scheduling Coordinator's Measured Demand for the relevant Trading Month (net of the Scheduling Coordinator's Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Month), divided by (c) the total Measured Demand for all Scheduling Coordinators for the relevant Trading Month (net of the total Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Month).

11.2.4.5 CRR Balancing Account

11.2.4.5.1 Accumulation of CRR Balancing Account Funds

The CAISO will accumulate the daily CRR Balancing Account: (1) seasonal and monthly CRR Auction revenues as described in Section 11.2.4.3; (2) any funds in an Hourly CRR Congestion Fund associated with binding Transmission Constraints to which no CRR has a positive or negative difference between the source and sink PTDF; (3) any IFM Congestion Charges associated with Day-Ahead Ancillary Services Awards as provided in Section 11.10.1.1.1; and (4) IFM Congestion Fund Credits as specified in Section 11.2.1.5.

11.2.4.5.2 Distribution of CRR Balancing Account Funds

The CAISO distributes the CRR Balancing Account to Scheduling Coordinators in an amount equal to: (a) the funds in the CRR Balancing Account, multiplied by (b) the ratio of each Scheduling Coordinator's Measured Demand for the relevant Trading Day (net of the Scheduling Coordinator's Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Day), divided by (c) the total Measured Demand for all Scheduling Coordinators for the relevant Trading Day (net of the total Measured Demand associated with valid and balanced ETC or TOR Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant Trading Day).

11.2.4.5.3 Interest on CRR Balancing Account

Interest accruing due to the CRR Balancing Account will be at the CAISO's received interest rate and will

be credited to each monthly CRR Balancing Account accrued interest fund, which is then allocated to monthly Measured Demand excluding Measured Demand associated with valid and balanced ETC, TOR, or Converted Rights Self-Schedule quantities, which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same month.

11.2.4.6 Adjustment of CRR Credits and Debits Related to Virtual Awards

In accordance with this Section 11.2.4.6, the CAISO will adjust the credits from the CRRs of a CRR Holder that is also a Convergence Bidding Entity whenever either of the following creates a significant impact on the value of the CRRs held by that entity: the CRR Holder/Convergence Bidding Entity submits Virtual Bids; or the CRR Holder/Convergence Bidding Entity reduces in the RTM an import or export awarded in a Day-Ahead Schedule. As set forth in Section 11.32, the CAISO will also adjust the credits and debits from the CRRs of a CRR Holder (regardless of whether the CRR Holder is also a Convergence Bidding Entity) where the Scheduling Coordinator representing that CRR Holder reduces in the RTM an import or export awarded in a Day-Ahead Schedule.

(a) For purposes of this Section 11.2.4.6 and the definition of Flow Impact, a reduction by a Scheduling Coordinator submitting Schedules on behalf of an entity that is a CRR Holder to an import or export Schedule in the RTM will be treated as a Virtual Award if the segment of Economic Bids (but not Self-Schedule) leading to the Schedule reduction is: at an Energy Bid price greater than the Day-Ahead Market LMP at the relevant intertie, in the case of an import; or at any Energy Bid price less than the Day-Ahead Market LMP at the relevant intertie, in the case of an export.

In addition, if the RTM Bid does not include the full MW quantity of the Day-Ahead Schedule through some combination of Economic Bid and Self-Schedule, then the MW range not covered by the RTM Bid that was included in the Day-Ahead Schedule will be treated as a Virtual Award.

For each CRR Holder subject to this Section 11.2.4.6, for each hour, and for each Transmission Constraint binding in the IFM or FMM the CAISO will calculate the Flow Impact of the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. For the purposes of calculating the CRR adjustments as specified in this

Section 11.2.4.6, the CAISO will include nodal MW constraints that the CAISO applies to Eligible PNodes in the IFM pursuant to Section 30.10.

(b) The CAISO will determine the peak and off-peak hours of the day where Congestion on the Transmission Constraint was significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. Congestion on the Transmission Constraint will be deemed to have been significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder if the Flow Impact passes two criteria. First, the Flow Impact must be in the direction to increase the sum of the CRR Holder's Notional CRR Values in their portfolio in that Settlement Period. Second, the Flow Impact must exceed the threshold percentage of the flow limit for the Transmission Constraint. The threshold percentage is ten (10) percent of the flow limit for each Transmission Constraint.

(c) For each peak or off-peak hour that passes both criteria in Section 11.2.4.6(b), the CAISO will compare the Transmission Constraint's impact on the Day-Ahead Market value of the CRR Holder's CRR portfolio with the Transmission Constraint's impact on the FMM value of the CRR Holder's CRR portfolio, as applicable.

(d) The CAISO will adjust the peak or off-peak period credits and debits from the CRR Holder's CRRs in the event that, over the peak or off-peak period of a day, the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the FMM value of the CRR Holder's CRR portfolio, as applicable. The amount of the peak period adjustment will be the amount that the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the FMM value of the CRR Holder's CRR portfolio for the peak-period hours that passed both criteria in Section 11.2.4.6(b), as applicable. The amount of the off-peak period adjustment will be the amount that the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the FMM value of the

CRR Holder's CRR portfolio for the off-peak period hours that passed both criteria in Section 11.2.4.6(b), as applicable.

The CAISO includes all adjustments of CRR credits and debits calculated pursuant to this Section 11.2.4.6 in the Hourly CRR Congestion Fund for the applicable Transmission Constraint corresponding to the CRR credits and debits that would have been issued but for the adjustments as specified in Section 11.2.4.1.2.

11.2.4.7 Adjustment of CRR Credits and Debits Related to Schedules that Source and Sink in the Same Balancing Authority Area

The CAISO will adjust the credits and debits from the CRRs of a CRR Holder where the Scheduling Coordinator representing that CRR Holder has submitted Bids (including Self-Schedules), in violation of Section 30.5.5 and the resulting Schedule(s) impacts the value of the CRRs in the DAM held by that CRR Holder. Such adjustment will occur if the following circumstances are all met:

(a) A portion of the E-Tag that uses the CAISO Controlled Grid relates to a Schedule in the Day-Ahead Market;

(b) The scheduled MW on the portion of the E-Tag using the CAISO Controlled Grid has a positive PTDF on a congested transmission element, where that congestion is measured in the direction of the CRR; and

(c) The CRR Holder would receive credits from CRRs on the congested transmission element.

If such circumstances occur, the CAISO adjusts the CRR credits and debits in that Settlement Period so that the additional net CRR revenue that otherwise would be earned from the congestion created by the Schedule that results from the Bids submitted in violation of Section 30.5.5 is not credited to the CRR Holder. Instead, the CAISO will add those amounts to the Hourly CRR Congestion Fund for the applicable Transmission Constraint.

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11.3 Settlement of Virtual Awards

11.3.1 Virtual Supply Awards

The CAISO will credit each Scheduling Coordinator with Virtual Supply Awards at an Eligible PNode or

Eligible Aggregated PNode an amount equal to the Day-Ahead LMP at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Supply Awards. Virtual Supply Awards subject to price correction will be settled as specified in Section 11.21.

The CAISO will charge each Scheduling Coordinator with Virtual Supply Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the product of the MWhs of Virtual Supply Awards and the simple average of the four FMM LMPs for the applicable Trading Hour at the Eligible PNode or Eligible Aggregated PNode.

The CAISO pays or charges, depending on whether the value is positive or negative, the product of the virtual Forecasted Movement quantity and the difference between the FMM Flexible Ramp Up Price and the FMM Flexible Ramp Down Price.

~~multiplied by the MWhs of Virtual Supply Awards.~~

11.3.2 Virtual Demand Awards

The CAISO will charge each Scheduling Coordinator with Virtual Demand Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the Day-Ahead Market LMP at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Demand Awards. Virtual Demand Awards subject to price correction will be settled as specified in Section 11.21.

The CAISO will credit each Scheduling Coordinator with Virtual Demand Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the product of the MWhs of Virtual Demand Awards and the simple average of the four FMM LMPs for the applicable Trading Hour at the Eligible PNode or Eligible Aggregated PNode.

The CAISO pays or charges, depending on whether the value is positive or negative. The product of the virtual Forecasted Movement quantity and the difference between the FMM Flexible Ramp Up Price and the FMM Flexible Ramp Down Price. ~~multiplied by the IFM MWhs of Virtual Demand Awards.~~

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11.5.2 Uninstructed Imbalance Energy

Scheduling Coordinators shall be credited or charged a UIE Settlement Amount for each LAP, PNode or

Scheduling Point for which the CAISO calculates an Uninstructed Imbalance Energy quantity for each Settlement Interval. Uninstructed Imbalance Energy quantities are calculated for each resource that has a Day-Ahead Schedule, Dispatch Instruction, Real-Time Interchange Export Schedule or Metered Quantity. For MSS Operators electing gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the Uninstructed Imbalance Energy for such entities is settled similarly to how Uninstructed Imbalance Energy for non-MSS entities is settled as provided in this Section 11.5.2. The CAISO shall account for Uninstructed Imbalance Energy every five minutes based on the resource's Dispatch Instruction. For all resources, including Generating Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources, Distributed Energy Resource Aggregations and all Participating Load, Reliability Demand Response Resources, and Proxy Demand Resources, the UIE Settlement Amount is calculated for each Settlement Interval as the product of its Uninstructed Imbalance Energy MWh quantity and the applicable RTD LMP. The UIE Settlement Amount for non-Participating Load and MSS Demand under gross Settlement is settled as described in Section 11.5.2.2. For MSS Operators that have elected net Settlement, the UIE Settlement Amount is calculated for each Settlement Interval as the product of its Uninstructed Imbalance Energy quantity and RTD MSS Price.

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11.5.2.2 Hourly Real-Time Demand Settlement

The Default LAP Hourly Real-Time Price will apply to CAISO Demand and MSS Demand under net Settlement of imbalance energy, except for CAISO Demand not settled at the Default LAP as provided in Section 30.5.3.2, and per the methodology as may be further defined in the Business Practice Manuals. For each Settlement Interval, the differences between the Day-Ahead Scheduled CAISO Demand and m~~M~~etered Demand (MWh) is settled at the Default LAP Hourly Real-Time Price or the Custom LAP Hourly Real-Time Price, as appropriate. For each Default LAP, the CAISO calculates the applicable Default LAP Hourly Real-Time Price as the weighted average LMP of the four Default LAP FMM LMPs and the twelve (12) five-minute Default LAP RTD LMPs. The CAISO calculates the weighted average

LMP for each Default LAP as the summation of the weighted average ~~S~~MEC, the weighted average MCC, and the weighted average MCL for that Default LAP. The CAISO calculates the weighted average ~~S~~MEC, MCC, and MCL for each applicable Trading Hour based on the four applicable Default LAP FMM ~~S~~MECs, MCCs, and MCLs, respectively, and the twelve (12) applicable Default LAP RTD ~~S~~MECs, MCCs, and MCLs, respectively. For each Custom LAP, the CAISO calculates the applicable Custom LAP Hourly Real-Time Price as the weighted average LMP of the four Custom LAP FMM LMPs and the twelve (12) five-minute Custom LAP RTD LMPs. The CAISO calculates the weighted average LMP for each Custom LAP as the summation of the weighted average ~~S~~MEC, the weighted average MCC, and the weighted average MCL for that Custom LAP. The CAISO calculates the weighted average ~~S~~MEC, MCC, and MCL for each applicable Trading Hour based on the four applicable Custom LAP FMM ~~S~~MECs, MCCs, and MCLs, respectively, and the twelve (12) applicable Custom LAP RTD ~~S~~MECs, MCCs, and MCLs, respectively. In calculating the weighted average ~~S~~MEC, MCC, and MCL for each hour for either the Default LAPs or Custom LAPs, the CAISO determines the weights based on the difference between Day-Ahead Schedules at the applicable LAP and the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the FMM multiplied by the relevant FMM LMP at the applicable LAP plus the difference between the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the FMM and the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the RTD multiplied by the relevant RTD LMP at the applicable LAP divided by the sum of the difference between Day-Ahead Schedules at the applicable LAP and the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the FMM plus the difference between the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the FMM and the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the RTD. Furthermore, the Default LAP Hourly Real-Time Prices and the Custom LAP Hourly Real-Time Prices will be bounded by the maximum and the lowest LMP and its components, for the applicable Trading Hour from those relevant intervals at the relevant LAP. If the calculated price exceeds the upper boundary or is below the lower boundary, then the Default LAP Hourly Real-Time Price or the Custom LAP Hourly Real-Time Price, as appropriate, instead will be calculated based on a weighted average price with the weightings based on gross deviations (absolute value of

each deviation).

The Hourly Real-Time LAP Prices are determined by the requirements in Section 27.2.2.2.

11.5.2.3 Revenue Neutrality Resulting from Changes in LAP Load Distribution Factors

Any resulting revenue from changes in the LAP Load Distribution Factors between the Day-Ahead Market and the Real-Time Dispatch shall be allocated to metered CAISO Demand in the corresponding ~~Default~~ LAP within the CAISO Balancing Authority Area and metered EDAM Demand in the corresponding LAP within an EDAM Entity Balancing Authority Area.

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11.5.7 Congestion Credit and Marginal Credit of Losses Credit

11.5.7.1 RTM Congestion Credit for ETCs and TORs

The CAISO shall not apply charges or issue credits to Scheduling Coordinators related to the MCC associated with all Points of Receipt and Points of Delivery pairs associated with valid and balanced ETC Self-Schedules or TOR Self-Schedules after the Day-Ahead Market. The balanced portion for each ETC or TOR contract for each Settlement Interval will be based on the difference between: (1) the minimum of (a) the total Demand, (b) the total ETC or TOR Supply Self-Schedule submitted in RTM, including changes after twenty (20) minutes before the applicable Trading Hour if such change is permitted by the Existing Contract, or (c) the Existing Contract maximum capacity as specified in the TRTC Instructions; and (2) the valid and balanced portion of the Day-Ahead Schedule. In determining the balanced portions, the CAISO evaluates the amounts based on the following variables: (a) for exports and imports, the CAISO shall use the schedule quantity specified in the Interchange schedule used for check out between CAISO and other Balancing Authority Areas; (b) for CAISO Demand, the CAISO shall use the Gross Load associated with the applicable ETC or TOR; and (c) for all Generation the CAISO shall use the quantity specified in the Dispatch Instructions. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Congestion Credit for FMM Instructed Imbalance Energy or RTD Instructed Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the applicable weighted average MCC at each Point of Receipt and Point of

Delivery associated with the valid and balanced portions of that Scheduling Coordinator's ETC or TOR Self-Schedules. The weights in the two markets will be based on the absolute values of the (a) deviation of the FMM Schedule or the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the FMM from Day-Ahead Schedules and (b) deviation of the RTD schedule or the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast of CAISO Demand~~ used in the RTD from Day-Ahead Schedules.

11.5.7.2 RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedule submitted to the RTM pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or issue any credit to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable charges for losses as specified in the existing agreement between the TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.7.2. Where the provisions of this Section 11.5.7.2 do not conflict with the provisions of the agreement, the provisions of this Section 11.5.7.2 shall apply to the subject TORs. The balanced portion of the TOR Self-Schedule after the Day-Ahead Market is the same balanced quantity mentioned in this Section 11.5.7.2 for the TOR Self-Schedule. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the weighted average MCL at each of the eligible Points of Receipt and Points of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules. The weights in the two markets will be based on the absolute values of the: (a) deviation of the FMM Schedule or the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast Of CAISO Demand~~ used in the FMM from Day-Ahead Schedules; and (b) deviation of the RTD schedule or the CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast Of CAISO Demand~~ used in the RTD from Day-Ahead Schedules. For losses that

the CAISO shall charge pursuant to Section 17.3.3, the specific loss charge amount shall be the product of: (a) the specific loss percentage as may be specified in an applicable agreement between the TOR holder and the CAISO or an existing agreement between the TOR holder and a Participating TO; (b) the weighted average ~~S~~MEC price from the FMM and RTD markets with weights based on the absolute values of (1) deviation of FMM schedule or CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast Of CAISO Demand~~ used in the FMM from Day-Ahead Schedules and (2) deviation of RTD schedule or CAISO Forecast of BAA Demand for the CAISO~~CAISO Forecast Of CAISO Demand~~ used in the RTD from Day-Ahead Schedules; and (c) the balanced contract quantity mentioned in Section 11.5.7.1.

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11.5.8 Settlement for Emergency Assistance

This Section 11.5.8 shall apply to Settlement for emergency assistance provided to or by the CAISO, not EIM Assistance Energy Transfer Surcharges. In any case in which the CAISO has entered into an agreement regarding emergency assistance, which agreement has been accepted by FERC, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.8. Where the provisions of this Section 11.5.8 do not conflict with the provisions of the FERC-accepted agreement, the provisions of this Section 11.5.8 shall apply to the subject emergency assistance.

11.5.8.1 Settlement for Energy Purchased by the CAISO for System Emergency Conditions, to Avoid Market Disruption, or to Prevent or Relieve Imminent System Emergencies, Other than Exceptional Dispatch Energy

The Settlement price for Energy that is delivered to the CAISO from a utility in another Balancing Authority Area as a result of a CAISO request pursuant to Section 42.1.5 or any other provision for assistance in System Emergency conditions, to avoid a Market Disruption, or to prevent or relieve an imminent System Emergency, other than Energy from an Exceptional Dispatch, shall be either (i) a negotiated price agreed upon by the CAISO and the seller or (ii) a price established by the seller for such emergency assistance in advance, as may be applicable. In the event no Settlement price is established prior to the delivery of the emergency Energy, the default Settlement price shall be the simple average of

the relevant FMM and RTD LMPs at the applicable Scheduling Point, plus all other charges applicable to imports to the CAISO Balancing Authority Area, as specified in the CAISO Tariff. If the default Settlement price is determined by the seller not to compensate the seller for the value of the emergency Energy delivered to the CAISO, then the seller shall have the opportunity to provide the CAISO with cost support information demonstrating that a higher price is justified. The cost support information must be provided in writing to the CAISO within thirty (30) days following the date of the provision of emergency assistance. The CAISO shall have the discretion to credit that higher price based on the seller's justification of this higher price. The CAISO will provide notice of its determination whether to credit such a higher price within thirty (30) days after receipt of the cost support information. Any dispute regarding the CAISO's determination whether to credit a higher price for emergency assistance based on cost support information shall be subject to the CAISO ADR Procedures. Credit by the CAISO for such emergency assistance will be made in accordance with the Settlement process, billing cycle, and billing and payment timeline set forth in the CAISO Tariff. The costs for such emergency assistance, including the credit of a price based on cost support information, will be settled in two steps: (1) the costs will first be settled at the simple average of the relevant Dispatch Interval LMPs and included in the total FMM IIE Settlement Amount and RTD IIE Settlement Amount as described in Sections 11.5.1.1 and 11.5.1.2; and (2) costs in excess of the simple average of the relevant Dispatch Interval LMPs plus other applicable charges will be settled in accordance with Section 11.5.8.1.1. The allocation of the FMM IIE Settlement Amount and RTD IIE Settlement Amount settled in accordance with Sections 11.5.1.1 and 11.5.1.2 will be settled according to Section 11.5.4.2.

11.5.8.1.1 Settlement and Allocation of Excess Costs Payments for Emergency Energy Purchases, Other than Exceptional Dispatch Energy, to Scheduling Coordinators

The Excess Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 is calculated for each purchase for each Settlement Interval as the cost difference between the Settlement amount calculated pursuant to Section 11.5.8.1 for the delivered purchase quantity and the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point. The Excess Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 shall be allocated in the same manner as specified in Section 11.5.6.2.5.2 for the allocation of the Excess Cost

Payments portion of credits for Exceptional Dispatches for emergency conditions.

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11.8.4 RTM Bid Cost Recovery Amount

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11.8.4.1 RTM Bid Cost Calculation

For each Settlement Interval, the CAISO shall calculate RTM Bid Cost for each Bid Cost Recovery Eligible Resource, as the algebraic sum of the RTM Start-Up Cost, RTM Minimum Load Cost, RTM Transition Cost, RTM Pump Shut-Down Cost, RTM Energy Bid Cost, RTM Pumping Cost, and RTM AS Bid Cost, and RTM GHG Bid Cost. For each Settlement Interval, the CAISO shall calculate RTM Bid Cost for each RMR Resource as the algebraic sum of the RTM Start-Up Cost adjusted to remove Opportunity Costs and Variable Start-Up Operations and Maintenance Adders, RTM Transition Costs adjusted to remove Opportunity Costs and Variable Start-Up Operations and Maintenance Adders, RTM Energy Bid Cost adjusted to remove Opportunity Costs and Variable Energy Operations and Maintenance Adders, and RTM AS Bid Cost. For Multi-Stage Generating Resources, in addition to the specific RTM Bid Cost rules described in Section 11.8.4.1, the rules described in Section 11.8.1.3 will be applied to further determine the applicable MSG Configuration-based CAISO Market Start-Up Bid Cost, Transition Bid Cost, and Minimum Load Bid Cost, in a given Settlement Interval. For Multi-Stage Generating Resources, the incremental RTM Start-Up Cost, RTM Minimum Load Cost, and RTM Transition Cost to provide RTM committed Energy or awarded Ancillary Services capacity for an MSG Configuration other than the self-scheduled MSG Configuration are determined by the RTM optimization rules in specified in Section 34.

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11.8.4.1.5 RTM Energy Bid Cost

For any Settlement Interval, the RTM Energy Bid Cost for the Bid Cost Recovery Eligible Resource except Participating Loads shall be computed as the sum of the products of each RTD Instructed Imbalance Energy portion, except Standard Ramping Energy, Residual Imbalance Energy, FMM Exceptional Dispatch Energy or RTD Exceptional Dispatch Energy, FMM Derate Energy or RTD Derate Energy, MSS Load Following Energy, Ramping Energy Deviation and Regulating Energy, with the relevant Energy Bid prices, the Default Energy Bid price, or the Locational Marginal Price, if any, as further described in Section 11.17, for each Dispatch Interval in the Settlement Interval. For Settlement Intervals for which the Bid Cost Recovery Eligible Resource is ramping up to or down from a rerated Minimum Load that was increased pursuant to Section 9.3.3 for the Real-Time Market, the RTM Energy incurred by the ramping will be classified as FMM Derate Energy or RTD Derate Energy and will not be included in Bid Cost Recovery. For a Bid Cost Recovery Eligible Resource that is ramping up to or down from an Exceptional Dispatch, the relevant Energy Bid Cost related to the Energy caused by ramping will be settled on the same basis as the Energy Bid used in the Settlement of the Exceptional Dispatch that led to the ramping. The RTM Energy Bid Cost for a Bid Cost Recovery Eligible Resource, including Participating Loads and Proxy Demand Response Resources, for a Settlement Interval is subject to the Real-Time Performance Metric as described in Section 11.8.4.4 and the Persistent Deviation Metric as described in Section 11.17. Any Uninstructed Imbalance Energy in excess of FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy is also not eligible for Bid Cost Recovery. For a MultiStage Generating Resource the CAISO will determine the RTM Energy Bid Cost based on the Generating Unit level. For RMR Resources, the CAISO will determine the RTM Energy Bid Cost based on the relevant Energy Bid adjusted to remove Opportunity Costs.

11.8.4.1.5.1 RTM Energy Bid Cost for Storage Resources

When a storage resource participating as a Non-Generator Resource receives a Dispatch Instruction in the Fifteen-Minute Market that results in incremental Energy to its Day-Ahead Energy Schedule, or a Dispatch Instruction in the Real-Time Dispatch that results in incremental Energy to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the lower of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the

greater of its Day-Ahead Locational Marginal Price, its Real-Time Market Default Energy Bid, or its Real-Time Locational Marginal Price for that interval.

In intervals when a storage resource participating as a Non-Generator Resource does not have a Day-Ahead Energy Schedule or only participates in Energy Imbalance Market and receives a Dispatch Instruction in the Fifteen-Minute Market for incremental Energy or a Real-Time Dispatch that results in incremental Energy to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the lower of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the greater of its Real-Time Market Default Energy Bid, or its Real-Time Locational Marginal Price for that interval.

When a storage resource participating as a Non-Generator Resource receives a Dispatch Instruction in the Fifteen-Minute Market that results in decremental Energy or no change to its Day-Ahead Energy Schedule, or a Dispatch Instruction in the Real-Time Dispatch that results in decremental Energy or no change to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the greater of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the lower of its Day-Ahead Locational Marginal Price, its Real-Time Market Default Energy Bid, or its Real-Time Locational Marginal Price for that interval.

In intervals when a storage resource participating as a Non-Generator Resource does not have a Day-Ahead Energy Schedule or only participates in the Energy Imbalance Market and receives a Dispatch Instruction in the Fifteen-Minute Market that results in decremental Energy or a Dispatch Instruction in the Real-Time Dispatch that results in decremental Energy or no change to its Schedule from the Fifteen-Minute Market, the Energy Bid price used for purposes of calculating a Real-Time Market Energy Bid Cost in any Fifteen-Minute Market or Real-Time Dispatch interval will reflect the greater of the following two values: (1) the storage resource's Energy Bid in the Real-Time Market for that interval, or (2) the lower of its Real-Time Market Default Energy Bid or its Real-Time Locational Marginal Price for that interval.

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11.8.4.1.7 RTM Transition Cost

For each Settlement Interval, the RTM Transition Costs shall be based on the MSG Configuration to which the Multi-Stage Generating Resource is transitioning and are allocated to the CAISO commitment period of that MSG Configuration.

11.8.4.1.7.1 RTM Transition Cost Applicability

Within any eligible RTM CAISO Commitment Period determined pursuant to the rules specified in Section 11.8.1.3, the CAISO shall apply the RTM Transition Costs for the Settlement Intervals in which the Multi-Stage Generating Resource is actually transitioning from the "from" MSG Configuration and reaches the Minimum Load as registered in the Master File, or if applicable, as modified pursuant to Section 9.3.3, of the "to" MSG Configuration to which the Multi-Stage Generating Resource is transitioning, subject to the Tolerance Band.

11.8.4.1.8 RTM GHG Bid Cost

For each Settlement Interval, the RTM GHG Bid Cost shall be the product of the RTM GHG Award from each accepted RTM GHG Bid Adder for a relevant GHG Regulation Area and the applicable Marginal GHG Cost.

11.8.4.2 RTM Market Revenue Calculations

11.8.4.2.1 For each Settlement Interval in a CAISO Real-Time Market Commitment Period, the RTM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the elements listed below in this Section. For Multi-Stage Generating Resources the RTM Market Revenue calculations will be made at the Generating Unit level.

(a) The sum of the products of the FMM or RTD Instructed Imbalance Energy (including Minimum Load Energy of the Bid Cost Recovery Eligible Resource committed in RUC and where for Pumped-Storage Hydro Units and Participating Load operating in the pumping mode or serving Load, the MWh is negative), except Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, Derate Energy, MSS Load following Energy, Ramping Energy Deviation and Regulation Energy, with the relevant

FMM and RTD LMP, for each Dispatch Interval in the Settlement Interval. These amounts are subject to the Real-Time Performance Metric and the Persistent Deviation Metric as described in Sections 11.8.4.4 and 11.17, respectively. For storage resources that receive an Exceptional Dispatch to hold a State of Charge, the RTM Market Revenue will include revenues from the opportunity cost to hold the State of Charge but not the Exceptional Dispatch Energy to reach the State of Charge.

(b) The product of the Real-Time Market AS Award from each accepted Real-Time Market AS Bid in the Settlement Interval with the relevant ASMP, divided by the number of fifteen (15)-minute Commitment Intervals in a Trading Hour (4), and prorated to the duration of the Settlement Interval.

(c) The relevant tier-1 No Pay charges for that Bid Cost Recovery Eligible Resource in that Settlement Interval.

(d) The Forecasted Movement and Uncertainty Awards Settlement Amounts as calculated pursuant to Section 11.25 are included in the RTM Market Revenues calculation, not including:

(1) the amounts rescinded pursuant to Section 11.25.3;

(2) Forecasted Movement revenue when there are changes in Self-Schedules across consecutive Trading Hours; and

(3) Forecasted Movement revenue when there are changes in EIM Base Schedules across consecutive Trading Hours without Economic Bids.

(e) The product of RTM GHG Award from each accepted RTM GHG Bid Adder and relevant Marginal GHG Cost in that Settlement Interval.

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11.10.6 Upward Ancillary Services Neutrality Adjustment

For each Settlement Period the difference between the upwards Ancillary Service cost and the sum of the total Ancillary Services obligation and neutrality adjustments will be allocated to all Scheduling Coordinators in proportion to their upward Ancillary Service Obligation (before taking into consideration

the Inter-SC Trades of Ancillary Services). The CAISO shall exclude EDAM Transfers and EIM Transfers between the CAISO and an EDAM Entity, or an EIM Entity, from the calculation of the upwards Ancillary Service Obligation for this neutrality adjustment. The upwards Ancillary Service cost is the sum of the upward Ancillary Services credits issued pursuant to Sections 11.10.1.1, 11.10.1.2, and 11.10.3.1. The total upward Ancillary Services obligation and neutrality adjustments is the sum of the requirements in Sections 11.10.2.2.2, 11.10.2.2.3, 11.10.3.1, 11.10.3.4, 11.10.4.1, and 11.10.4.4.

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11.14 Neutrality

The CAISO shall be authorized to issue charges or credits as special adjustments in regard to:

(a) amounts required to reach an accounting trial balance of zero in the course of the Settlement process in the event that the charges calculated as due from CAISO Debtors are lower than credits calculated as due to the CAISO Creditors for the same Trading Day, which includes any amounts required to round up any invoice amount expressed in dollars and cents to the nearest whole dollar amount. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day. In the event that the charges due from CAISO Debtors are higher than the credits due to CAISO Creditors, the CAISO shall allocate a credit to the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day; and

(b) awards payable by or to the CAISO pursuant to good faith negotiations or CAISO ADR Procedures that the CAISO is not able to allocate to or to collect from a Market Participant or Market Participants in accordance with Section 13.5.3. These charges will be allocated among Scheduling Coordinators over an interval determined by the CAISO and pro rata based on EDAM Measured Demand during that interval, if the dispute concerned the IFM, EIM Measured Demand during that interval, if the dispute concerned the Real-Time Market or RUC, or otherwise Measured Demand during that interval.

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11.25.2 Settlement of Uncertainty Requirement

11.25.2.1 Credit to Resources.

11.25.2.1.1 FMM Uncertainty Awards

For a resource with an IRU Award, the CAISO applies a deviation settlement as the product of the Flexible Ramp Up Price and the difference between the upward Five-minute Imbalance Reserve Quantity and the upward FMM Uncertainty Award.

For a resource with an IRD Award, the CAISO applies a deviation settlement as the product of the Flexible Ramp Down Price and the difference between the downward Five-minute Imbalance Reserve Quantity and downward FMM Uncertainty Award.

If a resource has no Imbalance Reserves Award, then the CAISO settles upward and downward Uncertainty Awards as the product of the Uncertainty Award and the Flexible Ramp Up Price, in the case of an upward Uncertainty Award, or the Flexible Ramp Down Price, in the case of a downward Uncertainty Award.

11.25.2.1.2 RTD Uncertainty Awards

The CAISO settles RTD Uncertainty Awards with Scheduling Coordinators as the algebraic sum of the upward uncertainty awards defined in part (a) of this Section 11.25.2.1.2 and the downward uncertainty awards defined in part (b) of this Section 11.25.2.1.2.

(a) Upward Uncertainty Awards – the product of the RTD Flexible Ramp Up Price and the difference between the upward RTD Uncertainty Award quantity and the upward FMM Uncertainty Award quantity for the relevant Settlement Interval, both calculated for each resource pursuant to Section 44.2 in MWhs, less any rescission amounts pursuant to section 11.25.3.

(b) Downward Uncertainty Awards – the product of the RTD Flexible Ramp Down Price and the difference between the downward RTD Uncertainty Award quantity and the downward FMM Uncertainty Award quantity for the relevant Settlement Interval, both calculated for each resource pursuant to Section 44.2 in MWhs, less any rescission

amounts pursuant to section 11.25.3.

~~On a daily basis, the CAISO will settle awards to resources for providing the Uncertainty Requirement at the applicable FRUP or FRDP less any payment rescission for each interval pursuant to Section 11.25.3.~~

11.25.2.2 Allocation of Costs of Uncertainty Movement Procured.

11.25.2.2.1 Settlement Process.

(a) **Generally.** The CAISO will settle Uncertainty Awards for a direction as specified in this Section 11.25.2.2 by Balancing Authority Area for each Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as specified in Section 44.2.4.1, or separately will settle Uncertainty Awards for a direction as specified in this Section 11.25.2.2 for the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction, as specified in Section 44.2.4.1.

(b) **Daily.** The CAISO will initially—

(1) allocate the cost of the Uncertainty Awards for a direction on a daily basis according to the categories as set forth in Sections 11.25.2.2.2 and 11.25.2.2.3 within the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction or within a Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as applicable; and

(2) allocate the daily amounts to Scheduling Coordinators as set forth in Section 11.25.2.2.4.

(c) **Monthly.** The CAISO will resettle the costs of the Uncertainty Awards by—

(1) reversing the daily allocation;

(2) assigning the monthly costs of the Uncertainty Awards to Peak Flexible Ramp Hours and Off-Peak Flexible Ramp Hours;

(3) separately allocating the monthly Peak Flexible Ramp Hours amounts and Off-Peak Flexible Ramp Hours amounts to the categories as set forth in Sections 11.25.2.2.2 and 11.25.2.2.3 within the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction or within a Balancing Authority Area that has a distinct Uncertainty Requirement for that direction, as applicable; and

(4) allocating the monthly amounts in each category to Scheduling Coordinators as set forth in Section 11.25.2.2.4.

11.25.2.2.2 Allocation of Charges to Categories.

(a) **Determination of Uncertainty Movement for Resources.** For each interval, the CAISO will calculate the net Uncertainty Movement of each resource according to the following categories:

(1) for Supply resources other than non-Dynamic System Resources as the difference between the Dispatch Instruction of the binding interval in the next RTD run and the first advisory RTD interval in the current run.

(2) for non-Dynamic System Resources and export schedules as the difference between the schedule used in the RTD (accounting for ramp) for the binding interval in the next RTD run and the schedule used for the first advisory interval in the current RTD run.

(b) **RTD Uncertainty Movement.** The CAISO will determine the total net RTD Uncertainty Movement for each category separately for the group of Balancing Authority Areas that shares a common Uncertainty Requirement for that direction or a Balancing Authority

Area that has a distinct Uncertainty Requirement for that direction, as applicable—

(1) for the category of Supply resources, which shall not include non-Dynamic System Resources, as the net sum of the five-minute Uncertainty Movement determined pursuant to Section 11.25.2.2.2 of all the Supply resources in the category.

(2) for the category of Intertie resources, which shall comprise non-Dynamic System Resources and exports, as the net sum of the five-minute Uncertainty Movement determined pursuant to Section 11.25.2.2 of all the non-Dynamic System resources and export schedules.

(3) for the non-Participating Load category, as the difference between –

(A) the CAISO Forecast of BAA Demand ~~CAISO Forecast of CAISO Demand, the CAISO forecast of Balancing Authority Area EIM Demand, or the CAISO forecast of EIM Area EIM Demand, as applicable,~~ of the binding interval in the next RTD run; and

(B) CAISO Forecast of BAA Demand ~~the CAISO Forecast of CAISO Demand, the CAISO forecast of Balancing Authority Area EIM Demand, or the CAISO forecast of EIM Area EIM Demand, as applicable,~~ for the first advisory interval in the current RTD run.

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11.29.5 General Principles for Production of Settlement Statements

11.29.5.1 Basis of Settlement

The basis of each Settlement Statement will be the debiting or crediting of an account in the name of the relevant Business Associate.

11.29.5.2 Settlement Statements

(a) For each Settlement Period of the Trading Day, the CAISO will calculate for each charge the amounts debited and the amounts credited and shall arrive at a net amount debited or credited. Each of these net amounts will appear in the Settlement Statements that the

CAISO will provide to the relevant Business Associate.

(b) The components of the Grid Management Charge will be included in an Initial Settlement Statement T+9B, and any Recalculation Settlement Statement with the other types of charges referred to in Section 11.

11.29.5.3 Data Files

Settlement Statements will be accompanied by data files of supporting information for the relevant Business Associate that includes the following for each Settlement Period of the Trading Day:

(a) the aggregate quantity (in MWh) of Energy supplied or withdrawn by the Scheduling Coordinator Metered Entities represented by the Scheduling Coordinator;

(b) the aggregate quantity (in MW) and type of Ancillary Services capacity provided or purchased;

(c) the relevant prices that the CAISO has applied in its calculations;

(d) details of the scheduled quantities of Energy, Imbalance Reserves, Reliability Capacity, and Ancillary Services accepted by the CAISO in the Day-Ahead Market and the RTM;

(e) details of FMM Instructed Imbalance Energy or RTD Imbalance Energy and penalties;

(f) details of any credits or charges associated with the CRR Auctions; and

(g) detailed calculations of all fees, charges and credits allocated among Scheduling Coordinators and each Scheduling Coordinator's share.

11.29.5.4 Settlement Software

The CAISO Settlement software will be audited by an independent firm of auditors competent to carry out audits of such software to determine its consistency with the CAISO Tariff. In any dispute regarding Settlement calculations, a certificate from the firm of auditors that the CAISO software is consistent with the CAISO Tariff will be prima facie proof that the charges shown in a Settlement Statement have been calculated in a method consistent with the CAISO Tariff. Nothing in this section will be deemed to establish the burden of proof with respect to Settlement calculations in any proceeding.

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11.29.17 Alternative Payment Procedures

11.29.17.1 Pro Rata Reduction to Payments

If it is not possible to clear the CAISO Clearing Account on a Payment Date because of nonpayment by a CAISO Debtor, which cannot be covered using funds available in the CAISO Reserve Account or the CAISO Penalty Reserve Account, or by enforcing any Financial Security provided by a defaulting CAISO Debtor, the CAISO shall, after deducting Grid Management Charge and FERC Annual Charges in accordance with Section 11.29.9.6.1 and paying amounts shown as due to internal accounts rather than to CAISO Creditors, such as the balancing accounts for CRRs, RAAIM or penalties issued under Section 37, (1) first pay in full every CAISO Creditor whose net amounts receivable on the relevant Payment Date is less than $5,000; and (2) second, reduce payments to all remaining CAISO Creditors proportionately to the net amounts payable to them on the relevant Payment Date to the extent necessary to clear the CAISO Clearing Account through a shortfall allocation. Except to the extent a payment default is on an Invoice that was separate from other market activity under Section 11.29.10.3, each payment default amount allocated to CAISO Creditors through a shortfall allocation under this Section 11.29.17.1 that remains unpaid by the defaulting CAISO Debtor will be allocated as set forth in Section 11.29.17.2. The provisions of this Section 11.29.17.1 shall not apply to the extent the CAISO invokes Section 11.29.11 to direct a CAISO Debtor to not pay charges that are verifiably erroneous, or to non-payment of any penalty amount that a Scheduling Coordinator or CRR Holder has disputed and FERC has specifically authorized the Scheduling Coordinator or CRR Holder to net its payment to the CAISO by the amount of the penalty in question in accordance with Section 37.9.3.

11.29.17.2 Payment Default Allocation

11.29.17.2.1 Methodology for Allocating Payment Default Amounts

Each payment default amount allocated to CAISO Creditors through a shortfall allocation pursuant to Section 11.29.17.1 and that remains unpaid by the defaulting CAISO Debtor will be allocated on the next practicable Invoices to the Default-Invoiced SCIDs identified in the percentage shares calculated pursuant to Section 11.29.17.2.7 for the relevant calendar quarter, excluding the CAISO Debtor that has not paid the payment default amount. The relevant calendar quarter will be the calendar quarter that included the last full Trading Day before the bankruptcy filing, if the defaulting Market Participant

filed for bankruptcy or, if the defaulting Market Participant did not file for bankruptcy, the date of its initial payment default.

Percentage shares for a calendar quarter will be calculated pursuant to the following methodology:

(a) Twenty (20) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the net amounts that were payable in each applicable calendar quarter (and averaged within such calendar quarter) to the Default-Invoiced SCIDs over the applicable Default Look-Back Periods. For Market Participants subject to Default Election option 1, these net amounts will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, these net amounts will be calculated by consolidating all of the data for the applicable SCIDs, recognizing any offsetting effect of an individual SCID's positive or negative dollar amount in the consolidated total.

(b) Thirty (30) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the sum of the absolute values of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter (and averaged within such calendar quarter) over the applicable Default Look-Back Periods, after excluding dollar amounts shown on the Invoices for payments and charges for GMC, RMR, and Wheeling Access Charge costs, and after excluding the billing of Access Charges and the payment of Transmission Revenue Requirements to Participating Transmission Owners. For Market Participants subject to Default Election option 1, the sum of the absolute values of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, the absolute values of the net sum of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter will be calculated by consolidating all of the data for the applicable SCIDs, recognizing any offsetting effect of an individual SCID's positive or negative dollar amount in the

consolidated total.

(c) Fifty (50) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the largest of the following five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) for each Default-Invoiced SCID over the applicable Default Look-Back Periods using data from T+70B Recalculation Settlement Statements or, when it is not yet available, data from T+9B Recalculation Settlement Statements:

(1) Cleared Day-Ahead Schedules to supply Energy, plus Day-Ahead Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus scheduled supply obligation for Ancillary Services (including imports but excluding RUC Awards~~Schedules~~), plus Virtual Supply Awards;

(2) Metered Generation, plus Real-Time Interchange Import Schedules, plus Real-Time Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus FMM Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus Real-Time supply obligation for Ancillary Services;

(3) Cleared Day-Ahead Schedules for Demand (including Demand served by Pumped-Storage Hydro Units and exports) multiplied by one-hundred three (103) percent to reflect Transmission Losses, plus scheduled demand obligation for Ancillary Services, plus Virtual Demand Awards;

(4) Metered Load multiplied by one-hundred three (103) percent to reflect Transmission Losses, plus Real-Time Interchange Export Schedules, plus Real- Time demand obligation for Ancillary Services; or

(5) The greater of (A) the quantity of CRRs acquired in CRR Auctions or transferred through the Secondary Registration System (excluding CRRs acquired in CRR Allocations) or (B) Inter-SC Trades of Energy.

For Market Participants subject to Default Election option 1, each of the five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) will be calculated on an SCID-by-SCID basis. For Market Participants that are

eligible for and have chosen Default Election option 2, each of the five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) will be calculated by consolidating all of the data for the applicable SCIDs.

11.29.17.2.2 [Not Used]

11.29.17.2.3 Interest on Allocated Payment Default Amounts

In accordance with Section 11.29.7.2, Interest will be charged to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2 to the extent the payment default amounts allocated to those Default-Invoiced SCIDs or SCIDs exceed the payment default amounts allocated to them through a shortfall allocation pursuant to Section 11.29.17.1, and Interest will be paid to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2 to the extent the payment default amounts allocated to those Default-Invoiced SCIDs or SCIDs are exceeded by the payment default amounts allocated to them through a shortfall allocation pursuant to Section 11.29.17.1, for the period between the date of the shortfall allocation and the date payments are due for the Invoices on which the allocation of the payment default amounts appear. The Interest payable pursuant to this Section 11.29.17.2.3 will be included on the Invoices on which the allocation of the payment default amounts appear.

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11.29.17.2.6 Default Look-Back Period

(a) The following provisions will apply to each Default-Invoiced SCID for an entity that is a new Market Participant that begins to participate in the CAISO Markets following the effective date of this Section 11.29.17.2.6:

(i) The Default-Invoiced SCID for that Market Participant will first be subject to allocation of payment default amounts under Section 11.29.17.2.1 in the second calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets and the applicable Default Look-Back Period will be the calendar quarter in which the Market Participant began to

participate in the CAISO Markets.

(ii) For the third calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets, the applicable Default Look-Back Period will be the Market Participant's first two (2) calendar quarters of participation in the CAISO Markets.

(iii) For the fourth calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets, the applicable Default Look-Back Period will be the Market Participant's first three (3) calendar quarters of participation in the CAISO Markets.

(iv) For any subsequent calendar quarter in which Section 11.29.17.2.1 is in effect, the applicable Default Look-Back Period will be a total of four (4) full calendar quarters.

11.29.17.2.7 Provision of Information on Percentage Shares

Beginning with the second calendar quarter of 2011, the CAISO will provide to each Default-Invoiced SCID on or about the first Business Day of the applicable calendar quarter its own percentage share of any payment default amount for the calendar quarter that is beginning, subject to adjustment to account for any non-paying CAISO Debtor, based on application of the methodology for allocating payment default amounts set forth in Section 11.29.17.2.1 to the applicable Default Look-Back Period. In calculating the percentage share for each Default-Invoiced SCID pursuant to this Section 11.29.17.2.7, the CAISO will determine the percentage share for each full calendar quarter and will average those quarterly percentage shares.

11.29.17.2.8 Scope of Payment Default Allocation Provisions

The provisions of Section 11.29.17.2 will not apply to the allocation of payment default amounts and interest accrued thereon that are associated with Trading Days that occurred prior to April 1, 2009.

11.29.17.3 Payment of Defaulted Receivables

Collections or any other receipt of defaulted receivables (other than Interest) will be distributed according to the following priorities: First, to any GMC that the CAISO did not receive as a result of any debtor's defaults. Second, to any FERC Annual Charges that were not received as a result of any debtor's

defaults. Third, to any internal accounts, for example balancing accounts for CRRs or RAAIM, that were not paid in full as a result of the debtor's defaults. Fourth, to the CAISO Reserve Account to the extent funds were used to cover the debtor's payment default.

Fifth, either *pro rata* to CAISO Creditors for the Payment Advices that were subject to default or, if the defaulted receivables were allocated pursuant to Section 11.29.17.2, to Default-Invoiced SCIDs in proportion to their allocated shares of the defaulted receivables as calculated pursuant to Section 11.29.17.2.1 for the Payment Advice on which the payment default occurred. In either case, distributions will begin with the oldest Payment Advice that has unpaid amounts as a result of the debtor's default. These distributions to unpaid market creditors may be timed in order to reduce the associated administrative burden according to the following rules:

(1) If the total available for payment is less than $5,000, then the funds shall accumulate in an interest-bearing account until either: (a) the account exceeds $5,000, (b) there have been no distributions from the account for six months, or (c) all defaults for a given Payment Advice are available for payment.

(2) If all CAISO Creditors for that Payment Advice have been paid, then the proceeds will either be paid *pro rata* to the CAISO Creditors in the oldest unpaid Payment Advice, or, if the defaulted receivables are allocated pursuant to Section 11.29.17.2, the proceeds will be paid to the Default-Invoiced SCIDs in proportion to their allocated shares of the default amount, as calculated pursuant to Section 11.29.17.2.1 in the oldest unpaid Payment Advice.

(3) All defaulted receivables disbursed under this Section shall be disbursed in accordance with the timeframes set forth in Section 11.29.9.6.1.

Sixth, to the Penalty Reserve Account to the extent funds were used to cover the debtor's payment default. Seventh, any remaining balance to the CAISO Reserve Account.

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Section 27

27. CAISO Markets and Processes

In the Day-Ahead and Real-Time time frames the CAISO operates a series of procedures and markets that together comprise the CAISO Markets Processes. In the Day-Ahead time frame, the CAISO conducts the Market Power Mitigation (MPM) process, the Integrated Forward Market (IFM) and the Residual Unit Commitment (RUC) process. In the Real-Time time frame, the CAISO does the following: 1) accepts the Economic Bids and Self-Schedules used in the Real-Time Market procedures, 2) conducts the MPM process for the RTM, 3) accepts and awards HASP Block Intertie Schedules for Energy and Ancillary Services, 4) provides HASP Advisory Schedules for Energy and Ancillary Services for Bids that do not create a HASP Block Intertie Schedule, 5) conducts the Real-Time Unit Commitment (RTUC), 6) conducts the Short-Term Unit Commitment (STUC), 7) conducts the Fifteen Minute Market (FMM), and 8) conducts the five-minute Real-Time Dispatch (RTD). As appropriate, the CAISO Markets Processes utilize transmission and Security Constrained Unit Commitment and dispatch algorithms in conjunction with a Base Market Model adjusted as described in Sections 27.5.1 and 27.5.6 to optimally commit, schedule and Dispatch resources and determine marginal prices for Energy, Imbalance Reserves, Ancillary Services and RUC Capacity. Congestion Revenue Rights are available and entitle holders of such instruments to a stream of hourly payments or charges associated with revenue the CAISO collects or pays from the Marginal Cost of Congestion component of hourly Day-Ahead LMPs for Energy, Locational IRU Prices, and Locational IRD Prices. Through the operation of the CAISO Markets Processes the CAISO develops Day-Ahead Schedules, Imbalance Reserves Awards, Day-Ahead AS Awards and RUC Schedules, HASP Block Intertie Schedules for Energy and AS Awards, HASP Advisory Schedules, FMM Energy Schedules, and FMM Ancillary Services Awards, Real-Time AS Awards and Dispatch Instructions to ensure that sufficient supply resources are available in Real-Time to balance Supply and Demand and operate in accordance with Reliability Criteria. The CAISO Balancing Authority Area also is a Balancing Authority Area in the Market Area.

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27.4.3 CAISO Markets Scheduling and Pricing Parameters

27.4.3.1 Generally

The SCUC and SCED optimization software for the CAISO Markets utilize a set of configurable scheduling and pricing parameters to enable the software to reach a feasible solution and set appropriate prices in instances where Effective Economic Bids are not sufficient to allow a feasible solution. The scheduling parameters specify the criteria for the software to adjust Non-priced Quantities when such adjustment is necessary to reach a feasible solution. The scheduling parameters are configured so that the SCUC and SCED software will utilize Effective Economic Bids as far as possible to reach a feasible solution, and will skip Ineffective Economic Bids and perform adjustments to Non-priced Quantities pursuant to the scheduling priorities for Self-Schedules specified in Sections 31.4 and 34.12~~10~~. The scheduling parameters utilized for relaxation of enforced internal and Intertie Transmission Constraints are specified in Section 27.4.3.2.1 and 27.4.3.3.1. The pricing parameters specify the criteria for establishing market prices in instances where one or more Non-priced Quantities are adjusted by the Market Clearing software. The pricing parameters are specified in Sections 27.4.3.2.2, 27.4.3.2.3, 27.4.3.2.4, 27.4.3.3.2, 27.4.3.3.3, and 27.4.3.3.4. The complete set of scheduling and pricing parameters used in all CAISO Markets is maintained in the Business Practice Manuals.

27.4.3.2 Parameters Related to Soft Energy Bid Cap

For CAISO Market intervals for which the conditions specified in Section 27.4.3.3 do not apply, the CAISO will apply the parameters specified in Sections 27.4.3.2.1 through 27.4.3.2.4, 31.4, 34.12, ~~.~~ and the Ancillary Services Scarcity Prices in Section 27.1.2.3.5.

27.4.3.2.1 Scheduling Parameters for Transmission Constraint Relaxation

Scheduling parameters, or penalty prices, are used to determine when the SCUC and SCED software will relax an enforced Transmission Constraint rather than adjust Supply or Demand bids or Non-priced Quantities as specified in Sections 31.3.1.3, 31.4 and 34.12 to relieve Congestion on the constrained facility. In the IFM, the enforced internal and Intertie Transmission Constraint scheduling parameter is set to $5,000 per MWh. The corresponding scheduling parameter in RUC is set to $1,250 per MWh for internal Transmission Constraints and $3,200 for Intertie Transmission Constraints. In the RTM, this scheduling parameter is set to $1,500 per MWh for internal Transmission Constraints and $2,900 MWh for Intertie Transmission Constraints. The effect of this scheduling parameter is that if the optimization can re-dispatch resources to relieve Congestion on a Transmission Constraint at or below the applicable

price per MWh, the Market Clearing software will utilize such re-dispatch; but if the cost exceeds the applicable price per MWh, the market software will relax the Transmission Constraint.

27.4.3.2.2 Pricing Parameters for Transmission Constraint Relaxation

For the purpose of determining how the relaxation of a Transmission Constraint will affect the determination of prices in the IFM and RTM, the pricing parameter of the Transmission Constraint being relaxed is set to the Soft Energy Bid Cap. In the case of Contingency-related Transmission Constraints, the CAISO will determine the amount of relaxation required to clear the market using the most limiting condition among the applicable Contingencies and the base case. The CAISO will establish prices based on the parameter pricing specified in this Section as it applies to the most limiting Contingency and base case. The corresponding pricing parameter used in the RUC is set at the maximum RUC Availability Bid price specified in Section 39.6.1.2.

27.4.3.2.3 Insufficient Supply to Meet Self-Schedule Demand in IFM

In the IFM, when available supply is insufficient to meet all self-scheduled Demand, self-scheduled Demand is reduced to the point where the available supply is sufficient to clear the market. For price-setting purposes in such cases, the cleared self-scheduled Demand is deemed to be willing to pay the Soft Energy Bid Cap price.

27.4.3.2.4 Insufficient Supply to Meet CAISO Forecast of CAISO Demand in the RTM

In the RTM, in the event that Energy offers are insufficient to meet the CAISO Forecast of CAISO Demand, the SCUC and SCED software will relax the system energy-balance constraint. In such cases the software utilizes a pricing parameter set to the Soft Energy Bid Cap for price-setting purposes.

27.4.3.3 Parameters Related to Hard Energy Bid Cap

(a) **Integrated Forward Market and Real-Time Market.** The scheduling and pricing parameters in Sections 27.4.3.3.1 through 27.4.3.3.4, 31.4, and 34.12 will apply for all Trading Hours of the IFM and Real-Time Market for the same Trading Day if the CAISO has accepted a Bid with an Energy Bid price that exceeds the Soft Energy Bid Cap pursuant to Section 30.7.12, or the Maximum Import Bid Price exceeds the Soft Energy Bid Cap for any Trading Hour of the IFM.

(b) **Real-Time Market Only.** If the CAISO has not accepted a Bid with an Energy Bid price

that exceeds the Soft Energy Bid Cap pursuant to Section 30.7.12, or the Maximum Import Bid Price does not exceed the Soft Energy Bid Cap for any Trading Hour of the IFM for the same Trading Day, the parameters in Sections 27.4.3.3.1 through 27.4.3.3.4, 31.4, and 34.12 will apply

(i) in any Trading Hour of the Real-Time Market for which the CAISO has accepted a Bid with an Energy Bid price that exceeds the Soft Energy Bid Cap pursuant to Section 30.7.12, or the Maximum Import Bid Price exceeds the Soft Energy Bid Cap; and

(ii) for all intervals of the applicable Real-Time Market run for which these conditions apply in at least one interval of the applicable market run.

27.4.3.3.1 Scheduling Parameters for Transmission Constraint Relaxation

Scheduling parameters or penalty prices, are used to determine when the SCUC and SCED software will relax an enforced Transmission Constraint rather than adjust Supply or Demand bids or Non-priced Quantities as specified in Sections 31.3.1.3, 31.4 and 34.12 to relieve Congestion on the constrained facility. In the IFM, the enforced internal and Intertie Transmission Constraint scheduling parameter is set to $10,000 per MWh. The corresponding scheduling parameter in RUC is set to $1,250 for internal Transmission Constraints and $3,200 for Intertie Transmission Constraints. In the RTM, this scheduling parameter is set to $3,000 per MWh for internal Transmission Constraints and $5,800 for Intertie Transmission Constraints. The effect of this scheduling parameter is that if the optimization can re-dispatch resources to relieve Congestion on a Transmission Constraint at or below the applicable price per MWh, the Market Clearing software will utilize such re-dispatch; but if the cost exceeds the applicable price per MWh, the market software will relax the Transmission Constraint.

27.4.3.3.2 Pricing Parameters for Transmission Constraint Relaxation

In the case of Contingency-related Transmission Constraints, the CAISO will determine the amount of relaxation required to clear the market using the most limiting condition among the applicable Contingencies and the base case. The CAISO will establish prices based on the parameter pricing specified in this Section as it applies to the most limiting Contingency and base case. The corresponding pricing parameter used in the RUC is set at the maximum RUC Availability Bid price specified in Section

39.6.1.2.

27.4.3.3.3 Insufficient Supply to Meet Self-Schedule Demand in IFM

In the IFM, when available supply is insufficient to meet all self-scheduled Demand, self-scheduled Demand is reduced to the point where the available supply is sufficient to clear the market. For price-setting purposes in such cases, the cleared self-scheduled Demand is deemed to be willing to pay the Hard Energy Bid Cap price.

27.4.3.3.4 Insufficient Supply to Meet CAISO Forecast of CAISO Demand in the RTM

In the RTM, in the event that Energy offers are insufficient to meet the CAISO Forecast of CAISO Demand, the SCUC and SCED software will relax the system energy-balance constraint. In such cases, for price-setting purposes the software utilizes a pricing parameter set to

(a) the highest-priced cleared Economic Bid if the infeasibility detected in the scheduling run does not exceed the Constraint Relaxation Threshold, but no less than the Soft Energy Bid Cap price; or

(b) the Hard Energy Bid Cap price if the infeasibility detected in the scheduling run exceeds the Constraint Relaxation Threshold.

27.4.3.4 Protection of TOR, ETC and Converted Rights Self-Schedules in the IFM

In accordance with the submitted and accepted TRTC Instructions, valid Day-Ahead TOR Self-Schedules, Day-Ahead ETC Self-Schedules and Day-Ahead Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. The scheduling parameters associated with the TOR, ETC, or Converted Rights Self-Schedules will be set to values higher than the scheduling parameter associated with relaxation of an enforced internal and Intertie Transmission Constraint as specified in Section 27.4.3.2, so that when there is a congested Transmission Constraint that would otherwise subject a Supply or Demand resource submitted in a valid and balanced ETC, TOR or Converted Rights Self-Schedule to adjustment in the IFM, the IFM software will relax the Transmission Constraint rather than curtail the TOR or ETC Self-Schedule. This priority will be adhered to by the operation of the IFM Market Clearing software, and if necessary, by adjustment of Schedules after the IFM has been executed and the results have been reviewed by the CAISO operators.

27.4.3.5 Effectiveness Threshold

The CAISO Markets software includes a lower effectiveness threshold setting that governs whether the

software will consider a bid "effective" for managing congestion on a congested Transmission Constraint, which in the case of Nomograms will be applied to the individual flowgates that make up the Nomogram, rather than to the Nomogram itself. The CAISO sets this threshold at two-tenth of a percent (.2%) for Trading Hubs and Default LAPs. The CAISO sets the threshold at two percent (2%) for all other Nodes. For the purpose of applying these thresholds in procuring Imbalance Reserves Awards under Section 31.3.1.6.3, the CAISO considers the product of the shift factor and the Deployment Factor.

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27.13 Aggregate Capability Constraint

At the request of the Interconnection Customer or Pseudo-Tie Generating Facility, the CAISO may enforce an Aggregate Capability Constraint for Generating Facilities with Co-located Resources that reflects a Generating Facility's maximum and minimum capability or a portion of that capability for purposes of Day-Ahead Market Awards, Real-Time Market Awards, and Real-Time Dispatch as described in the CAISO's Business Practice Manuals. If the combined PMax of Co-located Resources associated with a single Generating Facility would exceed the Interconnection Service Capacity of that Generating Facility, the Interconnection Customer may request that the CAISO enforce an Aggregate Capability Constraint or multiple Aggregate Capability Constraints at the Generating Facility as described in the CAISO's Business Practice Manuals. If the Interconnection Customer requests that the CAISO enforce multiple Aggregate Capability Constraints, the CAISO will enforce an Aggregate Capability Constraint at the Generating Facility level and subordinate Aggregate Capability Constraints at the level of Resource IDs.

If the Interconnection Customer does not elect an Aggregate Capability Constraint(s), the combined PMax of the Co-located Resources registered in the Master File for that Generating Facility may not exceed the Generating Facility's Interconnection Service Capacity. EIM Participating Resource Scheduling Coordinators also may request that the CAISO enforce an Aggregate Capability Constraint or multiple Aggregate Capability Constraints for Co-located Resources, subject to the prior written approval of the applicable EIM Entity Balancing Authority that enforcing an Aggregate Capability Constraint(s) for

Co-located Resources does not create a threat to safety or reliability.

As described in the CAISO's Business Practice Manuals the CAISO may relax enforcement of subordinate Aggregate Capability Constraints in its Real-Time Market prior to relaxing enforcement of the system energy-balance constraint specified in Sections 27.4.3.3.4 to ensure there is sufficient Supply to meet the CAISO Forecast of CAISO Demand.

Notwithstanding Section 34.13, a Generating Facility whose Co-located Resources, including Variable Energy Resources, do not comply with Dispatch Instructions such that their output exceeds the Interconnection Service Capacity of the Generating Facility, will be ineligible for the Aggregate Capability Constraint. In such cases, the CAISO will adjust the PMaxes of those Co-located Resources proportionate to each Generating Unit's capacity such that the sum of the PMax values equals the Interconnection Service Capacity of the Generating Facility, or as requested by the Interconnection Customer so long as the total value does not exceed the Interconnection Service Capacity of the Generating Facility.

Similar to other Generating Facilities with multiple Resource IDs, the CAISO will have no liability with respect to Co-located Resources or their Scheduling Coordinators if Co-located Resources do not comply with Dispatch Instructions and infringe on Interconnection Service Capability used by other Co-located Resources at a Generating Facility.

In the event that Co-located Resources in an EIM Entity Balancing Authority area do not comply with Dispatch Instructions such that their output exceeds the interconnection service capacity for the Co-located Resources, the CAISO will ask the applicable EIM Entity Balancing Authority whether it will revoke its prior approval of enforcing the Aggregate Capability Constraint for such Co-located Resources.

The following resources are not eligible to use the Aggregate Capability Constraint: Multi-Stage Generators, Proxy Demand Response, Pumped Storage Hydro Units, Metered Subsystems, and Use-Limited Resources.

The Pricing Node for the Generating Units, EDAM Resources or EIM ~~Participating~~ Resources subject to an Aggregate Capability Constraint will be their Point of Interconnection.

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Section 29

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29.4 Roles and Responsibilities

(a) **CAISO Balancing Authority Obligations.**

(1) **Reliability Responsibilities.** Nothing in Section 29 shall alter the CAISO's responsibilities under the other sections of the CAISO Tariff, under any agreement not required by Section 29, or under NERC Reliability Standards or any other Applicable Reliability Criteria as the Balancing Authority for the CAISO Balancing Authority Area and the transmission operator for the CAISO Controlled Grid.

(2) **Operating Responsibilities.** During any interruption of the normal operation of the Real-Time Market, the CAISO as Balancing Authority shall remain responsible for managing the resources in its Balancing Authority Area and the flows on transmission lines internal to the CAISO Balancing Authority Area, including imports and exports, for the duration of the interruption.

(b) **EIM Entity.**

(1) **Balancing Authority Obligations.**

(A) **EIM Entity as Balancing Authority.** An EIM Entity must be a Balancing Authority registered and certified as such under the applicable authorities.

(B) **Reliability Responsibilities.** Nothing in Section 29 shall alter an EIM Entity's responsibilities under NERC Reliability Standards as the Balancing Authority for the EIM Entity Balancing Authority Area and, to the extent applicable, as the transmission operator for transmission facilities within its Balancing Authority Area.

(C) **Operating Responsibilities.** During any interruption of the normal operation of the Real-Time Market, the EIM Entity as Balancing Authority shall remain responsible in accordance with Section 29.7 for managing the resources in its Balancing Authority Area and the flows on internal transmission lines, including imports into and exports out of its Balancing Authority Area, for the duration of the interruption.

(D) **Inadvertent Energy.** An EIM Entity remains responsible for tracking inadvertent Energy and administering the payback of inadvertent Energy for its Balancing Authority Area through processes established by WECC.

(2) **EIM Entity Agreement.** An EIM Entity must execute an EIM Entity Agreement no later than ninety (90) days before the EIM Entity Implementation Date.

(3) **EIM Entity Obligations.** An EIM Entity shall –

(A) perform the obligations of an EIM Entity in accordance with the EIM Entity Agreement, Section 29, and other provisions of the CAISO Tariff that ~~by their terms~~ apply to EIM Entities, subject to the limitations specified in Section 29.1(b)(2)(C);

(B) ensure that each EIM Transmission Service Provider in its Balancing Authority Area has provisions in effect in the EIM Transmission Service Provider's transmission tariff, as necessary or applicable, to enable operation of the Real-Time Market in its Balancing Authority Area;

(C) qualify as or secure representation by no more than one EIM Entity Scheduling Coordinator;

(D) review and validate information about available transmission capacity submitted to it by an EIM Transmission Service Provider and transmit such validated information to its EIM Entity Scheduling Coordinator;

(E) provide the CAISO and its EIM Entity Scheduling Coordinator with information regarding the transmission capacity available to the Real-

Time Market, including any information regarding Transmission Constraints of which it is aware;

(F) define Load Aggregation Points in its Balancing Authority Area;

(G) determine and inform the CAISO which resource types are eligible to participate in the Real-Time Market as resources and which transmission service providers or holders of transmission rights are EIM Transmission Service Providers; and

(H) inform the CAISO whether or not the EIM Entity intends to utilize the CAISO's Demand Forecast consistent with Section 29.34(d).

(4) **EIM Entity Termination of EIM Participation.**

(A) **EIM Entity Agreement.** An EIM Entity that wishes to terminate participation in the Real-Time Market must terminate the EIM Entity Agreement pursuant to its terms.

(B) **Notice.** Delivery to the CAISO of a written notice of termination pursuant to the terms of the EIM Entity Agreement shall represent the commitment by the EIM Entity to undertake all necessary preparations to disable the Real-Time Market within the EIM Entity Balancing Authority Area.

(C) **Actions Following Notice.** Upon receipt of such notice, the CAISO shall undertake all necessary preparations to disable the Real-Time Market within the EIM Entity Balancing Authority Area, as outlined in the Business Practice Manual for the Energy Imbalance Market, including issuance of a Market Notice within five Business Days after receipt of such notice and termination of any EIM Sub-Entities within the EIM Entity Balancing Authority Area.

(5) **EIM Entity Corrective Actions.** If the EIM Entity takes corrective action, subject to the provisions of an open access transmission tariff, to address an issue with EIM implementation or EIM operation, or the EIM Entity issues a notice of

termination –

(A) the EIM Entity shall take those actions provided in Section 29.1(d)(4) during the implementation of its corrective action; and

(B) the CAISO shall issue a Market Notice in accordance with Section 29.1(d)(1) and take those actions provided in Section 29.1(d)(5) during the implementation of the EIM Entity corrective action.

(c) **EIM Entity Scheduling Coordinator.**

(1) **Certification.** An EIM Entity Scheduling Coordinator must meet or have met the certification requirements in Section 4.5.1 for a Scheduling Coordinator.

(2) **EIM Entity Scheduling Coordinator Agreement.** An EIM Entity Scheduling Coordinator must enter an EIM Entity Scheduling Coordinator Agreement with the CAISO, which shall satisfy the obligation to enter a Scheduling Coordinator Agreement under Section 4.5.1 with regard to its representation of the EIM Entity.

(3) **Representation.** An EIM Entity Scheduling Coordinator-

(A) may represent a Market Participant other than an EIM Entity, but only if it enters a Scheduling Coordinator Agreement under Section 4.5.1 with regard to such Market Participant;

(B) may not also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for a Participating Generator, Participating Load, or Demand Resource Provider, unless the EIM Entity Scheduling Coordinator is a transmission provider subject to the standards of conduct set forth in 18 C.F.R. § 358; and

(C) may represent more than one EIM Entity if it has certified to the CAISO in the manner described in the Business Practice Manual for the Energy Imbalance Market that it has informed each EIM Entity of the multiple representation.

(4) **Obligations.** An EIM Entity Scheduling Coordinator shall-

(A) perform the obligations of an EIM Entity Scheduling Coordinator under the EIM Entity Scheduling Coordinator Agreement and Section 29;

(B) perform the obligations of a Scheduling Coordinator under provisions of the CAISO Tariff described in Section 29.1(b);

(C) register in the manner set forth in the Business Practice Manual for the Energy Imbalance Market all non-participating resources in the Balancing Authority Area of each EIM Entity that it represents and update such information in a timely manner;

(D) verify in the manner set forth in the Business Practice Manual for the Energy Imbalance Market that all EIM Resources within the Balancing Authority Area of each EIM Entity represented by the EIM Entity Scheduling Coordinator have been registered with the CAISO;

(E) submit the Interchange schedules for the EIM Entity and any EIM Sub-Entity within its Balancing Authority Area with other Balancing Authorities at the defined Interchange scheduling locations, including creating and processing E-Tags in accordance with NERC, North American Energy Standards Board, and WECC standards and business practices for bilateral schedules between Balancing Authority Areas that are arranged no less than 20 minutes in advance of the Dispatch Interval of the Real-Time Market in which the Interchange will occur and that are included in an EIM Resource Plan;

(F) match E-Tags and manage schedule curtailments at the defined Interchange scheduling locations with other Balancing Authorities;

(G) provide EIM Transmission Service Information in accordance with Section 29.17;

(H) settle all financial obligations arising out of the Real-Time Market for the EIM Entity, including financial settlement with non-participating resources

and non-participating load within the EIM Entity Balancing Authority Area;

(I) submit EIM Base Schedules, EIM Resource Plans and other required information on behalf of the EIM Entity;

(J) register with the CAISO, consistent with the provisions in the Business Practice Manual for the Energy Imbalance Market, all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in its EIM Resource Plan; and

(K) create with the CAISO a Default Energy Bid consistent with the rules specified in Section 39.7.1 for all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in the EIM Resource Plan.

(5) **Governmental Entities.** Notwithstanding Section 29.4(c)(3)(B), a governmental entity that is an EIM Entity Scheduling Coordinator may also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for resources participating in the CAISO Markets if it agrees to comply with standards of conduct equivalent to those set forth in 18 C.F.R. § 358.

(d) **EIM Participating Resources.**

(1) **Eligibility.** The owner or operator of an EIM Resource is eligible to become an EIM Participating Resource if the EIM Resource –

(A) meets the eligibility requirements established by the EIM Entity in whose Balancing Authority Area the resource is located or scheduled or to which it may be dynamically transferred; and

(B) is capable of delivering Energy, Curtailable Demand, Demand Response Services, or similar services within the time specified by Section 29 for the Real-Time Market in which its EIM Participating Resource Scheduling Coordinator will submit Bids.

(2) **EIM Participating Resource Agreement.** An EIM Participating Resource must execute an EIM Participating Resource Agreement.

(3) **Obligations.** An EIM Participating Resource shall –

(A) perform the obligations of an EIM Participating Resource under the EIM Participating Resource Agreement and Section 29;

(B) perform the obligations applicable to Market Participants and resources under the provisions of the CAISO Tariff described in Section 29.1(b);

(C) if it represents a Generating Unit, Load of a Participating Load, Proxy Demand Resource, or other qualified resource, perform the obligations required for the resource under the provisions of the CAISO Tariff described in section 29.1(b); and

(D) comply with all CAISO Tariff requirements associated with resource registration and the measurement and verification of the associated services to be provided for EIM Resources other than Generating Units or CAISO qualified resources delivering Energy.

(e) **EIM Participating Resource Scheduling Coordinator.**

(1) **Certification.** An EIM Participating Resource Scheduling Coordinator must be either an existing Scheduling Coordinator or must meet or have met the certification requirements in Section 4.5.1 for a Scheduling Coordinator.

(2) **EIM Participating Resource Scheduling Coordinator Agreement.** An EIM Participating Resource Scheduling Coordinator must enter an EIM Participating Resource Scheduling Coordinator Agreement with the CAISO, which shall satisfy the obligation to enter a Scheduling Coordinator Agreement under Section 4.5.1 with regard to its representation of the EIM Participating Resource.

(3) **Representation.** An EIM Participating Resource Scheduling Coordinator-

(A) may represent a Market Participant other than an EIM Participating Resource, but only if it enters a Scheduling Coordinator Agreement under Section 4.5.1 with regard to such Market Participant;

(B) may not also be an EIM Entity Scheduling Coordinator unless the EIM Participating Resource Scheduling Coordinator is a transmission provider subject to the standards of conduct set forth in 18 C.F.R. § 358; and

(C) may represent more than one EIM Participating Resource.

(4) **Obligations.** An EIM Participating Resource Scheduling Coordinator must –

(A) perform the obligations of an EIM Participating Resource Scheduling Coordinator under the EIM Participating Resource Scheduling Coordinator Agreement and Section 29;

(B) perform the obligations of a Scheduling Coordinator under the provisions of the CAISO Tariff described in Section 29.1(b);

(C) ensure that the entity it represents has obtained any transmission service necessary to participate in the Energy Imbalance Market under the terms of the CAISO Tariff or the tariff of another transmission service provider, as applicable;

(D) register in the manner set forth in the Business Practice Manual for the Energy Imbalance Market all EIM Participating Resources that it represents, provide such information to the EIM Entity Scheduling Coordinator, and update such information with the CAISO in a timely manner.

(5) **Governmental Entities.** Notwithstanding Section 29.4(e)(3)(B), a governmental entity that is an EIM Participating Resource Scheduling Coordinator may also be an EIM Entity Scheduling Coordinator if it agrees to comply with standards of conduct equivalent to those set forth in 18 C.F.R. § 358.

(f) **EIM Sub-Entity.**

(1) **EIM Sub-Entity Agreement.** A prospective EIM Sub-Entity must execute an EIM Sub-Entity Agreement no later than ninety (90) days before its EIM Sub-Entity Implementation Date.

(2) **EIM Sub-Entity Obligations.** An EIM Sub-Entity shall –

(A) perform the obligations of an EIM Sub-Entity in accordance with the EIM Sub-Entity Agreement, Section 29, and other provisions of the CAISO Tariff that apply to EIM Sub-Entities, subject to the limitations specified in Section 29.1(b)(2)(C);

(B) verify that tariff or contractual arrangements with the EIM Entity for the Balancing Authority Area in which it is located, as necessary or applicable, are in place to enable operation of the Real-Time Market in its sub-area;

(C) qualify as or secure representation by no more than one EIM Sub-Entity Scheduling Coordinator;

(D) define the Load Aggregation Point for the EIM Sub-Entity; and

(E) unless prohibited from using its own Demand Forecast by the EIM Entity for its Balancing Authority Area, inform the CAISO whether or not the EIM Sub-Entity intends to use the CAISO's Demand Forecast consistent with Section 29.34(d) and, as applicable, provide the EIM Entity with its Demand Forecast.

(3) **EIM Sub-Entity Termination of Participation.**

(A) **EIM Sub-Entity Agreement.** An EIM Sub-Entity that wishes to terminate participation in the Real-Time Market as an EIM Sub-Entity must terminate the EIM Sub-Entity Agreement pursuant to its terms.

(B) **Notice.** Delivery to the CAISO of a written notice of termination pursuant to the terms of the EIM Sub-Entity Agreement shall represent the commitment by the EIM Sub-Entity to undertake all necessary preparations to disable the EIM Sub-Entity within the EIM Entity Balancing Authority Area.

(C) **Actions Following Notice.** Upon receipt of such notice, the CAISO shall undertake all necessary preparations to disable the EIM Sub-Entity

within the EIM Entity Balancing Authority Area and transition responsibility to the EIM Entity, as outlined in the Business Practice Manual for the Energy Imbalance Market.

(g) **EIM Sub-Entity Scheduling Coordinator.**

(1) **Certification.** An EIM Sub-Entity Scheduling Coordinator must meet or have met the certification requirements in Section 4.5.1 for a Scheduling Coordinator.

(2) **EIM Sub-Entity Scheduling Coordinator Agreement.** An EIM Sub-Entity Scheduling Coordinator must enter an EIM Sub-Entity Scheduling Coordinator Agreement with the CAISO, which shall satisfy the obligation to enter a Scheduling Coordinator Agreement under Section 4.5.1 with regard to its representation of the EIM Sub-Entity.

(3) **Representation.** An EIM Sub-Entity Scheduling Coordinator-

(A) may represent a Market Participant other than an EIM Sub-Entity, but only if it enters a Scheduling Coordinator Agreement under Section 4.5.1 with regard to such Market Participant;

(B) may not also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for a Participating Generator, Participating Load, or Demand Resource Provider, unless the EIM Sub-Entity Scheduling Coordinator is a transmission provider subject to the standards of conduct set forth in 18 C.F.R. § 358; and

(C) may represent more than one EIM Sub-Entity if it has certified to the CAISO in the manner described in the Business Practice Manual for the Energy Imbalance Market that it has informed each EIM Sub-Entity of the multiple representation.

(4) **Obligations.** An EIM Sub-Entity Scheduling Coordinator shall-

(A) perform the obligations of an EIM Sub-Entity Scheduling Coordinator under the EIM Sub-Entity Scheduling Coordinator Agreement and Section 29;

(B) perform the obligations of a Scheduling Coordinator under provisions of the CAISO Tariff described in Section 29.1(b);

(C) register in the manner set forth in the Business Practice Manual for the Energy Imbalance Market all EIM Sub-Entity non-participating resources that it represents in the EIM Entity Balancing Authority Area and update such information with the CAISO in a timely manner;

(D) verify in the manner set forth in the Business Practice Manual for the Energy Imbalance Market that all Sub-Entity EIM Resources within the EIM Entity Balancing Authority Area represented by the EIM Sub-Entity Scheduling Coordinator have been registered with the CAISO;

(E) update the Full Network Model according to Section 29.17(a) if authorized by the EIM Entity and notice to the EIM Entity is provided;

(F) submit transmission Outages in accordance with Section 29.9(b) if authorized by the EIM Entity;

(G) submit EIM Manual Dispatch instructions for EIM Resources and non-participating resources they represent if authorized by the EIM Entity;

(H) settle all financial obligations arising out of the Real-Time Market for the EIM Sub-Entity, including financial settlement with non-participating resources and non-participating load it represents within the EIM Entity Balancing Authority Area;

(I) submit EIM Base Schedules, EIM Resource Plans and other required information on behalf of the EIM Sub-Entity;

(J) ensure all EIM Resources and Demand within the EIM Sub-Entity area are metered in accordance with Section 29.10;

(K) register with the CAISO, consistent with the provisions in the Business Practice Manual for the Energy Imbalance Market, all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in its EIM Resource Plan; and

(L) create with the CAISO a Default Energy Bid consistent with the rules specified in Section 39.7.1 for all non-participating resources that the EIM Entity Scheduling Coordinator may designate as EIM Available Balancing Capacity in the EIM Resource Plan.

(5) **Governmental Entities.** Notwithstanding Section 29.4(g)(3)(B), a governmental entity that is an EIM Sub-Entity Scheduling Coordinator may also be an EIM Participating Resource Scheduling Coordinator or a Scheduling Coordinator for resources participating in the CAISO Markets if it agrees to comply with standards of conduct equivalent to those set forth in 18 C.F.R. § 358.

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29.11 Settlements and Billing for EIM Market Participants.

(a) **Applicability.** Section 29.11, rather than Section 11, shall apply to the CAISO Settlement with EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators, except as otherwise provided, but not to other Scheduling Coordinators. Settlement of the Real-Time Market with EDAM Entity Scheduling Coordinators, EDAM Resource Scheduling Coordinators, and EDAM Load Serving Entity Scheduling Coordinators is also governed by Section 33.11. Settlement under Section 33.11 results in outcomes not produced for EIM Market Participants that are not EDAM Market Participants, including Settlement of Demand within an EDAM Entity Balancing Authority Area, Settlement of Supply from EDAM Resources that would otherwise be settled as non-participating resources in an EIM Entity Balancing Authority Area, sequential netting of Bid Cost Recovery from the RUC to the RTM, and Settlement of transfer revenue associated with an EDAM Transfer limit established in accordance with Section 33.7 and Section 33.18.

(b) **Imbalance Energy.**

(1) **FMM Instructed Imbalance Energy.**

(A) **Calculation.**

(i) **EIM Participating Resources.** The CAISO will calculate an EIM Participating Resource's FMM Instructed Imbalance Energy in the same manner as it calculates FMM Instructed Imbalance Energy under Section 11.5.1.1, except that references to the Day-Ahead Schedule in the relevant Appendix A definitions shall be deemed references to the EIM Base Schedule, unless the EIM Participating Resource is also an EDAM Resource (in which case the Day-Ahead Schedule will be referenced), and that the CAISO will include any Energy from an EIM Manual Dispatch of the EIM Participating Resource in the FMM that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator prior to the start of the FMM.

(ii) **Non-Participating Resources.** The CAISO will calculate the FMM Instructed Imbalance Energy of non-participating resources in an EIM Entity Balancing Authority Area in the same manner as it calculates FMM Instructed Imbalance Energy under Section 11.5.1.1, except that references to the Day-Ahead Schedule in the relevant Appendix A definitions shall be deemed references to the EIM Base Schedule, and that the CAISO will include any Energy from an EIM Manual Dispatch or EIM Auto-Match of the EIM non-participating resource in the FMM that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator prior to the start of the FMM.

(B) **Settlement.** The CAISO will settle –

(i) the FMM Instructed Imbalance Energy with the EIM Participating Resource Scheduling Coordinator for EIM Participating Resources; and

(ii) with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for non-participating resources in an EIM Entity Balancing Authority Area.

(2) **RTD Instructed Imbalance Energy.**

(A) **Calculation.**

(i) **EIM Participating Resources.** The CAISO will calculate an EIM Participating Resource's RTD Instructed Imbalance Energy in the same manner in which it calculates RTD Instructed Imbalance Energy under Sections 11.5.1.2 and 11.5.5, except that the CAISO will include any Energy from an EIM Manual Dispatch of the EIM Participating Resource in the RTD that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator.

(ii) **Non-Participating Resources.** The CAISO will calculate the RTD Instructed Imbalance Energy of non-participating resources in an EIM Entity Balancing Authority Area in the same manner in which it calculates RTD Instructed Imbalance Energy under Section 11.5.1.2 and 11.5.5, except that the CAISO will include any Energy from an EIM Manual Dispatch or EIM Auto-Match of the EIM non-participating resource in the RTD that is identified by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator.

(B) **Settlement.** The CAISO will settle the RTD Instructed Imbalance Energy –

(i) with the EIM Participating Resource Scheduling Coordinator for EIM Participating Resources; and

(ii) with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for non-participating

resources in an EIM Entity Balancing Authority Area.

(3) **Uninstructed Imbalance Energy.**

(A) **EIM Participating Resources.**

(i) **Calculation.** For EIM Participating Resources and an EIM Entity Balancing Authority Area's dynamic import/export schedules with external resources, the CAISO will calculate Uninstructed Imbalance Energy in the same manner in which it calculates Uninstructed Imbalance Energy under Section 11.5.2.1.

(ii) **Settlement.** The CAISO will settle the Uninstructed Imbalance Energy with the EIM Participating Resource Scheduling Coordinator, the EIM Entity Scheduling Coordinator, or the EIM Sub-Entity Scheduling Coordinator, as applicable.

(B) **Non-Participating Resources.**

(i) **Calculation.** For non-participating resources in an EIM Entity Balancing Authority Area, the CAISO will calculate Uninstructed Imbalance Energy in accordance with Section 11.5.2, except that the CAISO will treat an EIM Base Schedule as a Day-Ahead Schedule and the CAISO will treat an EIM Manual Dispatch and an EIM Auto-Match as a Dispatch Instruction.

(ii) **Settlement.** The CAISO will settle the Uninstructed Imbalance Energy for non-participating resources in an EIM Entity Balancing Authority Area at the applicable RTD Locational Marginal Price in accordance with Section 11.5.2.1 with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and will treat EIM Entity Balancing Authority Demand in the same manner as the CAISO treats CAISO Demand under that Section.

(C) **Non-Participating Load.**

(i) **Calculation.** For non-participating Load in an EIM Entity Balancing Authority Area, the CAISO will calculate Uninstructed Imbalance Energy in accordance with Section 11.5.2.2, except that the CAISO will determine deviations based on the EIM Base Load Schedule unless associated with an EDAM Balancing Authority Area (in which case the CAISO will reference the Day-Ahead Schedule).

(ii) **Settlement.** The CAISO will settle Uninstructed Imbalance Energy for non-participating Load in an EIM Entity Balancing Authority Area at the applicable Default LAP Hourly Real-Time Price in accordance with Section 11.5.2.2 with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and will treat EIM Entity Balancing Authority Demand in the same manner as the CAISO treats CAISO Demand under that Section.

(D) **EIM Base Schedules Below PMin.**

(i) **Calculation.** For deviations from an EIM Base Schedule below PMin submitted by an EIM Entity Scheduling Coordinator or an EIM Participating Resource Scheduling Coordinator, the CAISO will calculate Uninstructed Imbalance Energy in accordance with Section 11.5.2 as if the EIM Resource had received a Dispatch Instruction to PMin based upon the submission of an Energy Self-Schedule.

(ii) **Settlement.** The CAISO will settle Uninstructed Imbalance Energy for deviations from an EIM Base Schedule below PMin in an EIM Entity Balancing Authority Area at the applicable RTD Locational Marginal Price in accordance with Section 11.5.2.1 with the applicable EIM Entity Scheduling Coordinator or EIM

Participating Resource Scheduling Coordinator.

(c) **Unaccounted For Energy of EIM Entities.**

(1) **Calculation.** The CAISO will calculate Unaccounted For Energy for each EIM Entity Balancing Authority Area as the difference between metered Demand, and the sum of the metered Supply and the metered values at the interties, adjusted for losses.

(2) **Settlement.**

(A) **Unaccounted for Energy Settlement.** The CAISO will settle Unaccounted For Energy with the applicable EIM Entity Scheduling Coordinator at the applicable Hourly Real-Time LAP price.

(B) **Election Not to Settle Unaccounted for Energy.** Annually, an EIM Entity Scheduling Coordinator that submits metered Demand through Meter Data calculated without End-Use Meters may elect to not settle Unaccounted For Energy through the CAISO Markets, in which case –

(i) the CAISO will apply a zero-percent Transmission Losses factor when calculating the Initial EIM base load schedule per section 29.34(g); and

(ii) the EIM Entity Scheduling Coordinator will apply a zero-percent Transmission Losses factor when calculating their metered Demand.

(d) **Charges for Over- and Under-Scheduling of EIM Entities.**

(1) **Under-Scheduling Charges.**

(A) **Level 1 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area exceeds the EIM Base Schedule of Supply submitted by the EIM Entity by more than 5% but less than or equal to 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the

relevant Load Aggregation Point at a price that is 125% of the Hourly Real-Time LAP Price.

(B) **Level 2 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area exceeds the EIM Base Schedule of Supply submitted by the EIM Entity by more than 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 200% of the Hourly Real-Time LAP price.

(2) **Over-Scheduling Charges.**

(A) **Level 1 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area is less than the EIM Base Schedule of Supply submitted by the EIM Entity by more than 5% but less than or equal to 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 75% of the Hourly Real-Time LAP Price.

(B) **Level 2 Charge.** If, during any Trading Hour, the metered Demand within an EIM Entity Balancing Authority Area is less than the EIM Base Schedule of Supply submitted by the EIM Entity by more than 10% and by at least 2 MW, the CAISO shall settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant Load Aggregation Point at a price that is 50% of the Hourly Real-Time LAP Price.

(3) **Distribution of Revenues.**

(A) **Apportionment.** The CAISO will calculate the total daily excess revenues received from under-scheduling charges and over-scheduling

charges under Section 29.11(d)(1) and (2) and apportion them to Balancing Authority Areas in the EIM Area that were not subject to either under-scheduling or over-scheduling charges during the Trading Day according to metered Demand.

(B) **Allocation.** The CAISO will allocate –

(i) the amounts apportioned to EIM Entity Balancing Authority Areas pursuant to Section 29.11(d)(3)(A) to the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator; and

(ii) the amounts apportioned to the CAISO Balancing Authority Area pursuant to Section 29.11(d)(3)(A) to Scheduling Coordinators in the CAISO Balancing Authority Area according to metered Demand.

(4) **Exemption.** An EIM Entity will be exempt from under-scheduling and over-scheduling charges under Section 29.11(d)(1) and (2) if it uses the Demand Forecast prepared by the CAISO in its EIM Resource Plan and it approves EIM Base Schedules for its resources within +/- 1% of the CAISO Demand Forecast, as determined according to the Business Practice Manual for the Energy Imbalance Market. This exemption will not apply to an EIM Entity that permits any EIM Sub-Entity located within its Balancing Authority Area to submit its own Demand Forecast.

(e) **Neutrality Accounts.**

(1) **In General.** The CAISO will collect neutrality amounts from EIM Market Participants to recover differences in Real-Time Market payments made and Real-Time Market payments received.

(2) **Real-Time Congestion Offset.** The CAISO will assess EIM Entity Scheduling Coordinators Real-Time Congestion Offset allocation calculated pursuant to

Section 11.5.4.1.2~~1~~.

(3) **Real-Time Imbalance Energy Offset Allocation.** The CAISO will assess EIM Entity Scheduling Coordinators Real-Time Imbalance Energy Offset allocation calculated pursuant to Section 11.5.4.1.1.

(4) **Real-Time Marginal Cost of Losses Offset.** The CAISO will allocate the Real-Time Marginal Cost of Losses Offset to EIM Entity Scheduling Coordinators pursuant to Section 11.5.4.1.2~~2~~3.

(5) **Marginal Greenhouse Gas Cost Offset.** The CAISO will allocate the Marginal Greenhouse Gas Cost Offset to a GHG Regulation Area's metered Demand pursuant to Section 11.5.4.1.4.

(6) **EIM Transfer Revenue**. The CAISO will allocate EIM Transfer revenue to EIM Entity Scheduling Coordinators pursuant to Section 11.5.4.1.5.

(7~~5~~) **Other Neutrality Adjustments.** The CAISO will levy additional charges on or make additional payments to EIM Market Participants as adjustments in accordance with Section 11.14.

(f) **Real-Time Bid Cost Recovery.**

(1) **In General.** The CAISO will provide EIM Participating Resources RTM Bid Cost Recovery. The CAISO will net RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses in accordance with Section 11.8.5 for EIM Participating Resources that are also EDAM Resources.

(2) **Calculation of Real-Time Bid Cost Recovery.** The CAISO will calculate Real-Time Bid Cost Recovery in accordance with Section 11.8.4, except that the CAISO will treat a non-zero EIM Base Schedule of an EIM Participating Resource as an IFM Self-Schedule and the corresponding intervals as IFM self-commitment intervals.

(3) **RTM Energy Bid Cost for Storage Resources**

The CAISO will calculate Real-Time Market Energy Bid Cost for EIM Participating Resources that are storage resources and participate as Non-

Generator Resources in accordance with 11.8.4.1.5.1, except that the CAISO will treat references to Day-Ahead Energy Schedules as EIM Base Schedules. The CAISO will not consider Day-Ahead Market Locational Marginal Prices in the calculation of Real-Time Market Energy Bid Costs for EIM Participating Resources that are storage resources and participate as Non-Generator Resources.

(4) **Application of Real-Time Performance Metric.**

The CAISO will adjust the RTM Energy Bid Cost, the RTM Market Revenues, and RTM Minimum Load Costs determined pursuant to Section 29.11(f)(2) by multiplying the Real-Time Performance Metric with those amounts for the applicable Settlement Interval pursuant to the rules specified in Section 11.8.4.4 and its subsections, except that the CAISO will treat an EIM Base Schedule as a Day-Ahead Schedule.

(5) **Allocation of EIM Entity RTM Bid Cost Uplift.**

(A) **Calculation of Charge.** The Net RTM Bid Cost Uplift will be determined for each EIM Entity Balancing Authority Area in accordance with the methodology set forth in Section 11.8.6.

(B) **Settlement.** The CAISO will assess the Net RTM Bid Cost Uplift calculated for each EIM Entity Balancing Authority Area to the applicable EIM Entity Scheduling Coordinator in accordance with Section 11.8.6.6.(ii).

(g) **EIM Sub-Entity Implementation Cost.**

The CAISO will charge electric utilities that enter into an EIM Sub-Entity Implementation Agreement pursuant to Section 29.2(c) a fee to cover the actual costs the CAISO incurs to separate the EIM Sub-Entity from the EIM Entity Balancing Authority Area. The EIM Sub-Entity is responsible for actual costs incurred by the CAISO in conducting implementation activities.

(1) The EIM Sub-Entity will provide the CAISO a $260,000 deposit for the

implementation of the EIM Sub-Entity at the time of the request. The CAISO shall draw from the EIM Sub-Entity's deposit to cover actual costs incurred during implementation. Whenever the implementation costs exceed the deposit(s) received, the CAISO will invoice the EIM Sub-Entity for an additional deposit in $25,000 increments.

(2) Invoices shall be due no later than thirty (30) days after the date of receipt. Any invoice payment past due will accrue interest, per annum, calculated in accordance with 5 C.F.R. 1315.10.

(3) All eligible refunds will be processed following the CAISO's generally accepted accounting practices, including batch deposit refund disbursements. Any deadline for CAISO action will be tolled to the extent the EIM Sub-Entity has not provided the CAISO with the appropriate documents to facilitate the EIM Sub-Entity's refund.

(h) **EIM Initial Fee.** The CAISO will charge Balancing Authority Areas that enter into an EIM Implementation Agreement pursuant to Section 29.2(b) an initial fee to cover a share of the capital and operations and maintenance costs associated with setting up the Real-Time Market to accommodate the participation of the Balancing Authority as an EIM Entity. The fee will be established by the EIM Implementation Agreement entered into pursuant to Section 29.2(b)(1) as accepted by FERC.

(i) **EIM Administrative Charge.**

(1) **In General.** The CAISO will charge EIM Market Participants an EIM Administrative Charge consisting of the real-time portion of the Market Services Charge and the system operations charges described in Section~~s~~ 11.22.2.

(2) **Market Services Charge.** The Market Services Charge shall be the product of the Market Services Charge for each Scheduling Coordinator as calculated according to the formula in Appendix F, Schedule 1, Part A, the real-time market percentage as calculated in the cost-of-service study according to Appendix F, Schedule 1, Part A, and the sum of Gross FMM Instructed Imbalance Energy

(excluding FMM Manual Dispatch Energy) and Gross RTD Instructed Imbalance Energy (excluding RTD Manual Dispatch Energy Standard Ramping Deviation, Ramping Energy Deviation, Residual Imbalance Energy, and Operational Adjustments).

(3) **System Operations Charge.** In 2024 and 2025, the System Operations Charge will be the product of the System Operations Charge for each Scheduling Coordinator, as calculated according to the formula in Appendix F, Schedule 1, Part A, the real-time dispatch percentage as calculated in the cost-of-service study conducted according to Appendix F, Schedule 1, Part A, and the absolute difference between metered energy and the EIM Base Schedules.

(4) **System Operations Real-Time Dispatch Charge.** Beginning in 2026, the System Operations Real-Time Dispatch Charge will be the product of the System Operations Real-Time Dispatch Charge for each Scheduling Coordinator, as calculated according to the formula in Appendix F, Schedule 1, Part A, and the absolute difference between metered energy and the EIM Base Schedules.

(5) **Minimum EIM Administrative Charge.** The CAISO will calculate the minimum EIM Administrative Charge as the product of the sum of the real-time activities associated with Market Services Charge and the real-time activities associated with system operations, as well as –

(A) five percent of the total gross absolute value of Supply of all EIM Market Participants; plus

(B) five percent of the total gross absolute value of Demand of all EIM Market Participants.

(6) **Withdrawing EIM Entity.** If the EIM Entity notifies the CAISO of its intent to terminate participation in the Energy Imbalance Market and requests suspension of the Energy Imbalance Market in its Balancing Authority Area under Section 29.4(b)(4), the CAISO will charge the EIM Entity the minimum EIM Administrative Charge calculated under Section 29.11(i)(4) during the notice period.

(7) **Application of Revenues.** The CAISO will apply revenues received from the EIM Administrative Charge against the costs to be recovered through the Grid Management Charge as described in Appendix F, Schedule 1, Part A.

(8) **EDAM Administrative Charge.** An EIM Market Participant that is also an EDAM Market Participant will pay the EDAM Administrative Charge and will not pay the EIM Administrative Charge.

(j) **Variable Energy Resource and Hybrid Resource Forecast Charge.**

(1) **In General.** The CAISO will charge EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators a fee for the Variable Energy Resource or Hybrid Resource forecasting services in accordance with Appendix F, Schedule 4.

(2) **Waiver.** The CAISO will waive the Variable Energy Resource or Hybrid Resource forecast charge if an EIM Entity or EIM Sub-Entity has an independent forecast for its Variable Energy Resources or Hybrid Resource and provides the independent forecast to the CAISO.

(k) **Transmission Service.** The CAISO will charge EIM Market Participants for transmission service according to Section 29.26.

(l) **Settlement.** With regard to the CAISO's assessment and payment of charges to, and collection of charges from, EIM Market Participants pursuant to Sections 11 and 29.11, the CAISO shall assess, pay and collect such charges, address disputed invoices, assess, pay and collect Settlement-related fees and charges, including those under Sections 11.21, 11.28, and 11.29, and make any financial adjustments in accordance with the terms and schedule set forth in Section 11.

(m) **Charges Related to RTM Participation of Interties.** In the event that an EIM Entity enables participation in the Real-Time Market on EIM External Interties, the EIM Entity Scheduling Coordinator shall also be subject to any applicable charges under Sections 11.31 and 11.32.

(n) **EIM Transfers and Settlement for Contingency Reserve Obligations.** The CAISO

shall allocate Operating Reserve Obligations to EIM Entity Scheduling Coordinators for EIM Transfers as follows –

(1) EIM Entity Scheduling Coordinators will receive a credit equal to three (3) percent of the hourly MW EIM Transfer into the CAISO Balancing Authority Area multiplied by the hourly user rate for Spinning Reserves and Non-Spinning Reserves, as calculated per Section 11.10.3.3 and 11.10.4.3, respectively; and

(2) EIM Entity Scheduling Coordinators will receive a charge equal to three (3) percent of the hourly MW EIM Transfer out of the CAISO Balancing Authority Area multiplied by the hourly user rate for Spinning Reserves and Non-Spinning Reserves, as calculated per Section 11.10.3.3 and 11.10.4.3, respectively.

(o) **Application of Persistent Deviation Metric.**

The CAISO will modify the Bid Cost Recovery calculations described in Section 29.11(f) and Residual Imbalance Energy payments in Section 11.5.5 as described in Section 11.17, except that the CAISO will treat an EIM Base Schedule as a Day-Ahead Schedule.

(p) **Flexible Ramping Product.** The CAISO will allocate and settle payments and charges for the Flexible Ramping Product according to Section 11.25, where the CAISO will consider EIM Base Schedules of non-participating resources as Self-Schedules.

(q) **EIM Transfer System Resource Settlement Information.** The CAISO will provide EIM Entities with non-binding Settlement information associated with Energy transfer schedule changes from their respective base schedules between EIM Entity Balancing Authority Areas.

(r) **EIM Transfer System Resource Settlement.**

(1) **EIM Transfer System Resource Registration.** The CAISO will provide each EIM Entity with financially binding Settlement of Energy transfer schedule changes from its respective base schedules between EIM Entity Balancing Authority Areas, unless the EIM Entity Balancing Authority Areas are also EDAM Entity Balancing Authority Areas in which case transfer schedule changes will be referenced from the Day-Ahead Schedule for the EDAM Transfer, and will –

(A) establish for each EIM Entity that shares an EIM Internal Intertie a to/from EIM Transfer Ssystem Rresource pricing location in their respective EIM Entity Balancing Authority Area;

(B) associate with each to/from EIM Transfer Ssystem Rresource pricing location, a unique base EIM Transfer Ssystem Rresource that accounts for Energy transfer schedule changes between EIM Entity Balancing Authority Areas;

(C) require each EIM Entity Scheduling Coordinator to submit EIM Base Schedules and E-Tags that identifies Energy transfer schedule changes at the registered base EIM Transfer Ssystem Rresource; and

(D) reject EIM Base Schedule changes at the to/from EIM Transfer Ssystem Rresource pricing location not associated with the registered base EIM Transfer Ssystem Rresource.

(2) **Settlement for EIM Transfer System Resource Changes.** The CAISO will settle EIM Transfer Ssystem Rresource changes established pursuant to Section 29.11(r)(1) as –

(A) FMM Instructed Imbalance Energy or RTD Instructed Energy based on the Settlement Interval in which the E-Tag is received, without regard for other Energy types identified in Sections 11.5.1.1 or 11.5.2.2, or as an Operational Adjustment if the E-Tag is received after the end of the Operating Hour for purposes of Energy accounting in accordance with the applicable WECC business practices;

(B) based on the difference between the E-Tag and the EIM Transfer Ssystem Rresource base schedule;

(C) at the relevant FMM or RTD Locational Marginal Price at each unique EIM Transfer Ssystem Rresource pricing location associated with the base EIM Transfer Ssystem Rresource; and

(D) including any contribution that the base EIM Transfer Ssystem

Resource might have on the RTM Bid Cost Recovery pursuant to Section 29.11(f).

(s) **EIM Entity Access to EIM Sub-Entity Settlement Information.**

An EIM Entity shall have access to CAISO Settlement Statements and Invoices for all EIM Sub-Entities within the Balancing Authority Area for that EIM Entity.

(t) **Revenue and Surcharges for the Assistance Energy Transfer Product.**

The revenue from assistance Energy transfers paid by a participating Balancing Authority Area in the EIM Area that has elected to receive assistance Energy in accordance with Section 29.34(n)(3), *i.e.*, the EIM Assistance Energy Transfer Surcharge, will be calculated, allocated and distributed as follows—

(1) Assistance Energy Transfer Surcharge.

(A) Calculation. Other than amounts directly attributable to actions taken in coordination with the Reliability Coordinator, if a Balancing Authority Area in the EIM Area receives an assistance Energy transfer, then the EIM Assistance Energy Transfer Surcharge will apply to the lower of the quantities specified in Section 29.11(t)(1)(A)(i) or (ii):

(i) the higher of the quantity of the failure of the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m), or

(ii) the quantity of net EIM Transfers excluding base scheduled transfers as identified on all after-the-fact E-Tags associated with EIM Transfers into the participating Balancing Authority Area.

(a) If the EIM Assistance Energy Transfer Surcharge is applied to the assistance Energy transfers received by an EIM Entity pursuant to Section 29.11(t)(1)(A)(ii), then the quantity of

EIM Transfers subject to the EIM Assistance Energy Transfer Surcharge will be adjusted to reflect the EIM Upward Available Balancing Capacity as a credit.

(b) If the EIM Assistance Energy Transfer Surcharge is applied to the assistance Energy transfers received by the CAISO pursuant to Section 29.11(t)(1)(A)(ii), then the quantity of EIM Transfers subject to the EIM Assistance Energy Transfer Surcharge will be adjusted to reflect the sum of all Regulation Up (adjusted for Regulation non-compliance quantities) within the CAISO Balancing Authority Area as a credit.

(B) Allocation. The revenue collected through the EIM Assistance Energy Transfer Surcharge from participating Balancing Authority Areas in the EIM Area that fail the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) will be allocated, pro rata, to all other Balancing Authority Areas in the EIM Area with net EIM Transfers, excluding base scheduled transfers, in the export direction if such Balancing Authority Areas passed the upward capacity test in Section 29.34(l) and the upward flexibility test in Section 29.34(m). A Balancing Authority Area is eligible for a revenue allocation even if it has not elected to receive assistance Energy transfers.

(C) Distribution. The revenue collected through the EIM Assistance Energy Transfer Surcharge will be allocated to the net exporting Balancing Authority Areas in the EIM Area that pass the upward

capacity test in Section 29.34(l) and the upward flexibility test in Section 29.34(m) in accordance with Section 29.11(t)(2) will be distributed as follows:

(1) to the EIM Entity Scheduling Coordinators for sub-allocation according to its OATT, or

(2) to the CAISO for sub-allocation to Scheduling Coordinators that provide incremental Energy net of FMM Instructed Imbalance Energy, RTD Instructed Imbalance Energy, and Uninstructed Imbalance Energy excluding non-Participating Load.

(2) Assistance Energy Transfer Surcharges.

(A) Any assistance Energy transfer surcharges allocated to the net importing Balancing Authority Areas in the EIM Area that fail the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) will be allocated to the EIM Entity Scheduling Coordinator for sub-allocation according to its OATT. Any assistance Energy transfer charges allocated to the CAISO Balancing Authority Area will be sub-allocated based on Measured Demand, excluding Demand associated with ETC or TOR Self-Schedules for which a RTM Congestion Credit was provided as specified in Section 11.5.7, and excluding Demand associated with ETC, Converted Right, or TOR Self-Schedules for which an IFM Congestion Credit was provided as specified in Section 11.2.1.5; regardless of whether an MSS Operator has elected gross or net Settlement, Scheduling Coordinators for MSS Operators will receive their allocation based on the MSS Aggregation Net Non-ETC/TOR Measured Demand.

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29.34 EIM Operations

(a) **In General.** Section 34, as supplemented by provisions in Section 29.34, will govern the operation of the Real-Time Market within the EIM Area. Operation of the Real-Time Market within the EDAM Area is further supplemented by Section 33, which produces outcomes that satisfy or modify certain requirements otherwise applicable to EIM Market Participants, including a Day-Ahead Schedule instead of a submitted EIM Base Schedule and an initial EIM Base Load Schedule, pools of Balancing Authority Areas for purposes of the EIM Resource Sufficiency Evaluation, and Energy transfers between Balancing Authority Areas with equal scheduling priority to Demand.

(b) **Applicability.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators will submit EIM Base Schedules and other necessary information to the CAISO for use in the Real-Time Market pursuant to Section 29.34 and not pursuant to Section 34.

(c) **Submission Deadlines.** If an EIM Entity Scheduling Coordinator, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator fails to submit an EIM Base Schedule according to the timelines established in this Section 29.34, the CAISO will not accept the EIM Base Schedule or use it in the Real-Time Market.

(d) **Demand Forecast.**

(1) **In General.** In accordance with procedures set forth in the Business Practice Manual for the Energy Imbalance Market, the CAISO shall develop short-term and mid-term Demand Forecasts by Demand Forecast zone within each EIM Entity Balancing Authority Area, separately from the CAISO Balancing Authority Area, and, as needed for the EDAM Upward Pool or EDAM Downward Pool.

(2) **Short Term Forecast.** The CAISO's short-term Demand Forecast for an EIM Entity Balancing Authority Area shall produce a value every five minutes for the duration of the CAISO's Dispatch horizon, which has five-minute granularity and

extends several Dispatch Intervals.

(3) **Mid-Term Forecast.** The CAISO's mid-term Demand Forecast for an EIM Entity Balancing Authority Area shall produce hourly values for the next hour through the next 7 days.

(4) **EIM Entity Scheduling Coordinator Demand Forecast.**

(A) **In General.** An EIM Entity Scheduling Coordinator, and if permitted by the EIM Entity for its Balancing Authority Area, an EIM Sub-Entity Scheduling Coordinator, may opt to provide a non-binding EIM Entity Demand Forecast, net of behind-the-meter Generation that is not registered as an EIM Resource, as part of the hourly EIM Base Schedules.

(B) **Timing and Scope.** The EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator must provide any such Demand Forecasts by 10:00 a.m. for the next 7 days.

(C) **Updates.** The EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator must update any such Demand Forecast for each Operating Hour and the following 6 to 10 hours and submit the update to the CAISO no later than 75 minutes prior to the start of that Operating Hour, as part of its hourly EIM Base Schedule submission.

(D) **Effect on Bid Requirement.** If the EIM Entity Demand Forecast or EIM Sub-Entity Demand Forecast is less than the CAISO Demand Forecast, then the EIM Entity's or EIM Sub-Entity's EIM Resource Plan must include sufficient Bids to cover the difference in Demand Forecasts.

(5) **Posting.** Between 6:00 p.m. of the seventh day prior to the start of the Operating Day and 6:00 p.m. of the day prior to the Operating Day, the CAISO shall post and update hourly Demand Forecasts by Demand Forecast zone.

(e) **EIM Resource Plan.**

(1) **In General.** By 10:00 a.m. of the day preceding the Operating Day, the EIM

Entity Scheduling Coordinators and, if permitted by the EIM Entity, EIM Sub-Entity Scheduling Coordinators on behalf of non-participating resources and EIM Participating Resource Scheduling Coordinators on behalf of EIM Participating Resources, must submit all applicable components of the EIM Resource Plan as set forth in Section 29.34(e)(3).

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

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

(A) EIM Base Schedules of EIM Entities, EIM Sub-Entities as applicable, and EIM Participating Resources;

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

(C) EIM Upward Available Balancing Capacity;

(D) EIM Downward Available Balancing Capacity;

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

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

(4) **Contents of EIM Base Schedules.** EIM Base Schedules of EIM Entities and EIM Sub-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.

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

(f) **Real-Time EIM Base Schedules.**

(1) **In General.**

(A) **Initial Submission.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, EIM Participating Resource Scheduling Coordinators, and non-participating resources in the EIM Entity Balancing Authority Area that wish to submit real-time hourly EIM Base Schedules, or, with regard to non-participating resources, wish to submit EIM Base Schedule information pursuant to Section 29.34(f)(4), must submit such schedules or other information consistent with the requirements of the Business Practice Manual for the Energy Imbalance Market and at least 75 minutes before the start of the Operating Hour.

(B) **Interim Revisions.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, EIM Participating Resource Scheduling Coordinators, and non-participating resources in the EIM Entity Balancing Authority Area may revise hourly Real-Time EIM Base Schedules, or, with regard to non-participating resources, revise EIM Base Schedule information submitted pursuant to Section 29.34(f)(4), meeting the requirements of the Business Practice Manual for the Energy Imbalance Market at or before 55 minutes before the start of the Operating Hour.

(C) **Final Revision.** EIM Entity Scheduling Coordinators may further revise hourly Real-Time EIM Base Schedules, including EIM Base Schedules for EIM Sub-Entities and EIM Participating Resources, at or before 40 minutes before the start of the Operating Hour, provided that any financial or operational impact resulting from such EIM Base Schedule changes for an EIM Sub-Entity shall be resolved in accordance with the applicable tariff or contractual arrangements between the EIM Entity and the EIM Sub-Entity.

(2) **EIM Base Schedule for EIM Participating Resources.** The EIM Base

Schedule for each EIM Participating Resource must be within the Economic Bid range of the submitted Energy Bids for each Operating Hour for EIM Resources, which the CAISO will make available to the EIM Entity without price information, provided that an EIM Participating Resource Scheduling Coordinator may also include Energy below PMin in an EIM Base Schedule.

(3) **EIM Base Schedule for Imports and Exports.** EIM Base Schedules must-

(A) disaggregate Day-Ahead import/export schedules between the EIM Entity Balancing Authority Area and the CAISO Balancing Authority Area;

(B) identify the relevant EIM Interties for imports and exports to an EIM Entity Balancing Authority Area from Balancing Authority Areas other than the CAISO Balancing Authority Area; and

(C) include approved, pending, and adjusted E-Tags for imports and exports.

(4) **EIM Base Schedule Aggregation.** In response to a request by an EIM Entity Scheduling Coordinator or an EIM Sub-Entity Scheduling Coordinator, the CAISO will establish an electronic interface by which non-participating resources, Loads, and other customers of the EIM Entity or EIM Sub-Entity may submit EIM Base Schedule information to the EIM Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and to the CAISO.

(g) **Initial EIM Base Load Schedule.** The CAISO will derive an initial EIM Base Load Schedule for each EIM Entity and EIM Sub-Entity from the Demand Forecast used for the EIM Entity Balancing Authority Area and EIM Sub-Entity area, estimated Transmission Losses, and an assumed Load distribution, pursuant to the methodology set forth in the Business Practice Manual for the Energy Imbalance Market.

(h) **Energy Bids.** EIM Participating Resource Scheduling Coordinators may submit Energy Bids in accordance with the timelines, processes, and requirements applicable to other resources submitting Energy Bids under Section 34.

(i) **Interchange Schedules with Other Balancing Authorities.**

(1) **In General.** EIM Entity Scheduling Coordinators must submit Interchange

Schedules with other Balancing Authority Areas at the relevant EIM Interties and must update these Interchange Schedules with any adjustments, when applicable, as part of the hourly EIM Resource Plan revision.

(2) **Economic Bidding of EIM Intertie Transactions.** An EIM Participating Resource Scheduling Coordinator may bid a transaction at an EIM External Intertie into the FMM if the EIM Entity supports economic bidding of EIM External Intertie transactions and the relevant transmission service providers or path operators support 15-minute scheduling at the EIM External Intertie under FERC Order No. 764.

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

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

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

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

(k) **EIM Resource Sufficiency Evaluation – Balancing Test.**

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

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

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

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

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

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

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

(1) **Requirement.**

The Supply, as applicable and as detailed in Business Practice Manuals, included in—

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

(B) the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules must meet the Demand

Forecast for the CAISO Balancing Authority Area.

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

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

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

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

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

(iv) a Non-Generator Resource or storage device maximum and minimum output in the hour under evaluation based upon its State of Charge as monitored by the CAISO in the last fifteen minute interval before the hour under evaluation, and its Bids to

charge or discharge Energy in the hour under evaluation, in both the capacity test and the flexibility test performed in accordance with Section 29.34(m).

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

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

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

(iii) an Import Bid or Export Bid for delivery to or export from the CAISO Balancing Authority Area lacking a transmission profile in a submitted E-Tag supporting its Interchange Schedule at the time the final binding capacity test and flexibility test for the CAISO Balancing Authority Area are performed in accordance with Section 29.34(m).

(C) Supply from a resource counted in accordance with Section 29.34(l)(2)(A)(i) may be adjusted by the CAISO in accordance with the timelines and procedures provided in the Business Practice Manual for the Energy Imbalance Market to address significant overcounting of Supply available to the Real-Time Market, provided that the overcounting has been identified, supported with analysis and documented by the CAISO.

(D) Demand response under a demand response program administered in an EIM Entity Balancing Authority Area that does not otherwise qualify as an EIM Resource, *i.e.*, count as Supply, may be accounted for through a

corresponding EIM Entity adjustment to their Demand Forecast, which will then be referenced in the capacity test performed in accordance with this Section 29.34(l), the flexibility test performed in accordance with Section 29.34(m), and the balancing test performed in accordance with Section 29.34(k), provided the EIM Entity submits an attestation to the CAISO in accordance with the procedures and timelines in the Business Practice Manual for the Energy Imbalance Market that certifies adjustments made to its Demand Forecast will correspond to expected increases or reductions in demand provided by the demand response.

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

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

(B) the sum of Supply and the sum of the incremental or decremental offers in the Energy Bid range above or below the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules is not sufficient to meet the total Demand Forecast for the CAISO Balancing Authority Area, provided that the benefit of the exclusion of the export schedules which may be curtailed in accordance with Section 34.12.4(a) or 34.12.4(b) will be reflected in the upward capacity test results for the CAISO Balancing Authority Area.

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

(1) **Review.**

(A) **Individual EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan for an EIM Entity Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv), 29.34(l)(2)(B)(iv) and 29.34(l)(2)(D), to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (7~~5~~).

(B) **CAISO Balancing Authority Area.** The CAISO will review the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules in the CAISO Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv) and 29.34(l)(2)(B)(iv), to meet the CAISO Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (7~~5~~), provided that the benefit of the exclusion of export schedules which may be curtailed in accordance with Section 34.12.4(a) or 34.12.4(b) will be reflected in the results of the upward flexibility test for the CAISO Balancing Authority Area.

(C) **EIM Resource Sufficiency Evaluation for the Balancing Authority Areas in the EDAM Area**. Consistent with Section 33.31.1.4, the CAISO will evaluate resource sufficiency of the Balancing Authority Areas in the EDAM Area solely pursuant to this Section 29.34(m). The CAISO

will consider all Day-Ahead Market awards for Energy, Imbalance Reserves, and Reliability Capacity as supply prior to testing an individual Balancing Authority Area in the EDAM Area for EIM resource sufficiency. The CAISO will evaluate the EDAM Upward Pool to verify that it has sufficient Bids and Ramping capability to meet the Upward Uncertainty Requirement for the EDAM Upward Pool within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2)-(5). The CAISO will evaluate the EDAM Downward Pool to verify that it has sufficient Bids and Ramping capability to meet the Downward Uncertainty Requirement for the EDAM Downward Pool within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2)-(5). A Balancing Authority in the EDAM Area not included in the EDAM Upward Pool or EDAM Downward Pool will be evaluated in the same manner as an individual EIM Balancing Authority Area.

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

(2) **Determination of ~~EIM~~ Diversity Benefits.** The CAISO will calculate separately the upward and downward EIM D~~d~~iversity B~~b~~enefits 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. The Diversity Benefits for a Balancing Authority Area in the EDAM Area is

its proportional amount of the difference between the sum of each Balancing Authority Area's individual Imbalance Reserve requirement and the EDAM Area Imbalance Reserve requirements, with the CAISO calculating the Imbalance Reserve requirements for each Balancing Authority Area independently and for the EDAM Area as a whole.

(3) **Effects of ~~EIM~~ Diversity Benefits for EIM Entities that Are Not Balancing Authorities in the EDAM Area.** For each Balancing Authority Area in the EIM Area that is not a Balancing Authority Area in the EDAM 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 D~~d~~iversity B~~b~~enefit 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) **Effect of Diversity Benefit for Balancing Authority Areas that Are Within the Pool of EDAM Balancing Authority Areas.** For each Balancing Authority Area that is included in the pool of Balancing Authority Areas in the EDAM Area as provided in Section 33.31.1.4, the EIM RSE will hold a portion of the Diversity Benefit from allocation and reflect this quantity as additional global procurement of Imbalance Reserves for the EDAM Area as provided in the Business Practice Manuals for purposes of the EIM RSE. If the pool of Balancing Authority Areas in the EDAM Area is subdivided for purposes of accepting the assistance Energy transfer product as provided in Section 29.34(n)(3)(C), each sub-pool will carry with it and leverage the Diversity Benefit of the entities within the sub-pool.

(5) **Effect of Diversity Benefit for Balancing Authority Areas in the EDAM Area that Are not Within the Pool of EDAM Balancing Authority Areas.** The EIM RSE will consider the effects of dynamic transfers from the members of the

EDAM Upward Pool and EDAM Downward Pool to the Balancing Authority Area not included in the pool as provided in Section 33.31.1.4, pursuant to the procedures the Business Practice Manuals.

(64) **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.

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

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

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

(A) the CAISO will not include the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area in the Uncertainty Requirement for the group of Balancing Authority Areas that passes both the capacity test and flexibility tests in the upward and downward directions, as applicable; and

(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 balance or the hourly Real-Time EIM Base Schedule corresponding to the 15-minute interval with

insufficient Supply as described in the business practice manual.

(C) To facilitate procurement of the Flexible Ramping Product and determination of the Uncertainty Requirement in the manner provided by Section 44.2.4 within the existing RTUC processes and along the time intervals for RTUC runs set forth in Section 34.3.1 and further explained in the Business Practice Manual for Market Operations, and solely for the purpose of this subsection 29.34(n)(1), the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules for the first fifteen-minute interval of each hour will be that provided in Section 29.34(f)(1)(B) and the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules to allow for procurement of the Flexible Ramping Product for the remaining intervals of each hour will be that provided in Section 29.34(f)(1)(C).

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

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

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

(C) To facilitate procurement of the Flexible Ramping Product and determination of the Uncertainty Requirement in the manner provided by

Section 44.2.4 within the existing RTUC processes and along the time intervals for RTUC runs set forth in Section 34.3.1 and further explained in the Business Practice Manual for Market Operations, and solely for the purpose of this subsection 29.34(n)(2), the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules for the first fifteen-minute interval of each hour will be that provided in Section 29.34(f)(1)(B) and the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules to allow for procurement of the Flexible Ramping Product for the remaining intervals of each hour will be that provided in Section 29.34(f)(1)(C).

(3) **Assistance Energy Transfers**.

(A) **In General**. A Balancing Authority Area in the EIM Area may obtain assistance Energy transfers into its Balancing Authority Area if its Scheduling Coordinator has elected to accept automatically incremental EIM Transfer imports and pay the associated EIM Assistance Energy Transfer Surcharge following the failure of the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) in accordance with the timelines and procedures included in the Business Practice Manual for the Energy Imbalance Market. Consistent with the requirements in the Business Practice Manual, the CAISO will send a market notification prior to the CAISO Balancing Authority Area accepting assistance Energy transfers as provided in this section.

(B) **Assistance Energy Transfer Product**. If a participating Balancing Authority Area in the EIM Area has opted-in to receive assistance Energy transfers consistent with the process requirements set forth in the Business Practice Manuals and the participating Balancing Authority Area fails the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) then—

(i) the Balancing Authority Area will not be subject to the capacity test or flexibility test failure consequences for EIM Transfers in Section 29.34(n);

(ii) the Balancing Authority Area will pay the EIM Assistance Energy Transfer Surcharge according to Section 29.11(t).

(C) **Access to the Assistance Energy Transfer Product for pooled Balancing Authority Areas within the EDAM Area.** A Balancing Authority Area in the EDAM Area that is pooled together with other Balancing Authority Areas within the EDAM Area as part of the EDAM Upward Pool or EDAM Downward Pool pursuant to Section 33.31.1.4 may elect to receive assistance Energy transfers. If the Balancing Authority Areas in the EDAM Area that are pooled together for purposes of the EIM RSE do not uniformly elect to receive assistance Energy transfers, then the EDAM Upward Pool will be subdivided into two sub-pools: those Balancing Authority Areas in the EDAM Area that elect to receive assistance Energy transfers and those Balancing Authority Areas in the EDAM Area that do not elect to receive assistance Energy transfers. If the EDAM Upward Pool, or its sub-pool as applicable, elects to receive assistance Energy transfers and fails the upward flexibility test in Section 29.34(m) then:

(i) The EDAM Upward Pool, or its sub-pool as applicable, will not be subject to the failure consequences of Section 29.34(n)(1)(B) or Section 29.34(n)(2)(B); and

(ii) the EDAM Upward Pool, or sub-pool as applicable, will receive an assistance Energy transfer and will be assessed the EIM Assistance Energy Transfer Surcharge according to Section 29.11(t), with any revenue or Surcharges distributed to the EDAM Upward Pool to be allocated *pro-rata* to the members of the EDAM Upward Pool, or sub-

pool as applicable, that received the assistance Energy transfers.

(o) **Transmission Constraint Relaxation.** If an EIM Entity Scheduling Coordinator's approved EIM Resource Plan does not have sufficient Bids to resolve Congestion, the CAISO will relax the relevant Transmission Constraints in the Market Clearing and the EIM Entity will become responsible for managing its congested Transmission Constraints through other means, and the CAISO will determine prices for Congestion consistent with Transmission Constraint relaxation parameters established in the Business Practice Manual for the Energy Imbalance Market until the Transmission Constraint is no longer binding in the Real-Time Market.

(p) **Operating Reserves.**

(1) **Schedules.**

(A) **EIM Entity Responsibility.** Each EIM Entity is responsible for its contingency reserves, or share of such contingency reserves under the terms of a reserve sharing group agreement, and it and the reserve sharing group are responsible for deploying operating reserves, including regulating reserves, in conformance with NERC and WECC requirements.

(B) **EIM Entity Scheduling Coordinator Responsibility.** The EIM Entity Scheduling Coordinator shall -

(i) include any Energy deployed from reserves in the hourly EIM Base Schedules, if time permits, in which case they will be settled in the Real-Time Market;

(ii) otherwise include the Energy deployed from reserves as EIM Manual Dispatches, if time does not permit;

(iii) immediately inform the CAISO of events requiring Dispatch of operating reserves and resource EIM Base Schedule adjustments in response to contingencies;

(iv) if a resource's actual response differs from the resource EIM

Base Schedule adjustment, provide a resource EIM Base Schedule update showing the actual resources dispatched during the event by no later than 1:00 a.m. seven days after the Operating Day in which the event occurred; and

(v) inform the CAISO of the amount of resource capacity that is reserved for contingency reserve responsibility by either ensuring that an Energy Bid for the resource is below the maximum operating limit of the resource or reducing the maximum operating limit of the resource.

(C) **CAISO Actions.**

(i) **Prior to Update.** Until the CAISO receives resource operating limit updates from an EIM Entity Scheduling Coordinator, the CAISO will continue to send Dispatch Instructions based upon pre-event operating limits.

(ii) **After Update.** After EIM Base Schedule updates are received and Dispatches in the Real-Time Market reflect the updated Self-Schedules and operating limits, the CAISO shall account for the Dispatches in the net scheduled Interchange values that it provides to EIM Entity Scheduling Coordinators.

(2) **Updates to Data for Reserve Sharing Event.**

(A) **Responsibilities.** Immediately following a reserve sharing event impacting the EIM Entity Balancing Authority Area-

(i) the EIM Entity must submit information regarding the assistance provided, including impacts to Balancing Authority Area Load schedules for each participant involved in the reserve sharing event; and

(ii) the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator must submit to the CAISO EIM Manual

Dispatch instructions for resources in the EIM Entity Balancing Authority Area deployed in response to the reserve sharing event, pursuant to the reserve sharing group's criteria.

(B) **Offsets.** Until 1:00 a.m. seven days following the reserve sharing event impacting the EIM Entity Balancing Authority Area, the EIM Entity may offset the Load schedules created by the reserve sharing event by entering resource to Load schedules, reflecting generation resources actually utilized to assist in the event.

(q) **Variable Energy Resources and Hybrid Resources.** Provisions of Section 34 specifically applicable to Variable Energy Resources and Eligible Intermittent Resources appear in Sections 34.1.3, 34.1.6, 34.2.2, 34.5.1. 34.13.2. Provisions of Section 34 specifically applicable to Hybrid Resources appear in Section 34.1.6.3. The CAISO shall provide EIM Entities with access to review the forecast of all Variable Energy Resources in its Balancing Authority Area as outlined in the Business Practice Manual for the Energy Imbalance Market.

(r) **Use of EIM Available Balancing Capacity.**

(1) **In General.** The CAISO will use EIM Available Balancing Capacity identified in the EIM Resource Plan to address power balance constraint infeasibilities in the EIM Balancing Authority Area for which the EIM Available Balancing Capacity is designated by the responsible EIM Entity Scheduling Coordinator, while simultaneously participating in Congestion Management.

(2) **EIM Resource Sufficiency Evaluations.** The CAISO will not apply the EIM Available Balancing Capacity towards its evaluation of the resource sufficiency tests specified in Section 29.34(k), (l), and (m).

(3) **Real-Time Market Scheduling Run.** In each interval of the Real-Time Market, the CAISO will use the EIM Available Balancing Capacity in the run of the market optimization used to establish scheduling priorities by -

(A) adding a penalty price factor to EIM Available Balancing Capacity Energy

Bid prices so that the EIM Available Balancing Capacity is dispatched to address power balance violations, after Effective Economic Bids submitted for EIM Participating Resources in the respective EIM Balancing Authority Area not associated with the EIM Available Balancing Capacity have cleared, while respecting the economic merit order of the EIM Available Balancing Capacity Energy Bid prices;

(B) enforce a constraint that prevents the release of EIM Upward Available Balancing Capacity in excess of the difference between the EIM Entity's demand and the supply of Effective Economic Bids cleared within the applicable EIM Balancing Authority Area, minus the import transfer into that EIM Balancing Authority Area; and

(C) enforce a constraint that prevents the release of EIM Downward Available Balancing Capacity in excess of the difference between the supply of Effective Economic Bids cleared within the applicable EIM Balancing Authority Area and the EIM Entity's demand, minus the export transfer out of that EIM Balancing Authority Area.

(4) **Real-Time Market Pricing Run.** For each interval of the Real-Time Market, in the run of the market optimization used to set binding schedules and prices, the CAISO will -

(A) use the EIM Available Balancing Capacity released in the run of the market optimization to establish scheduling priorities based on the Energy Bid Curves for EIM Participating Resources and non-participating resources created pursuant to Sections 29.30(c) and (d), respectively;

(B) change the Demand Forecast for the EIM Balancing Authority Area by a small tolerance to allow for price determination;

(C) clear the Real-Time Market and establish prices based on the pricing parameters in Sections 27.4.3.2 and 27.4.3.4, if the amount of EIM Available Balancing Capacity released in the scheduling run is not

sufficient to clear the potential infeasibility identified in the scheduling run.

(s) **EIM Auto-Match.**

(1) **Designation.** An EIM Entity may submit a designation to the Master File of EIM non-participating resources, up to the number specified in the Business Practice Manual, in its Balancing Authority Area to automatically match import/export schedule changes outside of the Market Clearing of the Real-Time Market because of changes to E-Tags at one or more designated EIM Interties or Scheduling Points, up to the number designated in the Business Practice Manual for the Energy Imbalance Market.

(2) **Duration of Designation.** Any designation under paragraph (1) of this subsection shall remain in effect until the EIM Entity notifies the CAISO that it is terminating the designation by a submission to the Master File.

(3) **CAISO Actions in Response to Intertie Schedule Change.** If an EIM Entity designates a non-participating resource under paragraph (1) of this subsection, the CAISO, upon identification of an associated EIM Intertie or Scheduling Point schedule change outside of the Market Clearing of the Real-Time Market, shall -

(A) reflect a matching schedule change to the EIM non-participating resource in the Real-Time Market using the EIM Auto-Match feature; and

(B) omit the EIM Intertie or Scheduling Point schedule change from the historical intertie schedule over/under-scheduling histogram for the determination of additional capacity test requirements for relevant EIM Balancing Authority Area(s) under Sections 29.34(l)(4)(B) and 29.34(m)(6)(ii) that are registered for EIM Auto-Match in accordance with the procedures specified in the Business Practice Manual for the Energy Imbalance Market.

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29.39 EIM Market Power Mitigation.

(a) **EIM Market Power Mitigation Procedure.** The CAISO shall apply the Real-Time Local Market Power Mitigation procedure in Section 39.7 to the Energy Imbalance Market, including EIM Transfer constraints into an EIM Entity Balancing Authority Area on an EIM Internal Intertie, except as provided in Section 29.39. In relation to power balance constraints within the EDAM Area and EIM Area, the Marginal Energy Cost in the CAISO Balancing Authority Area will reflect a competitive marginal energy price. For this purpose, when an EDAM Balancing Authority Area's or EIM Balancing Authority Area's Marginal Energy Cost is greater than CAISO Balancing Authority Area's Marginal Energy Cost, then Real-Time Local Market Power Mitigation process will apply the competitive path assessment. If non-competitive conditions exist, the Real-Time Local Market Power Mitigation process will treat the differential between the Marginal Energy Cost in the CAISO Balancing Authority Area and the Marginal Energy Cost in the EDAM Balancing Authority Area or EIM Balancing Authority Area similar to the non-competitive component of the Marginal Cost of Congestion in CAISO's Local Market Power Mitigation process and will subject resources' Bids to mitigation procedures.

(b) **Competitive Path Assessment.** The CAISO shall conduct the competitive path assessment to determine for each EDAM Balancing Authority Area and EIM Entity Balancing Authority Area whether a path is competitive or non-competitive, consistent with Section 39.7.2, except that –

(1) EDAM Resource Scheduling Coordinators and EIM Participating Resource Scheduling Coordinators shall submit information required by the CAISO to perform the competitive path assessment;

(2) the competitive path assessment shall not exclude EDAM Resources or EIM Participating Resources from the test used to determine the competitiveness of Transmission Constraints on the basis that they may be net buyers of Energy in the Real-Time Market; and

(3) the CAISO may establish different Reference Buses for each Balancing Authority Area, which need not be within the Balancing Authority Area, for calculating the LMP decomposition which is used to trigger Bid mitigation, based on the topology of each Balancing Authority Area and consideration of the bus at which the Marginal Cost of Congestion component of Locational Marginal Prices is least influenced by market power.

(c) **Locational Marginal Price Decomposition.** The CAISO shall perform the Locational Marginal Price decomposition within each EDAM Entity Balancing Authority Area and EIM Entity Balancing Authority Area using the results of the competitive path assessment and the Congestion pricing results of the pre-market run to determine which resources may have local market power due to Congestion on a non-competitive Transmission Constraint, consistent with Section 34.2.3 and 39.7.

(d) **Default Energy Bids.** The CAISO shall use the methods and standards set forth in Section 39.7 to determine Default Energy Bids for EDAM Resources and EIM Participating Resources, except that the CAISO will use the Market Services Charge and system operations charges described in Section 33.11.6 reflected in the EDAM Administrative Charge or Section 11.22.2 reflected in the EIM Administrative Charge.

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Section 30

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30.5.1 General Bidding Rules

(a) All Bids submitted by Scheduling Coordinators ~~Energy and Ancillary Services Bids of each Scheduling Coordinator submitted~~ to the DAM for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day, but no sooner

than seven (7) days prior to the Trading Day. All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the RTM for the following Trading Day shall be submitted starting from the time of publication~~, at 1:00 p.m. on the day preceding the Trading Day,~~ of DAM results for the Trading Day, and ending seventy-five (75) minutes prior to each applicable Trading Hour in the RTM. Scheduling Coordinators may submit only one set of Bids to the RTM for a given Trading Hour, which the CAISO uses for all Real-Time Market processes~~ The CAISO will not accept any Energy or Ancillary Services Bids for the following Trading Day between 10:00 a.m. on the day preceding the Trading Day and the publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day;~~

(b) Bid prices submitted by a Scheduling Coordinator for Energy accepted and cleared in the IFM and scheduled in the Day-Ahead Schedule may be increased or decreased in the RTM . Bid prices for Energy submitted but not scheduled in the Day-Ahead Schedule may be increased or decreased in the RTM. Incremental Bid prices for Energy associated with Day-Ahead AS or RUC Awards in Bids submitted to the RTM may be revised.

(c) A Scheduling Coordinator may submit in the Real-Time Market new daily Start-Up Bids, Minimum Load Bids, and Transition Bids for resources and MSG Configurations for which the Scheduling Coordinator previously submitted such Bids in the Day-Ahead Market, except for: (1) Trading Hours in which a resource or MSG Configuration has received a Day-Ahead Schedule or has received a Start-Up Instruction in RUC; and (2) Trading Hours that span the Minimum Run Time of the resource or MSG Configuration after the CAISO has committed the resource or the Scheduling Coordinator has self-committed the resource in the RTM.

(d) Scheduling Coordinators may revise ETC Self-Schedules for Supply in the RTM to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Participating TO in accordance with Section 16.

(e) Scheduling Coordinators may revise TOR Self-Schedules for Supply only in the HASP to

the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Non-Participating TO in accordance with Section 17. Energy associated with awarded Ancillary Services capacity cannot be offered in the Real-Time Market separate and apart from the awarded Ancillary Services capacity.

(f) Scheduling Coordinators may submit Energy Bids, AS Bids and RUC Bids in the DAM that are different for each Trading Hour of the Trading Day.

(g) Bids for Energy or capacity that are submitted to one CAISO Market, but are not accepted in that market are no longer a binding commitment and Scheduling Coordinators may submit Bids in a subsequent CAISO Market at a different price.

(h) The CAISO shall be entitled to take all reasonable measures to verify that Scheduling Coordinators meet the technical and financial criteria set forth in Section 4.5.1 and the accuracy of information submitted to the CAISO pursuant to this Section 30.

(i) In order to retain the priorities specified in Section 31.4 and 34.12 for scheduled amounts in the Day-Ahead Schedule associated with ETC and TOR Self-Schedules or Self-Schedules associated with Regulatory Must-Take Generation, a Scheduling Coordinator must submit to the Real-Time Market ETC or TOR Self-Schedules, or Self-Schedules associated with Regulatory Must-Take Generation, at or below the Day-Ahead Schedule quantities associated with the scheduled ETC, TOR, or Regulatory Must-Take Generation Self-Schedules. If the Scheduling Coordinator fails to submit such Real-Time Market ETC, TOR, or Regulatory Must-Take Generation Self-Schedules, the defined scheduling priorities of the ETC, TOR, or Regulatory Must-Take Generation Day-Ahead Schedule quantities may be subject to adjustment in the HASP and the Real-Time Market as further provided in Sections 31.4 and 34.12 in order to meet operating conditions.

(j) For Multi-Stage Generating Resources that receive a Day-Ahead Schedule, RUC Award~~are awarded a RUC Schedule~~, or ~~receive an~~ Ancillary Services Award the Scheduling Coordinator must submit an Energy Bid in the Real-Time Market for the same Trading Hour(s). If the Scheduling Coordinator submits an Economic Bid for such Trading Hour(s), the Economic Bid must be for either: the same MSG Configuration

scheduled or awarded in the Integrated Forward Market, or the MSG Configuration committed in RUC. If the Scheduling Coordinator submits a Self-Schedule in the Real-Time Market for such Trading Hour(s), then the Energy Self-Schedule may be submitted in any registered MSG Configuration, including the MSG Configuration awarded in the Day-Ahead Market, that can support the awarded Ancillary Services (as further required by Section 8).

(k) Scheduling Coordinators for Multi-Stage Generating Resources may submit into the Real-Time Market bids from up to six (6) MSG Configurations in addition to the MSG Configuration scheduled or awarded in the Integrated Forward Market and Residual Unit Commitment, provided that the MSG Transitions between the MSG Configurations bid into the Real-Time Market are feasible and the transition from the previous Trading Hour are also feasible.

(l) For the Trading Hours that Multi-Stage Generating Resources do not have a CAISO Schedule or award from a prior CAISO Market run, the Scheduling Coordinator can submit up to six (6) MSG Configurations into the RTM.

(m) A Scheduling Coordinator cannot submit a Bid to the CAISO Markets for a MSG Configuration into which the Multi-Stage Generating Resource cannot transition due to lack of Bids for the specific Multi-Stage Generating Resource in other MSG Configurations that are required for the requisite MSG Transition.

(n) In order for Multi-Stage Generating Resource to meet any Resource Adequacy must-offer obligations, the responsible Scheduling Coordinator must submit either an Economic Bid or Self-Schedule for at least one MSG Configuration into the Day-Ahead Market and Real-Time Market that is capable of fulfilling that Resource Adequacy obligation, as feasible. The Economic Bid shall cover the entire capacity range between the maximum bid-in Energy MW and the higher of Self-Scheduled Energy MW and the Multi-Stage Generating Resource plant-level PMin as registered in the Master File.

(o) For any given Trading Hour, a Scheduling Coordinator may submit Self-Schedules and/or Submissions to Self-Provide Ancillary Services in only one MSG Configuration for each

Generating Unit.

(p) In any given Trading Hour in which a Scheduling Coordinator has submitted a Self-Schedule for a Multi-Stage Generating Resource, the Scheduling Coordinator may also submit Bids for other MSG Configurations provided that they concurrently submit Bids that enable the applicable CAISO Market to transition the Multi-Stage Generating Resource to other MSG Configurations.

(q) If in any given Trading Hour the Multi-Stage Generating Resource was awarded Regulation or Operating Reserves in the IFM, any Self-Schedules or Submissions to Self-Provide Ancillary Services the Scheduling Coordinator submits for that Multi-Stage Generating Resource in the RTM must be for the same MSG Configuration for which Regulation or Operating Reserve is Awarded in IFM for that Multi-Stage Generating Resource in that given Trading Hour.

(r) If a Multi-Stage Generating Resource has received a binding RUC Start-Up Instruction as provided in Section 31, any Self-Schedule or Submission to Self-Provide Ancillary Services in the RTM must be in the same MSG Configuration committed in RUC.

(s) If in any given Trading Hour the Multi-Stage Generating Resource is scheduled for Energy in the IFM, any Self-Schedules the Scheduling Coordinator submits for that Multi-Stage Generating Resource in the RTM must be for the same MSG Configuration for which Energy is scheduled in IFM for that Multi-Stage Generating Resource in that given Trading Hour.

(t) For a Multi-Stage Generating Resource, the Bid(s) submitted for the resource's configuration(s) shall collectively cover the entire capacity range between the maximum bid-in Energy MW and the higher of the Self-Scheduled Energy MW and the Multi-Stage Generating Resource plant-level PMin as registered in the Master File. This rule shall apply separately to the Day-Ahead Market and the Real-Time Market.

(u) A Scheduling Coordinator may submit a Self-Schedule Hourly Block for the RTM as an import to or an export from the CAISO Balancing Authority Area and may also submit Self-Scheduled Hourly Blocks for Ancillary Services imports. Such a Bid shall be for the

same MWh quantity for each of the four (4) fifteen (15)-minute intervals that make up the applicable Trading Hour.

(v) A Scheduling Coordinator may submit a Variable Energy Resource Self-Schedule for the RTM can be submitted from a Variable Energy Resource. A Scheduling Coordinator can use either the CAISO forecast for Expected Energy in the RTM or can provide its own forecast for Expected Energy pursuant to the requirements specified in Section 4.8.2. The Scheduling Coordinator must indicate in the Master File whether it is using its own forecast or the CAISO forecast for its resource in support of the Variable Energy Self-Schedule. The Scheduling Coordinator is not required to include the same MWh quantity for each of the four (4) fifteen (15)-minute intervals that make up the applicable Trading Hour for the Variable Energy Resource Self-Schedule include. If an external Variable Energy Resource that is not using a forecast of its output provided by the CAISO submits a Variable Energy Resource Self-Schedule and the Expected Energy is not delivered in the FMM, the Scheduling Coordinator for the Variable Energy Resource will be subject to the Under/Over Delivery Charge as described in Section 11.31. Scheduling Coordinators for Dynamically Scheduled Variable Energy Resources that provide the CAISO with a two (2)-hour rolling forecast with five (5)-minute granularity can submit Variable Energy Resource Self-Schedules.

(w) Scheduling Coordinators can 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 (4) FMM intervals. Scheduling Coordinator can also submit Economic Hourly Block Bids for Ancillary Services. As specified in Section 11, a cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery.

(x) Scheduling Coordinators can submit Economic Hourly Block Bids with Intra-Hour Option. If accepted in the HASP, such a Bid creates a binding schedule with same MWh awards for each of the four (4) FMM intervals. After that, the RTM can optimize such schedules for economic reasons once through an FMM during the Trading Hour. As specified in Section 11, a cleared Economic Hourly Block Bid with Intra-Hour Option is not eligible for

Bid Cost Recovery.

(y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.

(z) [Not Used]

(aa) A Scheduling Coordinator for a CAISO Balancing Authority Area resource will indicate through a resource parameter as prescribed in the Business Practice Manual that it has sold capacity to an out-of-balancing authority area Load Serving Entity, and no CAISO Load Serving Entity has a right to such capacity. If the Scheduling Coordinator does not indicate this status, the resource cannot be a designated resource for an export Self-Schedule at Scheduling Points backed by non-Resource Adequacy Capacity. The CAISO will notify a Scheduling Coordinator hourly, to the extent practicable, that its resource, which is flagged to support an export, is designated by another entity to support export Self-Schedules at Scheduling Points backed by non-Resource Adequacy Capacity. Upon receiving the notice, the Scheduling Coordinator for the designated resource shall notify the CAISO if it does not have a contractual commitment to support such export Self-Schedule or does not have a reasonable expectation to be available to support the export Self Schedule. The Scheduling Coordinator for the designated resource and the Scheduling Coordinator for the export Self-Schedule shall designate a resource to support such export only if the resource is expected to have sufficient available capacity to support the export quantity throughout the entire hour. For Variable Energy Resources, this requirement can only be satisfied if the resource's forecasted output for each of the applicable four (4) fifteen (15) minute intervals in the applicable hour for which a bid has been submitted, based on the most recent forecast for that hour, is for Generation that is equal to or greater than the Self Schedule export quantity. The designated capacity must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status

that is shown on the CAISO's NQC list.

(bb) In addition to meeting any obligations applicable to Resource Adequacy Resources, a Scheduling Coordinator for a resource supporting Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity shall submit a RUC Availability Bid for RCU~~$0/MW RUC Availability Bid~~ for a quantity equal to or greater than the quantity of the export.

(cc) The Scheduling Coordinator for the resource shall offer Energy Bids into the Real-Time Market to support Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity.

(dd) The positive difference in quantity between the higher of a designated resource's Day-Ahead Schedule or a designated resource's RUC Schedule and the Day-Ahead Schedule~~RUC Schedule~~ of the corresponding Self-Schedule at a Scheduling Point backed by non-Resource Adequacy Capacity cannot back additional exports at a Scheduling Point backed by non-Resource Adequacy Capacity scheduled in the Real-Time Market.

(ee) A Scheduling Coordinator shall not schedule an import Self-Schedule to support an export Self-Schedule of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity. The transaction is properly scheduled as a Wheeling Through transaction as described in section 30.5.4.

30.5.2 Supply Bids

30.5.2.1 Common Elements for Supply Bids

In addition to the resource-specific Bid requirements of this Section, all Supply Bids must contain the following components: Scheduling Coordinator ID Code; Resource Location or Resource ID, as appropriate; MSG Configuration ID, as applicable; PNode or Aggregated Pricing Node as applicable; Energy Bid Curve, as applicable; Self-Schedule component; Ancillary Services Bid; RUC Availability Bid as applicable; Imbalance Reserves Bid as applicable; ~~,~~ the CAISO Market to which the Bid applies; Trading Day to which the Bid applies; Priority Type (if any), and a Transaction ID as created by the CAISO. Supply Bids offered in the CAISO Markets must be monotonically increasing. Energy Bids in the

RTM must also contain a Bid for Ancillary Services to the extent the resource is certified and capable of providing Ancillary Service in the RTM up to the registered certified capacity for that Ancillary Service less any Day-Ahead Ancillary Services Awards.

Scheduling Coordinators must submit the applicable Supply Bid components, including Self-Schedules, for the submitted MSG Configuration.

Scheduling Coordinators submitting Bids for Scheduling Points must adhere to the E-Tagging requirements outlined in Section 30.5.7.

30.5.2.2 Supply Bids for Participating Generators

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Participating Generators shall contain the following components as applicable: Start-Up Bid, Minimum Load Bid, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, Regulatory Must-Take/Must-Run Generation; Contingency Flag; and Contract Reference Number (if any). Scheduling Coordinators submitting these Bid components for a Multi-Stage Generating Resource must do so for the submitted MSG Configuration. Scheduling quantities that a Scheduling Coordinator schedules as Regulatory Must-Take Generation for a CHP Resource shall be limited to the quantity necessary in any hour to meet the reasonably anticipated industrial host's thermal requirements and shall not exceed any established RMTMax values. The CHP Resource owner or operator shall provide its Scheduling Coordinator with the Regulatory Must-Take Generation values and is solely responsible for the accuracy of the information. The Scheduling Coordinator for the CHP Resource will schedule the quantities consistent with information provided subject to any contract rights between the CHP Resource Generating Unit owner or operator and its counter-party to any power purchase agreement regarding curtailment or dispatchability of the CHP Resource. If the CHP Resource Generating Unit has a power purchase agreement and its counter-party is not the Scheduling Coordinator for the resource, the parties to the agreement share the responsibility for ensuring that the Scheduling Coordinator schedules the resource consistent with contractual rights of the counter-parties. A Scheduling Coordinator for a Physical Scheduling Plant or a System Unit may include Generation Distribution Factors as part of its Supply Bid. If the Scheduling Coordinator has not submitted the Generation Distribution Factors applicable for the Bid, the CAISO will use default Generation Distribution Factors stored in the Master File. All Generation Distribution Factors used by the

CAISO will be normalized based on Outage data that is available to the automated market systems. A Multi-Stage Generating Resource and its MSG Configurations are registered under a single Resource ID and Scheduling Coordinator for the Multi-Stage Generating Resource must submit all Bids for the resource's MSG Configurations under the same Resource ID. For Multi-Stage Generating Resources, Scheduling Coordinators may submit bid curves for up to ten individual MSG Configurations of their Multi-Stage Generating Resources into the Day-Ahead Market and up to three individual MSG Configurations into the Real-Time Market. Scheduling Coordinators for Multi-Stage Generating Resources must submit a single Operational Ramp Rate for each MSG Configuration for which it submits a supply Bid either in the Day-Ahead Market or Real-Time Market. For Multi-Stage Generating Resources the Scheduling Coordinator may submit the Transition Times, which cannot be greater than the maximum Transition Time registered in the Master File. To the extent the Scheduling Coordinator does not submit the Transition Time that is a registered feasible transition the CAISO will use the registered maximum Transition Time for that MSG Transition for the specific Multi-Stage Generating Resource.

30.5.2.3 Supply Bids for Participating Loads, Including Pumped-Storage Hydro Units and Aggregated Participating Loads

In addition to the common elements listed in Section 30.5.2.1, Scheduling Coordinators submitting Supply Bids for Participating Loads, which includes Pumping Load or Pumped-Storage Hydro Units, may include the following components: Pumping Level (MW), Minimum Load Bid (Generation mode only of a Pumped-Storage Hydro Unit), Load Distribution Factor, Ramp Rate, Energy Limit, Pumping Cost, and Pump Shut-Down Costs. If no values for Pumping Cost or Pump Shut-Down Costs are submitted, the CAISO will generate these Bid components based on values in the Master File. Scheduling Coordinators may only submit Supply Bids for Aggregated Participating Loads by using a Generating Unit or Physical Scheduling Plant Resource ID for the Demand reduction capacity represented by the Aggregated Participating Load as set forth in a Business Practice Manual. The CAISO will use Generation Distribution Factors provided by the Scheduling Coordinator for the Aggregated Participating Load.

30.5.2.4 Supply Bids for System Resources

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Resource-Specific System Resources shall also contain Start-Up Bids and Minimum Load Bids. Resource-Specific System

Resources are subject to the Proxy Cost methodology or the Registered Cost methodology for Default Start-Up Bids and Default Minimum Load Bids as provided in Section 30.4, and Transaction ID as created by the CAISO. Other System Resources are not eligible to recover Start-Up Costs and Minimum Load Costs. Resource-Specific System Resources are eligible to participate in the Day-Ahead Market on an equivalent basis as Generating Units and are not obligated to participate in RUC or the RTM if the resource did not receive a Day-Ahead Schedule unless the resource is a Resource Adequacy Resource. A Scheduling Coordinator for a Non-Resource-Specific System Resource that is a Resource Adequacy Resource or that supports a renewable portfolio standard transaction and that has met the registration requirements set forth in the CAISO's Business Practice Manual may submit a Bid at an CAISO BAA EDAM Transfer location, if the Scheduling Coordinator does not the know the source of Non-Resource-Specific System Resource at time of Day-Ahead Market Bid submission or the source is otherwise outside of the EDAM Area. If the Resource-Specific System Resource is a Resource Adequacy Resource, the Scheduling Coordinator for the resource is obligated to make it available to the CAISO Market as prescribed by Section 40.6. Dynamic Resource-Specific System Resources are also eligible to participate in the RTM on an equivalent basis as Generating Units. The quantity (in MWh) of Energy categorized as Interruptible Imports (non-firm imports) can only be submitted through Self-Schedules in the Day-Ahead Market and cannot be incrementally increased in the RTM. Bids submitted to the Day-Ahead Market for ELS Resources will be applicable for two days after they have been submitted and cannot be changed the day after they have been submitted. Bids for System Resources that exceed the Soft Energy Bid Cap are subject to the rules in Sections 30.7.12, as applicable.

30.5.2.4.1 Intertie Block Bids

Intertie Block Bids must contain the same energy Bid price for all hours of the period for which the Intertie Block Bid is submitted. Intertie Block Bids may only be submitted in the DAM.

30.5.2.5 Supply Bids for Metered Subsystems

Consistent with the bidding rules specified in this Section 30.5, Scheduling Coordinators that represent MSS Operators may submit Bids ~~for Energy and Ancillary Services~~, including Self-Schedules and Submissions to Self-Provide an Ancillary Service, to the DAM. All Bids to supply Energy by MSS Operators must identify each Generating Unit on an individual unit basis. The CAISO will not accept

aggregated Generation Bids without complying with the requirements of Section 4.9.12 of the CAISO Tariff. All Scheduling Coordinators that represent MSS Operators must submit Demand Bids at the relevant MSS LAP. Scheduling Coordinators that represent MSS Operators must comply with Section 4.9 of the CAISO Tariff. ~~Scheduling Coordinators that represent MSS Operators that have opted out of RUC participation pursuant to Section 31.5 must Self-Schedule one hundred percent (100%) of the Demand Forecast for the MSS.~~ For an MSS that elects Load following, the MSS Operator shall also self-schedule or bid Supply to match the Demand Forecast. All Bids for MSSs must ~~be~~ identify each Generating Unit on an individual unit basis or a System Unit. For an MSS that elects Load following consistent with Section 4.9.13.2, the Scheduling Coordinator for the MSS Operator must include the following additional information with its Bids: the Generating Unit(s) that are Load following; the range of the Generating Unit(s) being reserved for Load following; whether the quantity of Load following capacity is either up or down; and, if there are multiple Generating Units in the MSS, the priority list or distribution factors among the Generating Units. The CAISO will not dispatch the resource within the range declared as Load following capacity, leaving that capacity entirely available for the MSS to dispatch. The CAISO uses this information in the IFM runs and the RUC to simulate MSS Load following. The Scheduling Coordinator for the MSS Operator may change these characteristics through the Bid submission process in the RTM. If the Load following resource is also an RMR Unit, the MSS Operator must not specify the RMR Contract Capacity specified in the RMR Contract as Load following up or down capacity to allow the CAISO to access such capacity for RMR Dispatch.

30.5.2.6 Supply Bids for Distributed Energy Resource Aggregations

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Distributed Energy Resource Aggregations will contain the following components as applicable: Generation Distribution Factors, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, and Contingency Flag. If the Scheduling Coordinator does not submit the Generation Distribution Factors for the Bid, the CAISO will use default Generation Distribution Factors registered in Master File. The CAISO will apply a net benefits test to determine a threshold Market Clearing Price for Demand Response Providers and Distributed Energy Resource Aggregations that include Distributed Curtailment Resources. The CAISO will not accept Bids from Distributed Energy Resource Aggregations that include Distributed Curtailment

Resources for Energy below this threshold Market Clearing Price in the CAISO Markets.

30.5.2.7 Ancillary Service Bids

There are four distinct Ancillary Services: Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve. A resource shall be eligible to provide Ancillary Service if it has complied with the CAISO's certification and testing requirements as contained in Appendix K and the CAISO's Operating Procedures. Scheduling Coordinators may use Dynamic System Resources to Self-Provide Ancillary Services as specified in Section 8. All System Resources, including Dynamic System Resources and Non-Dynamic System Resources, will be charged the Shadow Price as prescribed in Section 11.10, for any awarded Ancillary Services. A Scheduling Coordinator may submit Ancillary Services Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve for the same capacity by providing a separate price in $/MW per hour as desired for each Ancillary Service. The Bid for each Ancillary Services is a single Bid segment. Only resources certified by the CAISO as capable of providing Ancillary Services are eligible to provide Ancillary Services and submit Ancillary Services Bids. In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; (2) Ramp Rate (Operating Reserve Ramp Rate and Regulation Ramp Rate, if applicable); and (3) Distribution Curve for Physical Scheduling Plant or System Unit. A Scheduling Coordinator may only submit an Ancillary Services Bid or Submission to Self-Provide an Ancillary Service for Multi-Stage Generating Resources for the Ancillary Service for which the specific MSG Configurations are certified. For any such certified MSG Configurations the Scheduling Coordinator may submit only one Operating Reserve Ramp Rate and Regulation Ramp Rate. An Ancillary Services Bid or Submission to Self-Provide an Ancillary Service submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but is not required to be, accompanied by an Energy Bid that covers the capacity offered for the Ancillary Service. Notwithstanding any other provision, Scheduling Coordinators for storage resources participating as Non-Generator Resources must submit accompanying Energy Bids in the Real-Time Market that cover at least half the capacity awarded for Ancillary Services from the Day-Ahead Market. Such covering Energy Bids must be the opposite direction of the Ancillary Service; namely, Bids to charge must accompany capacity awarded for Regulation Up, Spinning Reserve, and Non-Spinning

Reserve; and Bids to discharge must accompany capacity awarded for Regulation Down. ~~Submissions to Self-Provide an Ancillary Services submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but are not required to be, accompanied by an Energy Bid that covers the capacity to be self-provided.~~ If a Scheduling Coordinator's Submission to Self-Provide an Ancillary Service is qualified as specified in Section 8.6, the Scheduling Coordinator must submit an Energy Bid that covers the self-provided capacity prior to the close of the Real-Time Market for the day immediately following the Day-Ahead Market in which the Ancillary Service Bid was submitted. Except as provided below, the Self-Schedule for Energy need not include a Self-Schedule for Energy from the resource that will be self-providing the Ancillary Service. If a Scheduling Coordinator is self-providing an Ancillary Service from a Short Start Unit, no Self-Schedule for Energy for that resource is required. If a Scheduling Coordinator proposes to self-provide Spinning Reserve, the Scheduling Coordinator is obligated to submit a Self-Schedule for Energy for that particular resource, unless as discussed above the particular resource is a Short Start Unit. When submitting Ancillary Service Bids in the Real-Time Market, Scheduling Coordinators for resources that either have been awarded or self-provide Spinning Reserve or Non-Spinning Reserve capacity in the Day-Ahead Market must submit an Energy Bid for at least the awarded or self-provided Spinning Reserve or Non-Spinning Reserve capacity, otherwise the CAISO will apply the Bid validation rules described in Section 30.7.6.1.

As provided in Section 30.5.2.6.4, a Submission to Self-Provide an Ancillary Service shall contain all of the requirements of a Bid for Ancillary Services with the exception of Ancillary Service Bid price information. In addition, Scheduling Coordinators must comply with the Ancillary Services requirements of Section 8. Scheduling Coordinators submitting Self-Schedule Hourly Blocks for Ancillary Services Bids for the Real-Time Market must also submit an Energy Bid for the associated Ancillary Services Bid under the same Resource ID, otherwise the bid validation rules in Section 30.7.6.1 will apply to cover any portion of the Ancillary Services Bid not accompanied by an Energy Bid. As described in Section 34.2.3, if the resource submits a Self-Scheduled Hourly Block, the CAISO will only use the Ancillary Services Bid in the RTM optimization and will not use the associated Energy Bid for the same Resource ID to schedule Energy from the Non-Dynamic System Resource in the RTM. Scheduling Coordinators must also comply with the bidding rules associated with the must offer requirements for Ancillary Services specified in

Section 40.6.

30.5.2.7.1 Regulation Up or Regulation Down Bid Information

In the case of Regulation Up or Regulation Down, the Ancillary Services Bid or submission to self-provide must also contain: (a) the upward and downward range of generating capacity over which the resource is willing to provide Regulation in ten (10) minutes; (b) the Bid price of the capacity reservation, stated separately for Regulation Up and Regulation Down ($/MW); and (c) the Bid price ($) of the Mileage stated separately for Regulation Up and Regulation Down. For submissions to self-provide Regulation Up or Regulation Down, the price for the capacity reservation shall be $0/MWh and the price for Mileage shall be $0. In the case of Regulation Up or Regulation Down from Dynamic System Resources, the Ancillary Services Bid must also contain the Contract Reference Number, if applicable. Scheduling Coordinators may include inter-temporal opportunity costs in their Regulation capacity bids, but these inter-temporal opportunity costs must be verifiable. Ancillary Services Bids submitted to the Day-Ahead or Real-Time Market for Regulation need not be accompanied by an Energy Supply Bid that covers the Ancillary Services capacity being offered. A Regulation Down Bid will be erased unless there is an Energy Supply Bid or Energy Self-Schedule at a level that would permit the resource to provide Regulation Down to its lower Regulation Limit. A submission to self-provide Regulation Down will be erased unless there is an Energy Self-Schedule at a level that would permit the resource to provide Regulation Down to its lower Regulation Limit. A Regulation Up Bid will be erased unless there is an Energy Supply Bid or Energy Self-Schedule at a level that would permit the resource to provide Regulation Up within its Regulation Limit. A submission to self-provide Regulation Up will be erased unless there is an Energy Self-Schedule at a level that would permit the resource to provide Regulation Up within its Regulation Limit.

30.5.2.7.2 Spinning Reserve Capacity Bid Information

In the case of Spinning Reserve capacity, the Ancillary Services Bid must also contain: (a) MW of additional capability synchronized to the system, immediately responsive to system frequency, and available within ten (10) minutes; (b) Bid price of capacity reservation, and (c) an indication whether the capacity reserved would be available to supply imbalance energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag). In the case of Spinning Reserve capacity from System Resources, the Ancillary Services Bid must also

contain: (a) Schedule ID (NERC ID number); and (b) a Contract Reference Number, if applicable. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

30.5.2.7.3 Non-Spinning Reserve Capacity

In the case of Non-Spinning Reserve, the Ancillary Service Bid must also contain: (a) the MW capability available within ten (10) minutes; (b) the Bid price of the capacity reservation; (c) time of synchronization following notification (minutes); and (d) an indication whether the capacity reserved would be available to supply imbalance energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag). In the case of Non-Spinning Reserve Capacity from System Resources, the Ancillary Services Bid must also contain: (a) Schedule ID (NERC ID number); and (b) a Contract Reference Number, if applicable. In the case of Non-Spinning Reserve Capacity from Participating Load within the CAISO Balancing Authority Area, the Ancillary Service Bid must also contain: (a) a Load identification name and Location Code; (b) Demand reduction available within ten (10) minutes; (c) time to interruption following notification (minutes); and (d) maximum allowable curtailment duration (hour). In the case of Aggregated Participating Load, and Proxy Demand Resources, Scheduling Coordinators must submit Bids using a Generating Unit, Physical Scheduling Plant Resource ID, or Resource ID for the Proxy Demand Resource for the Demand reduction capacity of the Aggregated Participating Load through a Bid to provide Non-Spinning Reserve or a Submission to Self-Provide an Ancillary Service for Non-Spinning Reserve. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Non-Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

30.5.2.7.4 Additional Rules for Self-Provided Ancillary Services

Scheduling Coordinators electing to self-provide Ancillary Services shall supply the information referred to in this Section 30.5 in relation to each Ancillary Service to be self-provided, excluding the capacity price information, but including the name of the trading Scheduling Coordinator in the case of Inter-Scheduling Coordinator Ancillary Service Trades. The portion of the Energy Bid that corresponds to the high end of

the resource's operating range, shall be allocated to any awarded or Self-Provided Ancillary Services in the following order from higher to lower capacity: (a) Regulation Up; (b) Spinning Reserve; and (c) Non-Spinning Reserve. For resources providing Regulation Up, the upper regulating limit shall be used if it is lower than the highest operating limit. The remaining portion of the Energy Bid (i.e. that portion not associated with capacity committed to provide Ancillary Services) shall constitute a Bid to provide Energy.

30.5.2.8 RUC Availability Bids

Scheduling Coordinators may submit RUC Availability Bids to seek a RUC Award. ~~for specific Generating Units capacity that is not Resource Adequacy Capacity or CPM Capacity in the DAM. Scheduling Coordinators for Resource Adequacy Capacity or CPM Capacity must participate in RUC to the extent that such capacity is not reflected in an IFM Schedule but need not submit RUC Availability Bids. Resource Adequacy Capacity participating in RUC will be optimized using a zero dollar ($0/MW-hour) RUC Availability Bid.~~ Scheduling Coordinators submit separate RUC Availability Bids for RCU and RCD. For Multi-Stage Generating Resources, the RUC Availability Bids shall be submitted at the MSG Configuration. ~~Capacity that does not have Bids for Supply of Energy in the IFM will not be eligible to participate in the RUC process.~~ The RUC Availability Bid ~~component~~ is a MW ~~-~~quantity ~~of non-Resource Adequacy Capacity~~ in $/MW per hour. The quantity of a RUC Availability Bid for RCU or RCD cannot exceed the lower of the following two values: (1) the resource's 60-minute ramp capability; or (2) the Upper Economic Limit. In the case of Non-Generator Resources, however, the quantity of a RUC Availability Bid for RCU or RCD cannot exceed the lower of: (1) the resource's 60-minute ramp capability; or (2) the difference between the Upper Economic Limit and the Lower Economic Limit. The value for the $/MW per hour component of the Bid must be between 0 and 250.

Resources offering Economic Bids for Energy to the IFM must submit a RUC Availability Bid for RCU at a quantity no less than the quantity of the Economic Bid for Energy.

30.5.2.9 Imbalance Reserves Bids

Scheduling Coordinators may submit Imbalance Reserves Bids to seek an Imbalance Reserves Award. Scheduling Coordinators submit separate Imbalance Reserves Bids for IRU and IRD. For Multi-Stage Generating Resources, the Imbalance Reserves Bids shall be submitted at the MSG Configuration level. The Imbalance Reserves component is MW-quantity in $/MW per hour. The value for the $/MW per hour

component of the Bid must be between 0 and 55.

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30.7.12 Validation of Bids in Excess of Soft Energy Bid Cap, Hard Energy Bid Cap, or Minimum Load Cost Hard Cap

30.7.12.1 Generally

Except as otherwise stated in this Section 30.7.12, the validation rules in this Section 30.7.12 apply to all Energy Bids and Minimum Load Bids submitted by Scheduling Coordinators. The provisions of Sections 30.7.12.1 through 30.7.12.4 do not apply to Virtual Bids and Energy Bids submitted for Non-Resource-Specific System Resources; the provisions of Section 30.7.12.5 apply to Virtual Bids and Energy Bids submitted for Non-Resource-Specific System Resources. The CAISO will allow Bids for Non-Resource-Specific System Resources that are Resource Adequacy Resources and that exceed the Soft Energy Bid Cap subject to the Bid price screens described in Section 30.7.12.5.1. The CAISO will allow Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources and that exceed the Soft Energy Bid Cap subject to the rules specified in Section 30.7.12.5.2. The CAISO will reject Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that exceed the Hard Energy Bid Cap.

30.7.12.2 Energy Bids that Exceed the Soft Energy Bid Cap

In addition to all other Bid validation rules that apply to Energy Bids, if a Scheduling Coordinator submits an Energy Bid price that exceeds the Soft Energy Bid Cap, the CAISO will modify the Energy Bid price for purposes of clearing the relevant CAISO Market Process to the higher of the Soft Energy Bid Cap or the resource's Default Energy Bid, including when the Default Energy Bid is modified pursuant to a Reference Level Change Request pursuant to Section 30.11 or when the Default Energy Bid would rise above the Soft Energy Bid Cap based upon its general calculation. Energy Bids for storage resources may exceed the Soft Energy Bid Cap pursuant to Section 30.7.12.6.

30.7.12.3 Energy Bids that Exceed the Hard Energy Bid Cap and Minimum Load Bids that Exceed the Minimum Load Cost Hard Cap

All Energy Bid prices and Minimum Load Bid prices used in the CAISO Market Processes shall not exceed the Hard Energy Bid Cap or the Minimum Load Cost Hard Cap, respectively.

30.7.12.4 After-Market Cost Recovery

For any Energy Bid, except for Energy Bids for Non-Resource-Specific System Resources, Virtual Bids, Export Bids, Demand Bids, or Minimum Load Bid price submitted above the Energy Bid price or the Minimum Load Bid price the CAISO uses in the CAISO Market Processes, the Scheduling Coordinators may be eligible for after-market cost recovery pursuant to Section 30.12.

30.7.12.5 Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources

30.7.12.5.1 Bids for Non-Resource-Specific System Resources that are Resource Adequacy Resources

The CAISO will reduce Bids for Non-Resource-Specific System Resources that are Resource Adequacy Resources that exceed the Maximum Import Bid Price to the greater of the Soft Energy Bid Cap, the Maximum Import Bid Price, or the highest-priced Energy Bid from a Resource-Specific System Resource that the CAISO has accepted for the applicable Trading Hour pursuant to Section 30.7.12.2.

30.7.12.5.2 Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources

The CAISO will accept Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources that exceed the Soft Energy Bid consistent with the conditions specified in Section 30.5.8. The CAISO will not accept Export Bids, Demand Bids, Virtual Bids, or Bids for Non-Resource-Specific System Resources that are not Resource Adequacy Resources that exceed the Hard Energy Bid Cap.

30.7.12.5.3 Maximum Import Bid Price

The CAISO calculates hourly Maximum Import Bid Prices for the Day-Ahead Market and Real-Time Market, separately, including for on-peak and off-peak hours. The CAISO calculates the Maximum Import Bid Price as 110 percent of the greater of the published bilateral electric index prices for the Mid-Columbia or Palo Verde trading hub locations, multiplied by an hourly shaping ratio. As detailed in the CAISO Business Practice Manual, the CAISO calculates the hourly shaping ratio for each hour by

dividing the Day-Ahead Market ~~System~~ Marginal Energy Cost for the CAISO Balancing Authority Area in that hour of a previous representative Trading Day by the average Day-Ahead Market System Marginal Energy Cost for the CAISO Balancing Authority Area in all on-peak hours of the same previous representative Trading Day. If for any given Trading Hour the CAISO cannot calculate the Maximum Import Bid Price, the applicable Maximum Import Bid Price will be the most recently available calculated Maximum Import Bid Price.

30.7.12.6 Energy Storage Bids

For energy storage resources using the Non-Generator Resource model, the CAISO will allow Energy Bids that exceed the Soft Energy Bid Cap subject to the Bid price screens described here. This Section 30.7.12.6 does not apply to Hybrid Resources. Notwithstanding any other provision, the CAISO will reject Energy Bids that exceed the Hard Energy Bid Cap. In the Real-Time Market, the CAISO will accept Energy Bids from Scheduling Coordinators for storage resources using the Non-Generator Resource model up to the higher of (a) the fourth-highest calculated hourly value of the Maximum Import Bid Price for that Trading Day in the applicable CAISO Market Process; (b) the highest-priced Energy Bid from a resource subject to a Default Energy Bid that the CAISO has accepted for the applicable Trading Hour pursuant to Section 30.7.12.2, excluding without limitation Virtual Bids, Export Bids, Demand Bids, and Bids for Non-Resource-Specific System Resources; and (c) the resource's Default Energy Bid if it uses the Variable Cost Option, LMP Option, or the Negotiated Rate Option. The CAISO will reduce Bids for storage resources that exceed (a), (b), and (c) to the maximum permissible value. In the Day-Ahead Market, the CAISO will accept Energy Bids from Scheduling Coordinators for storage resources using the Non-Generator Resource model up to the resource's Default Energy Bid if it uses the Variable Cost Option, LMP Option, or the Negotiated Rate Option.

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Section 31

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31.2.1 Determining Competitive and Non-Competitive Congestion Components in the IFM~~The Market Power Mitigation Process~~

The IFM MPM process enforces all Transmission Constraints that are expected to be enforced in the relevant market, in the base case of meeting Demand and in the separate cases of modeling the dispatch of Energy from all capacity awarded IRU and IRD, and produces dispatch levels for all resources with submitted Bids and LMPs for all Locations. Bid mitigation is determined by decomposing the Congestion component of each LMP determined in the IFM MPM process into competitive Congestion and non-competitive Congestion components. The non-competitive Congestion component of each LMP is calculated as the sum of the product of the shift factor and the Shadow Price for all non-competitive Transmission Constraints. The non-competitive Congestion component of an LMP can be based on a Transmission Constraint deemed non-competitive in the base case of meeting Demand or in the separate case of modeling the dispatch for Energy of all capacity awarded IRU. The Reference Bus used in the MPM process will be either: (1) the Midway 500kV bus if Path 26 flow is from north to south; or (2) the Vincent 500kV bus if Path 26 flow is from south to north. The treatment of a particular Transmission Constraint as competitive or non-competitive for purposes of the IFM MPM process is determined pursuant to Section 39.7.2.

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31.5.3 RUC Procurement Target

Subject to Sections 31.5.3.1 and 31.5.4, the RUC Procurement Target for each Balancing Authority Area participating in the Day-Ahead Market is based on the relationship between the CAISO Forecast of BAA Demand for that BAA and the Supply cleared in the IFM for that Trading Hour (excluding Virtual Supply).

If the CAISO Forecast of BAA Demand exceeds the Supply cleared in the IFM for a Trading Hour (excluding Virtual Supply), then the RUC Procurement Target for that Balancing Authority Area is RCU in the amount of the excess Demand.

If the Supply (excluding Virtual Supply) cleared in the IFM for a Trading Hour exceeds the CAISO Forecast of BAA Demand, then the RUC Procurement Target for that Balancing Authority Area is RCD in

the amount of the excess Supply.

If the Supply (excluding Virtual Supply) cleared in the IFM for a Trading Hour equals the CAISO Forecast of BAA Demand, then the RUC Procurement Target for that Balancing Authority Area is zero RCU and zero RCD.

~~The procurement target for RUC in any given Trading Hour will be determined based on the next day's hourly CAISO Forecast of CAISO Demand less the Energy scheduled in the Day-Ahead Schedule, and accounting for other factors, as appropriate, such as Demand Forecast error and estimated incremental RTM Bids including those from Participating Intermittent Resources.~~ The adjustments listed in Sections 31.5.3.1 to 31.5.3.1.6 will be made to the CAISO Forecast of ~~CAISO~~ BAA Demand to account for the conditions as provided therein. ~~Adjustments may be made on a RUC Zone basis to ensure that RUC results in adequate local capacity procurement.~~ The RUC P~~p~~rocurement T~~t~~arget setting procedure is designed to meet the requirements of reliable grid operation without unnecessary over-procurement of RUC Capacity or over-commitment of resources. Additional detail on the process for setting the RUC P~~p~~rocurement T~~t~~arget is specified in the Business Practice Manuals.

31.5.3.1 CAISO Operator Review & Adjustment

The CAISO Operator reviews the CAISO Forecast of ~~CAISO~~ BAA Demand and all calculated adjustments as provided in Sections 31.5.3.1.1 through 31.5.3.1.6. The CAISO Operator may accept, modify, or reject such adjustments based on Good Utility Practice. If the CAISO Operator determines it must modify the CAISO Forecast of ~~CAISO~~ BAA Demand, the CAISO Operator shall log sufficient information as to reason, Operating Hour, and specific modification(s) made to the CAISO Forecast of ~~CAISO~~ BAA Demand.

31.5.3.1.1 RUC Net Short Conditions

The CAISO Operator may conform the CAISO Forecast of ~~CAISO~~ BAA Demand in the event the CAISO Operator has determined that additional capacity may need to be procured in RUC to meet anticipated Real-Time system conditions. The CAISO Operator will consider factors such as: CAISO Forecast of ~~CAISO~~ BAA Demand error; weather pattern that is expected to continue or change within the next Trading Day; generator outage resulting in different Supply availability than was bid into the Day-Ahead Market; fire that threatens transmission lines and/or corridors; the expectation that the amount of

Generation committed in the IFM will not be sufficient to meet the anticipated Demand; and Reliability Coordinator next-day analysis of system conditions.

31.5.3.1.2 Demand Response Adjustments.

The CAISO may adjust the CAISO Forecast of CAISO Demand to account for Demand response that is clearly communicated to the CAISO as certain to be curtailed for the next Trading Day. Such adjustments may be made only for the two following types of Demand response: (1) Demand response triggered by a staged System Emergency event; and (2) Demand response that is triggered by a price or an event known in advance. ~~If an LSE informs the CAISO of anticipated Demand response prior to Market Close of the DAM, the CAISO Forecast of CAISO Demand used as the RUC procurement target will be reduced accordingly.~~

31.5.3.1.3 [Not Used]~~MSS Adjustment~~

~~As specified in section 31.5.2.1, MSS Operators are permitted to make an annual election to opt-in or opt-out of RUC participation. If the MSS Operator opts-in to the RUC procurement process, the CAISO considers the CAISO's Demand Forecast of the MSS Demand in setting the RUC procurement target. If an MSS Operator opts-out of the RUC procurement process, the CAISO does not consider the CAISO's Demand Forecast of the MSS Demand in setting the RUC procurement target. An MSS Operator that has elected to opt-out of RUC, or has elected to Load follow and therefore has also elected to opt-out of RUC, is required to provide sufficient resources in the Day-Ahead Market, and in the case of a Load following MSS Operator, follow its Load within the MSS Deviation Band. To reflect these options and to prevent committing additional capacity or resources for any differences between the CAISO Demand Forecast for the MSS and the MSS Self-Scheduled quantities in the IFM, the CAISO replaces the CAISO Demand Forecast for such MSS with the quantity of Demand in Self-Schedules submitted by the Scheduling Coordinator for the MSS in the IFM.~~

31.5.3.1.4 Eligible Intermittent Resource Adjustment

Scheduling Coordinators for Eligible Intermittent Resources may submit Bids, including Self-Schedules, in the Day-Ahead Market and the quantity ultimately scheduled from Eligible Intermittent Resources may differ from the CAISO forecasted deliveries from the Eligible Intermittent Resources. The CAISO may adjust the forecasted Demand either up or down for such differences by RUC Zone in which the Eligible

Intermittent Resource resides. If the EIR's expected output participating in the Day-Ahead Market, as reflected in the EIR's Bid, including a Self-Schedule, or lack thereof, is less than CAISO's forecast of the EIR, the CAISO may make a Supply-side adjustment to the resource's expected output by using the CAISO's forecast of the EIR. If on the other hand, the EIR's expected output participating in the Day-Ahead Market, as reflected in the EIR's Bid, including a Self-Schedule, or lack thereof, is greater than the CAISO's forecast of the EIR, the CAISO may make a Demand side adjustment to the RUC Zone Demand equal to the difference between the EIR's Day-Ahead Schedule and the CAISO forecasted quantity.

31.5.3.1.5 Real-Time Expected Incremental Supply Self-Schedule Adjustment

In order to avoid over procurement of RUC, the CAISO may, using a similar-day approach, estimate the RTM Self-Schedules for resources that usually submit RTM Self-Schedules that are greater than their Day-Ahead Schedules. The CAISO Operator may set the length of the Self-Schedule moving average window. Initially this moving average window shall be set by default to seven (7) days; in which case the weekday estimate is based on the average of five (5) most recent weekdays and the weekend estimate is based on the average of the two (2) most recent weekend days. To the extent weather conditions differ significantly from the historical days, additional adjustment may be necessary. After determining the estimate of Real-Time Self-Schedules, using a similar day forecasting approach, the CAISO may adjust the CAISO Forecast of ~~CAISO~~ BAA Demand of a RUC Zone based on the forecasted quantity changes in Supply as a result of Self-Schedules submitted in the RTM. This adjustment for forecasted Real-Time Self-Schedules may result in positive or negative adjustments. Demand adjustments to the CAISO Forecast of ~~CAISO~~ BAA Demand result when there is a net forecast decrease in Real-Time Self-Schedule Supply relative to the Day-Ahead Schedule Supply. Supply adjustments to the individual resources occur when there is a net forecast increase in Real-Time Self-Schedule Supply relative to the Day-Ahead Schedule Supply of the individual resource.

31.5.3.1.6 Day-Ahead Ancillary Service Procurement Deficiency Adjustment

While the CAISO intends to procure one hundred percent (100%) of its forecasted Operating Reserve requirement in the IFM based on the CAISO Forecast of ~~CAISO~~ BAA Demand as specified in Section 8.3.1, the CAISO may make adjustments to the CAISO Forecast of ~~CAISO~~ BAA Demand used in RUC to ensure sufficient capacity is available or resources committed in cases that the CAISO is unable to

procure one hundred percent (100%) of its forecasted Operating Reserve requirement in the IFM; provided, however, that the CAISO shall not procure specific Ancillary Services products in RUC, nor will the RUC optimization consider AS-related performance requirements of available capacity.

31.5.3.2 RUC Zones

31.5.3.2.1 Use of RUC Zones

The CAISO shall adjust the CAISO Forecast of ~~CAISO~~ BAA Demand by RUC Zone for the conditions described in Sections 31.5.3.2 through 31.5.3.6. If any adjustments are made throughout the affected RUC Zone, such adjustments will be made consistent with the subset of system LDFs for the Nodes that define the RUC Zone(s). The CAISO will adjust the CAISO Forecast of ~~CAISO~~ BAA Demand of each affected RUC Zone, preserving the LDFs within each RUC Zone, but the relative weighting of the LDFs across the system will deviate from the original LDFs. ~~RUC costs will be pooled together to establish the RUC Compensation Costs. As described in Section 11.6.1, Settlement of RUC Compensation Costs will not be on a RUC Zone basis.~~

31.5.3.2.2 Designation of RUC Zones

The CAISO shall define RUC Zones as areas that represent UDC or MSS Service Areas, Local Capacity Areas, or any other collection of Nodes. RUC Zones will be designated by the CAISO as necessary and to the extent that the CAISO has developed sufficient data on historical ~~CAISO~~ Demand in a BAA and weather conditions to allow it to perform Demand Forecasts. Once the CAISO has established RUC zones, the mapping of RUC Zones to Nodes shall be static data and shall be maintained in the Master File. The CAISO may add new Nodes to a RUC Zone if new Nodes are added to the FNM. The status of each RUC Zone shall remain active for as long as the CAISO maintains regional forecasting capabilities, but once a RUC Zone is designated the CAISO will only adjust the CAISO Forecast of ~~CAISO~~ BAA Demand as necessary to address RUC procurement constraints and not as a normal course for all CAISO Market functions. The actual RUC Zones used by the CAISO in its operation of RUC are posted on the CAISO Website.

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31.5.5 Selection and Commitment of RUC Capacity

Capacity that is not already scheduled in the IFM may be selected as RUC Capacity to meet a RUC Procurement Target~~through the RUC process of the DAM~~.

31.5.5.1 Nodal Procurement and Deliverability of Reliability Capacity

RUC optimizes procurement of Reliability Capacity such that, in the event the Real-Time Market awards the incremental or decremental Energy Bids corresponding to the Reliability Capacity Awards, the dispatch of Energy from the Reliability Capacity in the market would not result in flows exceeding Transmission Constraints and scheduling limits, including EDAM Transfer limits.

The RUC optimization distributes an EDAM Entity's RUC procurement target to the Demand Locations within each EDAM Entity based on distribution factors derived from historical and/or forecasted information that reflect the relative contributions of Demand to the RUC procurement targets.

31.5.5.2 The RUC Optimization

The RUC optimization will select RUC Capacity and produce nodal RUC Prices by minimizing total Bid cost based on RUC Availability Bids and Start-Up, Minimum Load Bids and Transition Costs. RUC will not consider Start-Up, Minimum Load Bids, or Transition Costs for resources already committed in the IFM. ~~The RUC Capacity of a resource is the incremental amount of capacity selected in RUC above the resource's Day-Ahead Schedule. The resource's Day-Ahead Schedule plus its RUC Capacity comprise the resource's RUC Schedule.~~ The CAISO will only issue RUC Start-Up Instructions to resources committed in RUC that must receive a Start-Up Instruction in the Day-Ahead in order to be available to meet Real-Time Demand. RUC Schedules will be provided to Scheduling Coordinators even if a RUC Start-Up Instruction is not issued at that time. RUC shall not Shut Down resources scheduled through the IFM but~~and~~ RUC may~~will not~~ commit a Multi-Stage Generating Resource to a lower MSG Configuration ~~that is unable to support the Energy scheduled in the IFM~~. If the RUC process cannot find a feasible solution given the resources committed in the IFM, the RUC process will adjust constraints as described in Section 31.5.4 to arrive at a feasible solution that accommodates all the resources committed in the IFM~~, and any necessary de-commitment of IFM committed units shall be effectuated through an Exceptional Dispatch~~.

31.5.5.3 Limitations on RUC Awards

A RUC Award to a specific resource only can consist of RCU or RCD, and not both. RUC shall not Shut Down resources scheduled through the IFM. RUC shall not provide a RUC Award to a Multi-Stage Generating Resource that would require it to make an infeasible transition from the MSG Configuration applicable to its Day-Ahead Schedule to the MSG Configuration applicable to meeting the requirements of the potential RUC Award.

The RUC optimization applies a constraint such that the sum of awards for Energy, Ancillary Services, Imbalance Reserves, and Reliability Capacity is feasible given the resource's capacity, operating and economic limitations.

The RUC optimization only awards a RUC Award to a storage resource using the Non-Generator Resource model to the extent its modeled State of Charge can support such schedule or award.

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Section 33

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33.11.6 Administrative Charge

The CAISO will charge each EDAM Market Participant an EDAM Administrative Charge, which consists of the System Operations Real-Time Dispatch Charge and the Market Services Charge, both volumetric charges. The CAISO will no longer collect the EIM Administrative Charge from an EDAM Market Participant. The Systems Operations Real-Time Dispatch Charge and the Market Services Charge are described in Appendix F, Schedule 1, Part A.

33.11.6.1 Temporary EDAM Administrative Charge Transitional Load Ramp-in

The EDAM Administrative Charge assessed to Scheduling Coordinators' demand-related charge codes will be assessed on an incremental percentage at the outset of EDAM. Each incremental percentage will apply to the calendar year, January to December, such that the CAISO would assess the incremental percentage to an EDAM Entity joining after

January to the remaining part of the calendar year only. The first year EDAM is available for participation, the CAISO will assess five (5) percent of the MWh of each EDAM Scheduling Coordinator's metered demand to apply the EDAM Administrative Charge. In the second year, the CAISO will assess twenty-five (25) percent. In the third year, the CAISO will assess fifty (50) percent. In the fourth year and thereafter, the CAISO will assess seventy-five (75) percent. In the fifth year and thereafter, the CAISO will assess one-hundred (100) percent. The foregoing does not apply to EDAM Scheduling Coordinators' MWh of Energy or Supply: The CAISO will assess one-hundred (100) percent of the MWh of each EDAM Scheduling Coordinator's Energy to apply the EDAM Administrative Charge at the outset of EDAM and thereafter.

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33.30.5 Start-Up and Minimum Load

For the determination of Proxy Start-Up Costs and Proxy Minimum Load Costs, the CAISO will utilize the Market Services Charge and System Operations Real-Time Dispatch Charge reflected in the EDAM Administrative Charge.

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Section 40

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40.6.1 Day-Ahead Availability

Except as otherwise provided in Sections 40.6.1.1 and 40.6.4, Scheduling Coordinators supplying Resource Adequacy Capacity shall make such Resource Adequacy Capacity, available Day-Ahead to the CAISO as follows:

(1) Resource Adequacy Resources physically capable of operating must submit: (a) Economic Bids for Energy and/or Self-Schedules for all their Resource Adequacy Capacity and (b) Economic Bids for Ancillary Services and/or a Submission to Self-Provide Ancillary Services in the IFM for all of their Resource Adequacy Capacity that is certified to provide Ancillary Services. For Resource Adequacy Capacity that is certified to provide Ancillary Services and is not covered by a Submission to Self-Provide Ancillary Services, the resource must submit Economic Bids for each Ancillary Service for which the resource is certified. For Resource Adequacy Capacity subject to this requirement for which no Economic Energy Bid or Self-Schedule has been submitted, the CAISO shall insert a Generated Bid in accordance with Section 40.6.8. For Resource Adequacy Capacity subject to this requirement for which no Economic Bids for Ancillary Services or Submissions to Self-Provide Ancillary Services have been submitted, the CAISO shall insert a Generated Bid in accordance with Section 40.6.8 for each Ancillary Service the resource is certified to provide.

(2) Resource Adequacy Resources must be available except for limitations specified in the Master File, legal or regulatory prohibitions or as otherwise required by this CAISO Tariff or by Good Utility Practice.

(3) Through the IFM co-optimization process, the CAISO will utilize available Resource Adequacy Capacity to provide Energy, Imbalance Reserves, or Ancillary Services in the most efficient manner to clear the Energy market, manage congestion and procure required Ancillary Services. In so doing, the IFM will honor submitted Energy Self-Schedules of Resource Adequacy Capacity unless the CAISO is unable to satisfy one hundred percent (100%) of the Ancillary Services requirements. In such cases, the CAISO may curtail all or a portion of a submitted Energy Self-Schedule to allow Ancillary Service-certified Resource Adequacy Capacity to be used to meet the Ancillary Service requirements. The CAISO will not curtail for the purpose of meeting Ancillary Service requirements a Self-Schedule of a resource internal to a Metered Subsystem that was submitted by the Scheduling Coordinator for that Metered Subsystem. If the IFM reduces

the Energy Self-Schedule of Resource Adequacy Capacity to provide an Ancillary Service, the Ancillary Service Marginal Price for that Ancillary Service will be calculated in accordance with Section 27.1.2 using the Ancillary Service Bids submitted by the Scheduling Coordinator for the Resource Adequacy Resource or inserted by the CAISO pursuant to this Section 40.6.1, and using the resource's Generated Energy Bid to determine the Resource Adequacy Resource's opportunity cost of Energy. If the Scheduling Coordinator for the Resource Adequacy Resource believes that the opportunity cost of Energy based on the Resource Adequacy Resource's Generated Energy Bid is insufficient to compensate for the resource's actual opportunity cost, the Scheduling Coordinator may submit evidence justifying the increased amount to the CAISO and to the FERC no later than seven (7) days after the end of the month in which the submitted Energy Self-Schedule was reduced by the CAISO to provide an Ancillary Service.

The CAISO will treat such information as confidential and will apply the procedures in Section 20.4 of this CAISO Tariff with regard to requests for disclosure of such information. The CAISO shall credit any higher opportunity costs approved by FERC.

(4) Resource Adequacy Resources must submit RUC Availability Bids for RCU for their Resource Adequacy Capacity~~A Resource Adequacy Resources must participate in the RUC to the extent that the resource has available Resource Adequacy Capacity that is not reflected in a Day-Ahead Schedule. Resource Adequacy Capacity participating in RUC will be optimized using a zero dollar ($0/MW-hour) RUC Availability Bid~~.

(5) Resource Adequacy Resources eligible to provide Imbalance Reserves must submit Bids for IRU and IRD for all RA Capacity that meets its obligation pursuant to 40.6.1(1)(a) by submitting an Economic Bid~~Capacity from Resource Adequacy Resources selected in RUC will not be eligible to receive a RUC Availability Payment~~.

40.6.1.1 Day-Ahead Availability - Specific RA Resource Types

(a) **Distributed Generation Facilities.** Distributed Generation Facilities shall comply with the IFM and RUC bidding requirements that apply to the same technology type of a

resource connected to the CAISO Controlled Grid.

(b) **Non-Generator Resources**

(1) Non-Generator Resources that do not use Regulation Energy Management shall submit: Economic Bids or Self-Schedules into the IFM for all RA Capacity for all hours of the month the resource is physically capable of operating; and RUC Availability Bids for both RCU and RCD for all RA Capacity for all hours of the month the resource is physically capable of operating.

(2) Non-Generator Resources using Regulation Energy Management shall submit Economic Bids or Self-Schedules into the IFM for all RA Capacity for Regulation for all hours of the month the resource is physically capable of operating.

(c) **Extremely Long-Start Resources.** Extremely Long-Start Resources that are Resource Adequacy Resources must make themselves available to the CAISO by complying with:

(1) the Extremely Long-Start Commitment Process under Section 31.7 or otherwise committing the ELS Resource upon instruction from the CAISO, if physically capable; and

(2) the applicable provisions of Section 40.6.1 regarding Day-Ahead availability for the Trading Days for which it was committed.

* * * * * *

Appendix A

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- EIM Upward Available Balancing Capacity

Any upward capacity from an EIM ~~Participating~~ Resources or a non-participating resource that an EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator has identified in the EIM Resource Plan as available to address power balance and transmission violations in the EIM Balancing

Authority Area.

* * * * * *

- Generating Unit

An individual electric generator, or storage for later injection of electricity, and its associated plant and apparatus whose electrical output is capable of being separately identified and metered or a Physical Scheduling Plant that, in either case, is: (a) located within the CAISO Balancing Authority Area (which includes a Pseudo-Tie of a generating unit to the CAISO Balancing Authority Area), or, for purposes of scheduling and operating the Day-Ahead Market only, an EDAM Entity Balancing Authority Area, or, for purposes of scheduling and operating the Real-Time Market only, an EIM Entity Balancing Authority Area; (b) connected to the CAISO Controlled Grid, either directly or via interconnected transmission, or distribution facilities or via a Pseudo-Tie; and (c) capable of producing or storing and then delivering net Energy (Energy in excess of a generating station's internal power requirements).

* * * * * *

Appendix F Rate Schedules

Schedule 1

Grid Management Charge

Part A - Calculation of Grid Management Charge (GMC)

The GMC consists of the following separate service charges for 2024 and 2025: (1) the Market Services Charge; (2) the System Operations Charge; and (3) the CRR Services Charge. The GMC revenue requirement, determined in accordance with Part C of this Schedule 1, will be allocated to the service charges specified in Part A of this Schedule 1 as follows: forty-nine (49) percent to Market Services; forty-nine (49) percent to System Operations; and two (2) percent to CRR Services. Beginning in 2026, the GMC will consist of the following separate service charges: (1) the Market Services Charge; (2) the System Operations Real-Time Dispatch Charge; (3) the System Operations Balancing Authority Area Services Charge; and (4) the CRR Services Charge. The GMC revenue requirement, determined in accordance with Part C of this Schedule 1, will be allocated to the service charges specified in Part A of this Schedule 1 as follows: forty-nine (49) percent to Market Services; twenty-three (23) percent to System Operations Real-Time Dispatch Charge; twenty-six (26) percent to System Operations Balancing Authority Area Services Charge; and two (2) percent to CRR Services.

Every three (3) years, the CAISO will conduct an updated cost of service study, in consultation with stakeholders and using costs from the previous year. In conducting each cost-of-service study, the CAISO will recalculate the service charge percentages and the rates for the fees and charges that

constitute the Grid Management Charge as set forth in Section 11.22. In addition, the cost-of-service study results will be used to update the RC Funding Percentage used to calculate the annual RC Funding Requirement, as well as the real-time percentages of the Market Services Charge. The cost-of-service study results will also be used to update the real-time market percentage used to calculate the EDAM System Operations charge. If, based on the cost-of-service study results, the service category revenue requirement allocation percentages or the level of fees and charges have changed, the CAISO will submit tariff amendments to reflect such changes pursuant to Section 205 of the FPA.

1. The rate for the Market Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category net the projected Bid Segment Fees, Inter-SC Trade Transaction Fees, and the SCID Charge by the forecast annual gross absolute value of MW per hour of Ancillary Services capacity awarded in the Day-Ahead and Real-Time Markets, MWh of Energy cleared in the Day-Ahead market, MWh of Imbalance Reserves cleared in the Day-Ahead market, MWh of Reliability capacity cleared in the Day-Ahead market, Virtual Demand Award, Virtual Supply Award, and FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy, less the forecast annual gross absolute value of such Energy as may be excluded for a load following MSS pursuant to an MSS agreement, Standard Ramping Energy, Regulation Energy, Ramping Energy Deviation, Residual Imbalance Energy, Exceptional Dispatch Energy and Operational Adjustments for the Day-Ahead and Real-Time.

2. The rate for the System Operations Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category, net the projected TOR Charges by forecast annual gross absolute value of MWh of real-time energy flows on the CAISO Controlled Grid.

3. Beginning in 2026, the rate for the System Operations Real-Time Dispatch Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category net the proportional projected TOR Charges by forecast annual gross absolute value of MWh of real-time energy flows of CAISO, EIM, and EDAM Market Participants.

4. Beginning in 2026, the rate for the System Operations Balancing Authority Area Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category by forecast annual gross absolute value of MWh of real-time energy flows on the CAISO Controlled Grid.

5. The rate for the CRR Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category, net the projected CRR Auction Bid Fees, by the forecast annual sum of awarded MW of CRRs per hour.

The rates for the foregoing charges will be adjusted automatically each year, effective January 1 for the following twelve (12) months, in the manner set forth in Part D of this Schedule.

Part B - Quarterly Adjustment, If Required

Each component rate of the GMC will be adjusted automatically on a quarterly basis, up or down, so that rates reflect the annual revenue requirement as posted on the CAISO Website, as applicable, if the estimated revenue collections for that component, after accounting for revenue collected from the Bid Segment Transaction Fee, the CRR Transaction Fee, the Inter-Scheduling Coordinator Trade Transaction Fee, the Scheduling Coordinator ID Charge and the TOR Charge, on an annual basis, change by more than two (2) percent or $1 million, whichever is greater, during the year. Such adjustment may be implemented not more than once per calendar quarter, and will be effective the first day of the next calendar month.

The rates will be adjusted according to the formulae listed in Appendix F, Schedule 1, Part A with the billing determinant(s) readjusted on a going-forward basis to reflect the change of more than two (2) percent or $1 million, whichever is greater, from the estimated revenue collections provided in the annual informational filing.

Part C - Costs Recovered through the GMC

As provided in Section 11.22.2 of the CAISO Tariff, the GMC includes the following costs, as projected in the CAISO's budget for the year to which the GMC applies:

- CAISO Operating Costs;
- CAISO Financing Costs, including debt service on CAISO capital expenditures;
- CAISO Other Costs and Revenues, including penalties, interest earnings and other revenues;
- CAISO Operating Cost Reserve adjustment; and
- CAISO Cash Funded Capital and Project Costs

Such costs, for the CAISO as a whole, are allocated to the service charges that comprise the GMC: (1) market services, (2) system operations, and (3) CRR services, according to the factors listed in Part A of this Schedule 1, and

adjusted annually for:

- any surplus revenues from the previous year as deposited in the CAISO Operating Reserve Account, or deficiency of revenues, as recorded in a memorandum account;

divided by:

- forecasted annual billing determinant volumes;

adjusted quarterly for:

- a change in the volume estimate used to calculate the individual GMC components, if, on an annual basis, the change is two (2) percent or $1 million, whichever is greater, from the estimated revenue collections provided in the annual informational filing.

The GMC revenue requirement formula is as follows:

GMC revenue requirement =

CAISO Operating Costs + CAISO Financing Costs + CAISO Other Costs and Revenues + CAISO Operating Cost Reserve adjustment + CAISO Cash Funded Capital and Project Costs,

[The "USoA" reference below is the FERC Uniform System of Accounts, and is intended to include subsequent re-numbering or re-designation of the same accounts or subaccounts.]

Where,

(1) CAISO Operating Costs include:

(a) Transmission expenses (USoA 560-574);

(b) Regional market expenses (USoA 575.1-575.8);

(c) Maintenance accounts (USoA 576-576.5)

(d) Customer accounting expenses (USoA 901-905);

(e) Customer service and informational expenses (USoA 906-910);

(f) Sales expenses (USoA 911-917);

(g) Administrative & general expenses (USoA 920-935);

(h) Taxes other than income taxes that relate to CAISO operating income (USoA 408.1); and

(i) Miscellaneous, non-operating expenses, penalties and other deductions (USoA 426 subaccounts).

(2) CAISO Financing Costs include:

(a) For any fiscal year, scheduled principal and interest payments, sinking fund payments related to balloon maturities, repayment of commercial paper notes, net payments required pursuant to a payment obligation, or payments due on any CAISO notes. This amount includes the current year accrued principal and interest payments due in the first one hundred twenty (120) days of the following year.

(b) The debt service coverage requirement, which is a percentage of the senior lien debt service, i.e., all debt service that has a first lien on CAISO net operating revenues. The coverage requirement is twenty-five (25) percent, unless otherwise specified by the rate covenants of the official statements for each CAISO bond offering.

(3) CAISO Other Costs and Revenues include:

(a) Interest earnings (USoA 419) on funds not restricted by bond or note proceeds specifically designated for capital projects or capitalized interest. Unrealized gains or losses shall be excluded and realized gains and losses shall be included. If it has been determined that a permanent impairment in an investment has occurred, it shall be included.

(b) Miscellaneous revenues, which includes fees and fines assessed and collected by the CAISO (USoA 421, 456, 457.1 and 457.2 subaccounts).

(c) Other interest expenses (USoA 431) not provided for elsewhere.

(4) CAISO Operating Cost Reserve adjustment is the sum of:

(a) The actual excess or shortfall in collections of the prior year's rates compared to the budgeted amounts;

(b) The actual excess or shortfall in CAISO Operating Costs, CAISO Other Costs and Revenues and CAISO Financing Costs for the prior year compared to the budgeted amounts except any excess in the prior year budgeted amount for self-insured healthcare costs compared to actual self-insured healthcare costs;

(c) The estimate of current year collections and costs compared to budgeted amounts for the current year; and

(d) The change in CAISO Operating Cost Reserve consistent with the level of the CAISO Operating Cost Reserve requirement.

(5) CAISO Cash-Funded Capital and Project Costs include funding from current year revenue for approved capital and projects.

A separate revenue requirement shall be established for each component of the GMC by developing the revenue requirement for the CAISO as a whole and then assigning such costs to the service categories using the allocation factors provided in Appendix F, Schedule 1, Part A.

Part D - Information Requirements

Budget Schedule

The CAISO will convene, prior to the commencement of the annual budget process, an initial meeting with stakeholders to: (a) receive ideas to control CAISO costs; (b) receive ideas for projects to be considered in the capital budget development process; and, (c) receive suggestions for reordering CAISO priorities in the coming year.

Within two (2) weeks of the initial meeting, the ideas presented by the stakeholders shall be communicated in writing to the CAISO's officers, directors and managers as part of the budget development process, and a copy of this communication shall be made available to stakeholders.

The CAISO shall submit the following information either at the initial meeting with stakeholders or subsequent to the initial submission of the draft budget to the CAISO Governing Board: (a) proposed

capital budget with indicative projects for the next subsequent calendar year, a budget-to-actual review for capital expenditures for the previous calendar year, and a budget-to-actual review of current year capital costs; and, (b) budget-to-actual review of expenditures and activities for the previous calendar year, and a budget-to-actual review of expenditures for the current year.

Subsequent to the initial submission of the draft budget to the CAISO Governing Board, the CAISO will provide stakeholders expenditures and activities in detail for the next subsequent calendar year (in the form of a draft of the budget book for the CAISO Governing Board). Certain of this detailed information which is deemed commercially sensitive will only be made available to parties that pay the CAISO's GMC (or regulators) who execute a confidentiality agreement.

The CAISO shall provide such materials on a timely basis to provide stakeholders at least one full Board meeting cycle to review and prepare comments on the draft annual budget to the CAISO Governing Board.

At least one month prior to the CAISO Governing Board meeting scheduled to consider approval of the proposed budget, the CAISO will hold a meeting open to all stakeholders to discuss the details of the CAISO's budget and revenue requirement for the forthcoming year.

Prior to a final recommendation by the CAISO Governing Board on the CAISO's draft annual budget, the CAISO shall respond in writing to all written comments on the draft annual budget submitted by stakeholders and/or the CAISO shall issue a revised draft budget indicating in detail the manner in which the stakeholders' comments have been taken into consideration.

The CAISO will provide no fewer than forty-five (45) days for stakeholder review of its annual budget between initial budget posting and final approval of the budget by the CAISO Governing Board.

Budget Posting

After the approval of the annual budget by the CAISO Governing Board, the CAISO will post on the CAISO Website the CAISO operating and capital budget to be effective during the subsequent fiscal year, and the billing determinant volumes used to develop the rate for each component of the GMC, together with workpapers showing the calculation of such rates.

Periodic Financial Reports

The CAISO will create periodic financial reports consisting of an income statement, balance sheet, capital projects report and such other reports as are required by the CAISO Governing Board. The periodic financial reports will be posted on the CAISO Website not less than quarterly.

Part E - [Not used]

Part F - [Not Used]

Schedule 2

[Not Used]

Schedule 3

Regional Access Charge and Wheeling Access Charge

1. Objectives and Definitions.

1.1 Objectives.

(a) The Access Charge is the charge assessed for using the CAISO Controlled Grid. It consists of two components, the Regional Access Charge (RAC) and the Local Access Charge (LAC).

(b) The RAC is based on one CAISO Grid-wide rate.

(c) The LAC will be determined by each Participating TO. The LAC of Non-Load-Serving Participating TOs may also be project specific. Each Participating TO will charge for and collect the LAC, subject to Section 26.1 of the CAISO Tariff and Section 13 of this Schedule 3.

(d) The Wheeling Access Charge is paid by Scheduling Coordinators for Wheeling as set forth in Section 26.1.4 of the CAISO Tariff. The CAISO will collect the Wheeling revenues from Scheduling Coordinators on a Trading Interval basis and repay these to the Participating TOs based on the ratio of each Participating TO's Transmission Revenue Requirement to the sum of all Participating TOs' Transmission Revenue Requirements.

(e) The Non-Subscriber Usage Payment Amount (NSUPA) is provided by the CAISO to Subscriber Participating TOs for Non-Subscriber use of the Subscriber Participating TO's transmission assets and Entitlements and Subscriber Encumbrances used to provide Subscriber Rights, subject to Section 26.1.4 of the CAISO Tariff, provided that a Subscriber Participating TO will not otherwise be entitled to establish any other element of a Transmission Revenue Requirement unless justified for the recovery of costs associated with transmission facilities authorized in accordance with Section 24 or Section 25 of the CAISO Tariff.

1.2 Definitions

Unless the context otherwise requires, any word or expression defined in the Master Definition Supplement shall have the same meaning where used in this Schedule 3.

2. Assessment of Regional Access Charge.

All UDCs and MSS Operators in a PTO Service Territory serving Gross Loads directly connected to the transmission facilities or Distribution System of a UDC or MSS Operator in a PTO Service Territory shall pay to the CAISO a charge for transmission service on the Regional Transmission Facilities included in the CAISO Controlled Grid. A UDC or MSS Operator that is also a Participating TO shall pay, or receive payment of, if applicable, the difference between (i) the Regional Access Charge applicable to its transactions as a UDC or MSS Operator; and (ii) the disbursement of Regional Access Charge revenues to which it is entitled pursuant to Section 26.1.3 of the CAISO Tariff.

3. TAC Areas.

3.1 TAC Areas are based on the Control Areas in California prior to the CAISO Operations Date. Three TAC Areas will be established based on the Original Participating TOs: (1) a Northern Area consisting of the PTO Service Territory of Pacific Gas and Electric Company and the PTO Service Territory of any entity listed in Section 3.3 or 3.5 of this Schedule; (2) an East Central Area consisting of the PTO Service Territory of Southern California Edison Company and the PTO Service Territory of any entity listed in Section 3.4, 3.5 or 3.6 (as indicated therein) of this Schedule 3; and (3) a Southern Area consisting of the PTO Service Territory of San Diego Gas & Electric Company. Participating TOs that are not in one of the above cited PTO Service Territories are addressed below.

3.2 If the Los Angeles Department of Water and Power joins the CAISO and becomes a Participating TO, its PTO Service Territory will form a fourth TAC Area, the West Central Area.

3.3 If any of the following entities becomes a Participating TO, its PTO Service Territory will become part of the Northern Area: Sacramento Municipal Utility District, Western Area Power Administration - Sierra Nevada Region, the Department of Energy California Labs, Northern California Power Agency, City of Redding, Silicon Valley Power, City of Palo Alto, City and County of San Francisco, Alameda Bureau of Electricity, City of Biggs, City of Gridley, City of Healdsburg, City of Lodi, City of Lompoc Utility Department, Modesto Irrigation District, Turlock Irrigation District, Plumas County Water Agency, City of Roseville Electric Department, City of Shasta Lake, and City of Ukiah or any other entity owning or having contractual rights to Regional or Local Transmission Facilities in Pacific Gas and Electric Company's Control Area prior to the CAISO Operations Date.

3.4 If any of the following entities becomes a Participating TO, its PTO Service Territory will become part of the East Central Area: City of Anaheim Public Utility Department, City of Riverside Public Utility Department, City of Azusa Light and Water, City of Banning Electric, City of Colton, City of Pasadena Water and Power Department, The Metropolitan Water District of Southern California and City of Vernon or any other entity owning or having contractual rights to Regional or Local Transmission Facilities in Southern California Edison Company's Control Area prior to the CAISO Operations Date.

3.5 If the California Department of Water Resources becomes a Participating TO, its Regional Transmission Revenue Requirements associated with Regional Transmission Facilities in the Northern Area would become part of the Regional Transmission Revenue Requirement for the Northern Area while the remainder would be included in the East Central Area.

3.6 If the City of Burbank Public Service Department (Burbank) and/or the City of Glendale Public Service Department (Glendale) become Participating TOs after or at the same time as the Los Angeles Department of Water and Power becomes a Participating TO, then the PTO Service Territory of Burbank and/or Glendale would become part of the West Central Area. Otherwise, if Burbank or Glendale becomes a Participating TO, prior to Los Angeles, its PTO Service Territory will become part of the East Central Area. Once either Burbank or Glendale are part of the East Central Area, they will not move to the West Central Area if such area is established.

3.7 If the Imperial Irrigation District or an entity outside the State of California should apply to become a Participating TO (other than a Subscriber Participating TO), the CAISO Governing Board will review the reasonableness of integrating the entity into one of the existing TAC Areas. If the entity cannot be integrated without the potential for significant cost shifts, the CAISO Governing Board may establish a separate TAC Area. Each Subscriber Participating TO will have its own TAC Area.

4. [NOT USED]

5. Determination of the Access Charge.

5.1 The Access Charge consists of a Regional Access Charge (RAC) and a Local Access Charge (LAC) that is based on a utility-specific rate established by each Participating TO in accordance with its TO Tariff.

5.2 Each Participating TO and Approved Project Sponsor will develop, in accordance with Section 6 of this Schedule 3, a Regional Transmission Revenue Requirement (RTRR PTO) consisting of a Transmission Revenue Requirement for (i) Regional Transmission Facilities; (2) Transmission Facilities that are not yet in operation but have been approved under Section 24 and assigned to the Approved Project Sponsor, that will be Regional Transmission Facilities when placed under the CAISO's Operational Control; and (iii) to the extent the costs have not been recovered, Location Constrained Interconnection Facilities. The RTRR PTO includes the TRBA adjustment described in Section 6.1 of this Schedule 3. If an Approved Project Sponsor that is a Non-Load-Serving Participating Transmission Owner has been assigned responsibility to construct and own a Local Transmission Facility because the CAISO concluded, pursuant to Section 24.4.10, that it

was not reasonable to divide construction responsibility, the Approved Project Sponsor shall include any authorized pre-operational cost recovery for the Local Transmission Facility in its Local Transmission Revenue Requirement. The division of the total revenue requirement associated with the facility between Regional and Local Transmission Revenue Requirements shall be consistent with Appendix F, Schedule 3, Sections 11 and 12.

5.3 The Gross Load amount in MWh shall be established by each Participating TO and filed at FERC with each Participating TO's Transmission Revenue Requirement (GLPTO).

5.4 The Regional Access Charge shall be equal to the sum of the Regional Transmission Revenue Requirements of all Participating TOs and Approved Project Sponsors, divided by the sum of the Gross Loads of all Participating TOs.

6. Regional Transmission Revenue Requirement.

6.1 The Regional Transmission Revenue Requirement of a Participating TO or an Approved Project Sponsor will be determined consistent with CAISO procedures posted on the CAISO Website and shall be the sum of:

(a) the Participating TO's Regional Transmission Revenue Requirement (including costs related to Existing Contracts associated with transmission by others and deducting transmission revenues actually expected to be received by the Participating TO related to transmission for others in accordance with Existing Contracts and Interregional Transmission Projects, less the sum of the Standby Transmission Revenues) or the Approved Project Sponsors Regional Transmission Revenue Requirement; and

(b) the annual Regional TRBA adjustment, which shall be based on the principal balance in the Regional TRBA as of September 30 and shall be calculated as a dollar amount based on the projected Transmission Revenue Credits as adjusted for the true up of the prior year's difference between projected and actual credits. A Non-Load-Serving Participating TO shall include any over- or under-recovery of its annual Regional Transmission Revenue Requirement in its Regional TRBA. If the annual Regional TRBA adjustment involves only a partial year of operations, the Non-Load-Serving Participating TO's over- or under-recovery shall be based on a partial year revenue requirement, calculated by multiplying the Non-Load-Serving Participating TO's Regional Transmission Revenue Requirement by the number of days the Regional Transmission Facilities were under the CAISO's Operational Control divided by the number of days in the year. An Approved Project Sponsor shall include any over- or under-recovery of its annual Regional Transmission Revenue Requirement in its Regional TRBA. If the annual Regional TRBA adjustment involves only a partial year, the Approved Project Sponsor's over- or under-recovery shall be based on a partial year revenue requirement, calculated by multiplying the Approved Project Sponsor's Regional Transmission Revenue Requirement by the number of days the transmission facilities were under construction based on the construction plan required in accordance with Section 24.6.1, as such plan may be updated by the construction plan status report, divided by the number of days in the year.

7. Determination and Updates to the Non-Subscriber Usage Rate

7.1 Each Subscriber Participating TO shall develop a Non-Subscriber Usage Rate in accordance with its TO Tariff, including a $/MWh charge that will be no greater than the applicable Regional Access Charge rate at the time the Subscriber Participating TO files its Non-Subscriber Usage Rate for approval by FERC consistent with Section 8 of this Schedule 3 of Appendix F.

7.2 If the applicable Regional Access Charge rate later decreases below the $/MWh charge contained in a Subscriber Participating TO's FERC-approved Non-Subscriber Usage Rate, the CAISO will limit the disbursement of revenues pursuant to Section 15 of this Schedule 3 to the applicable Regional Access Charge rate until the Subscriber Participating TO refiles its Non-Subscriber Usage Rate to be no greater than the applicable Regional Access Charge rate.

8. Updates to Regional Access Charges.

8.1 Regional Access Charges and Regional Wheeling Access Charges shall be adjusted: (1) on January 1 and July 1 of each year when necessary to reflect the addition of any New Participating TO and (2) on the date FERC makes effective a change to the Regional Transmission Revenue Requirements of any Participating TO or Approved Project Sponsor. Using the Regional Transmission Revenue Requirement accepted or authorized by FERC, consistent with Section 9 of this Schedule 3, for each Participating TO and Approved Project Sponsor, the CAISO will recalculate on a monthly basis the Regional Access Charge applicable during such period. Revisions to the Transmission Revenue Balancing Account adjustment shall be made effective annually on January 1 based on the principal balance in the TRBA as of September 30 of the prior year and a forecast of Transmission Revenue Credits for the next year. If a Subscriber Participating TO joins the CAISO, the Non-Subscriber Usage Payment Amount will be adjusted in accordance with Section 8.4 of this Schedule 3. The CAISO will not adjust or recalculate Regional Access Charges or Regional Wheeling Access Charges to account for FERC-approved Non-Subscriber Usage Rates.

8.2 Any refund associated with a Participating TO's or Approved Project Sponsor's Transmission Revenue Requirement that has been accepted by FERC, subject to refund, shall be provided as ordered by FERC. Such refund shall be invoiced in the CAISO Market Invoice.

8.3 If the Participating TO withdraws one or more of its transmission facilities from the CAISO Operational Control in accordance with Section 3.4 of the Transmission Control Agreement, then the CAISO will no longer collect the TRR for that transmission facility through the CAISO's Access Charge effective upon the date the transmission facility is no longer under the Operational Control of the CAISO. The withdrawing Participating TO shall be obligated to provide the CAISO with all necessary information to implement the withdrawal of the Participating TO's transmission facilities and to make any necessary filings at FERC to revise its TRR. The CAISO shall revise its transmission Access Charge to reflect the withdrawal of one or more transmission facilities from CAISO Operational Control.

8.4 After receiving notice of a change to the Non-Subscriber Usage Rates of any Subscriber Participating TO, the CAISO will recalculate on a monthly basis the Non-Subscriber Usage Payment Amount, if necessary, as of the date on which FERC makes effective a change to the Non-Subscriber Usage Rates.

9. Approval of Updated Regional Revenue Requirements.

9.1 Participating TOs and Approved Project Sponsors will make the appropriate filings at FERC to establish their Transmission Revenue Requirements for their Local Access Charges and the Regional Access Charge, and to obtain approval of any changes thereto. All such filings with the FERC will include a separate appendix that states the RTRR, LTRR (if applicable) and the appropriate Gross Load data and other information required by the FERC to support the Access Charges. The Participating TO or Approved Project Sponsor will provide a copy of its filing to the CAISO and the other Participating TOs and Approved Project Sponsors in accordance with the notice provisions in the Transmission Control Agreement.

9.2 Federal power marketing agencies whose transmission facilities are under CAISO Operational Control shall develop their Regional Transmission Revenue Requirements pursuant to applicable federal laws and regulations, including filing with FERC. All such filings with FERC will include a separate appendix that states the RTRR, LTRR (if applicable) and the appropriate Gross Load data and other information required by the FERC to support the Access Charges. The procedures for public participation in a federal power marketing agency's ratemaking process shall be posted on the federal power marketing agency's website. The federal power marketing agency shall also post on the website the Federal Register Notices and FERC orders for rate making processes that impact the federal power marketing agency's Regional Transmission Revenue Requirement. The Participating TO will provide a copy of its filing to the CAISO and the other Participating TOs in accordance with the notice provisions in the Transmission Control Agreement.

9.3 Subscriber Participating TOs will make the appropriate filings at FERC to establish their $/MWh

Non-Subscriber Usage Rates, and to obtain approval of any changes thereto. All such filings with FERC will include a separate appendix that states the Non-Subscriber Usage Rate and other information required by the FERC to support the Non-Subscriber Usage Rate. The Subscriber Participating TO will provide a copy of its filing to the CAISO and the other Participating TOs and Approved Project Sponsors in accordance with the notice provisions in the Transmission Control Agreement.

10. Disbursement of Regional Access Charge Revenues.

10.1 Regional Access Charge revenues shall be calculated for disbursement to each Participating TO, Approved Project Sponsor, and Subscriber Participating TO on a monthly basis as follows:

(a) the amount determined in accordance with Section 26.1.2 of the CAISO Tariff ("Billed RAC").

(b)

(i) for a Participating TO that is a UDC or MSS Operator and has Gross Load in its TO Tariff in accordance with Appendix F, Schedule 3, Section 9, then calculate the amount each UDC or MSS Operator would have paid and the Participating TO would have received by multiplying the Regional Utility-Specific Rates for the Participating TO whose Regional Transmission Facilities served such UDC and MSS Operator times the actual Gross Load of such UDCs and MSS Operators;

(ii) for a Non-Load-Serving Participating TO and Approved Project Sponsors, then calculate the Non-Load-Serving Participating TO's or Approved Project Sponsor's portion of the total Billed RAC in subsection (a) based on the ratio of the Non-Load-Serving Participating TO's and Approved Project Sponsors Regional Transmission Revenue Requirement to the sum of all Participating TOs' and Approved Project Sponsor's Regional Revenue Requirements; or

(iii) for a Subscriber Participating TO, then calculate the Subscriber Participating TO's portion of the total Billed RAC in subsection (a) based on the absolute value of MWh, in each direction, of Non-Subscriber usage on the Subscriber Participating TO's transmission assets and Entitlements and Subscriber Encumbrances used to provide Subscriber Rights, pursuant to Section 15 of this Schedule 3 of Appendix F.

(c) if the total Billed RAC in subsection (a) received by the CAISO less the total dollar amounts calculated in subsection (b)(i), subsection (b)(ii), and subsection (b)(iii) is different from zero, the CAISO shall allocate the positive or negative difference among those Participating TOs that are subject to the calculations in subsection (b)(i) based on the ratio of each Participating TO's Regional Transmission Revenue Requirement to the sum of all of those Participating TOs' Regional Transmission Revenue Requirements that are subject to the calculations in subsection (b)(i). This monthly distribution amount is the "RAC Revenue Adjustment."

(d) the sum of the RAC revenue share determined in subsection (b) and the RAC Revenue Adjustment in subsection (c) will be the monthly disbursement to the Participating TO.

10.2 If the same entity is both a Participating TO and a UDC or MSS Operator, then the monthly Regional Access Charge amount billed by the CAISO will be the charges payable by the UDC or MSS Operator in accordance with Section 26.1.2 of the CAISO Tariff less the disbursement determined in accordance with Section 10.1(d) of this Schedule 3. If this difference is negative, that amount will be paid by the CAISO to the Participating TO.

11. Determination of Transmission Revenue Requirement Allocation Between Regional and Local Transmission Facilities.

11.1 Each Participating TO shall allocate its Transmission Revenue Requirement between the

Regional Transmission Revenue Requirement and Local Transmission Revenue Requirement based on the Procedure for Division of Certain Costs Between the Regional and Local Transmission Access Charges contained in Section 12 of this Schedule.

12. Procedure for Division of Certain Costs Between the Regional and Local Transmission Access Charges.

12.1 Division of Costs:

(a) **Substations**

Costs for substations and substation equipment, including transformers:

(i) If the Participating TO has substation TRR information by facility and voltage, then the TRR for facilities and equipment at or above 200 kV should be allocated to the RTRR and the TRR for facilities and equipment below 200 kV should be allocated to the LTRR;

(ii) If the Participating TO has substation TRR information by facility but not by voltage, then the TRR for facilities and equipment should be allocated to the RTRR and to the LTRR based on the ratio of gross substation investment allocated to RTRR to gross substation investment allocated to LTRR pursuant to Section 12.1(a)(i); or

(iii) If the Participating TO does not have substation TRR information by facility or voltage, then the TRR for facilities and equipment should be allocated to the RTRR and to the LTRR based on the Participating TO's transmission system-wide gross plant ratio. The system-wide gross plant ratio is determined once the costs that can be split between Regional Transmission Facilities and Local Transmission Facilities for all facilities has been developed in accordance with Sections 12.1(a) through (c), then the resulting cost ratio between Regional Transmission Facilities and Local Transmission Facilities shall be used as the system-wide gross plant ratio.

(iv) Costs of transformers that step down from Regional Transmission Facility to a Local Transmission Facility, to the extent the Participating TO does not have the revenue requirement information available to allocate the costs, should be allocated consistent with the procedures for substations addressed above.

(b) **Transmission Towers and Land with Circuits on Multiple Voltages**

For transmission towers that carry both Regional Transmission Facilities and Local Transmission Facilities on the same tower, the cost of these assets should be allocated two-thirds to the RTRR and one-third to the LTRR. If the transmission tower has only Regional Transmission Facilities, then the costs of these assets should be allocated entirely to the RTRR. If the transmission tower has only Local Transmission Facilities, then the TRR of these assets should be allocated entirely to the LTRR. Provided that the Participating TO does not have land cost information available on a basis that distinguishes the Local and Regional Transmission Facilities, in which case the costs should be allocated on that basis, the costs for land used for transmission rights-of-way for towers that carry both Local and Regional Transmission Facilities should be allocated two-thirds to the RTRR component and one-third to the LTRR.

(c) **Operation and Maintenance, Transmission Wages & Salaries, Taxes, Depreciation and Amortization, and Capital Costs**

If the Participating TO can delineate costs for transmission operations and maintenance (O&M), transmission wages and salaries, taxes, depreciation and amortization, or capital costs on a voltage basis, the costs shall be applied on a bright-line voltage basis. If the costs for O&M, transmission wages and salaries, taxes, depreciation and amortization, or capital costs, are not available on voltage levels, the allocation to the RTRR and the LTRR should be based on the Participating TO's system-wide gross plant ratio defined in

Section 12.1(a).

(d) **Existing Transmission Contracts**

If the Take-Out Point for the Existing Contract is a Regional Transmission Facility, the Existing Contract revenue will be credited to the RTRR of the Participating TO receiving such revenue. Similarly, the Participating TO that is paying charges under such an Existing Contract may include the costs in its RTRR. If the Take-Out Point for the Existing Contract is a Local Transmission Facility, the Existing Contract revenue will be credited to the RTRR and the LTRR of the receiving Participating TO based on the ratio of the Participating TO's RTRR to its LTRR, prior to any adjustments for such revenues. The Participating TO that is paying the charges under the Existing Contract will include the costs in its RTRR and LTRR in the same ratio as the revenues are recognized by the Participating TO receiving the payments.

(e) **Division of the TRBA Adjustment between RTRR and LTRR**

(i) Wheeling revenues associated with transactions exiting the CAISO Controlled Grid at Scheduling Points or Take-Out Points that are at Regional Transmission Facilities shall be reflected as Regional TRBA adjustment components;

(ii) Wheeling revenues associated with transactions exiting the CAISO Controlled Grid at Scheduling Points or Take-Out Points that are at Local Transmission Facilities shall be attributed between Regional and Local TRBA adjustment components based on the Regional and Local Wheeling Access Charge rates assessed to such transactions by the CAISO and/or the Participating TO;

(iii) Any Local Access Charge amounts paid pursuant to Section 26.1 of the CAISO Tariff for the Local Transmission Facilities of a Non-Load-Serving Participating TO shall be reflected as a component of the Local TRBA adjustment associated with the Local Access Charge;

(iv) CRR revenues from CRRs allocated to Participating TOs shall be assigned to Regional or Local TRBA adjustment components based on whether the path related to the CRR is Regional or Local; and,

(v) Other Transmission Revenue Credits shall be allocated between Regional and Local TRBA adjustment components on a gross plant basis.

13. Local Access Charge for a Non-Load-Serving Participating TO. Pursuant to Section 26.1 of the CAISO Tariff, the provisions of this Section 13 of this Schedule 3 shall apply to a Non-Load-Serving Participating TO that has Local Transmission Facilities.

13.1 Local Transmission Revenue Requirement. The Local Transmission Revenue Requirement of a Non-Load-Serving Participating TO shall be calculated separately for each individual project that includes one or more Local Transmission Facilities or shall be calculated for a group of Local Transmission Facilities if all are part of projects directly connected to the facilities of the same Participating TO(s). The Local Transmission Revenue Requirement will be determined consistent with CAISO procedures posted on the CAISO Website and shall be the sum of:

(a) the Non-Load-Serving Participating TO's Local Transmission Revenue Requirement for the relevant Local Transmission Facility or group of facilities; and

(b) the annual Local TRBA adjustment for the relevant Local Transmission Facility or group of facilities, which shall be based on the principal balance in the Local TRBA as of September 30 and shall be calculated as a dollar amount based on the projected Transmission Revenue Credits as adjusted for the true up of the prior year's difference between projected and actual credits. In accordance with Section 26.1 of the CAISO Tariff, the Non-Load-Serving Participating TO shall include any over- or under-recovery of its annual Local Transmission Revenue Requirement in its Local TRBA. If the annual Local TRBA adjustment involves only a partial year of operations, the Non-Load-Serving Participating TO's over- or under-recovery shall be based on a partial year revenue

requirement, calculated by multiplying the Non-Load-Serving Participating TO's Local Transmission Revenue Requirement by the number of days the Local Transmission Facilities were under the CAISO's Operational Control divided by the number of days in the year.

13.2 Updates to Local Access Charges. Unless otherwise agreed by the affected Participating TOs, a Non-Load-Serving Participating TO shall adjust its Local Access Charges and Local Wheeling Access Charges (1) when necessary to reflect any new transmission addition directly connecting a Participating TO to the Local Transmission Facilities of the Non-Load-Serving Participating TO; (2) on the date FERC makes effective a change to the Local Transmission Revenue Requirement of the Non-Load-Serving Participating TO; and (3) on the date FERC makes effective a change to Gross Load of a Participating TO directly connected to the Non-Load-Serving Participating TO. Using the Local Transmission Revenue Requirement accepted or authorized by FERC, consistent with Section 9 of this Schedule 3, for the Non-Load-Serving Participating TO, the CAISO will recalculate the Local Access Charge applicable during such period. Revisions to the Local TRBA adjustment shall be made effective annually on January 1 based on the principal balance in the Local TRBA as of September 30 of the prior year and a forecast of Transmission Revenue Credits for the next year.

For service provided by a Non-Load-Serving Participating TO, any refund associated with a Non-Load-Serving Participating TO's Transmission Revenue Requirement that has been accepted by FERC, subject to refund, shall be provided as ordered by FERC. Such refund shall be invoiced in the CAISO Market Invoice.

If the Non-Load-Serving Participating TO withdraws one or more of its transmission facilities from the CAISO Operational Control in accordance with Section 3.4 of the Transmission Control Agreement, then the CAISO will no longer collect the TRR for that transmission facility through the CAISO's Access Charge effective upon the date the transmission facility is no longer under the Operational Control of the CAISO. The withdrawing Non-Load-Serving Participating TO shall be obligated to provide the CAISO will all necessary information to implement the withdrawal of the Participating TO's transmission facilities and to make any necessary filings at FERC to revise its TRR. The CAISO shall revise its transmission Access Charge to reflect the withdrawal of one or more transmission facilities from CAISO Operational Control.

13.3 Approval of Updated Local Transmission Revenue Requirement. A Non-Load-Serving Participating TO will make the appropriate filings at FERC to establish its Transmission Revenue Requirement for its Local Access Charge, and to obtain approval of any changes thereto. All such filings with the FERC will include a separate appendix that states the LTRR and other information required by the FERC to support the Local Access Charge. The Non-Load-Serving Participating TO will provide a copy of its filing to the CAISO and the other Participating TOs in accordance with the notice provisions in the Transmission Control Agreement.

Federal power marketing agencies whose transmission facilities are under CAISO Operational Control shall develop their Local Transmission Revenue Requirements pursuant to applicable federal laws and regulations, including filing with FERC. All such filings with FERC will include a separate appendix that states the LTRR and other information required by the FERC to support the Access Charges. The procedures for public participation in a federal power marketing agency's ratemaking process shall be posted on the federal power marketing agency's website. The federal power marketing agency shall also post on the website the Federal Register Notices and FERC orders for rate making processes that impact the federal power marketing agency's Local Transmission Revenue Requirement.

13.4 Disbursement of Local Access Charge Revenues. Unless otherwise agreed by the affected Participating TOs, Local Access Charge revenues of a Non-Load-Serving Participating TO shall be calculated for disbursement to that Non-Load-Serving Participating TO on a monthly basis as the sum of Local Access Charges billed by the CAISO to the UDCs or MSS Operators of Participating TOs pursuant to Section 26.1 of the CAISO Tariff.

13.5 Payment of Local Access Charge. Notwithstanding the separate accounting for the Local

Access Charge specified in Section 26.1 of the CAISO Tariff and this Section 13 of this Schedule 3, if the same entity is both a Participating TO and a UDC or MSS Operator, then the monthly Regional Access Charge amount, and any Local Access Charge amount pursuant to this Section 13 of this Schedule 3, billed by the CAISO will be the charges payable by the UDC or MSS Operator in accordance with Sections 26.1.2 and 26.1 of the CAISO Tariff less the disbursement determined in accordance with Section 10.1(d) of this Schedule 3. If this difference is negative, that amount will be paid by the CAISO to the Participating TO.

14. Wheeling Access Charges.

14.1 CAISO Charges on Scheduling Coordinators for Wheeling. The CAISO will charge Scheduling Coordinators for a Wheeling Out or a Wheeling Through transaction the product of the Wheeling Access Charge and the total of the hourly Schedules or awards of Wheeling in MWh for each Trading Interval at each Scheduling Point associated with that transaction pursuant to Section 26.1.4 of the CAISO Tariff.

14.2 Wheeling Access Charge. The Wheeling Access Charge for each Participating TO shall be as specified in Section 26.1.4 of the CAISO Tariff.

14.3 CAISO Payments to Transmission Owners for Wheeling. The CAISO will pay all Wheeling revenues to Participating TOs on the basis of the ratio of each Participating TO's Transmission Revenue Requirement (less the TRR associated with Existing Rights and Interregional Transmission Projects) to the sum of all Participating TOs' TRRs (less the TRRs associated with Existing Rights and Interregional Transmission Projects) as specified in Section 26.1.4.3 of the CAISO Tariff and in the applicable Business Practice Manual. The Local Wheeling Access Charge shall be disbursed to the appropriate Participating TO in accordance with the applicable Business Practice Manual.

14.4 Weighted Average Rate for Wheeling Service. The weighted average rate payable for Wheeling over joint facilities at each Scheduling Point shall be calculated as the sum of the applicable Wheeling Access Charge rates for each applicable TAC Area or Participating TO as these rates are weighted by the ratio of the Available Transfer Capability for each Participating TO that is not a Subscriber Participating TO at the particular Scheduling Point to the total Available Transfer Capability for the Scheduling Point. The calculation of this rate is set forth in more detail in the applicable Business Practice Manual.

15 Payments by Non-Subscribers for Use of Subscriber Participating TO Facilities.

15.1 Subscriber Participating TO Facilities Used to Provide Subscriber Rights.

(a) **Provision of Non-Subscriber Usage Payment Amounts.** The CAISO will provide Non-Subscriber Usage Payment Amounts to a Subscriber Participating TO for Non-Subscriber use of the Subscriber Participating TO's transmission assets and Entitlements and Subscriber Encumbrances used to provide Subscriber Rights each month. The Non-Subscriber Usage Payment Amounts will be funded first by using Wheeling Access Charge revenue received by the CAISO pursuant to this Section 15.1(a) of Schedule 3 and, if the Wheeling Access Charge revenue is insufficient to fully pay the Non-Subscriber Usage Payment Amounts, second by using Access Charge revenue received by the CAISO. Each Non-Subscriber Usage Payment Amount equals (i) the applicable Non-Subscriber Usage Rate, not to exceed the applicable Regional Access Charge rate, multiplied by (ii) the sum of the absolute value of the MWh flow of a Non-Subscriber's imports at the applicable Scheduling Point plus the sum of the absolute value of the MWh flow of a Non-Subscriber's exports at the applicable Scheduling Point. If any Subscriber Participating TO's Non-Subscriber Usage Rate exceeds the then-applicable Regional Access Charge rate, that Subscriber Participating TO will promptly file for FERC acceptance of an update to its Non-Subscriber Usage Rate so it is no greater than the

decreased applicable Regional Access Charge rate and will propose that the decreased $/MWh charge become effective as of the same date the decreased applicable Regional Access Charge rate went into effect. The CAISO will limit the disbursement of the Non-Subscriber Usage Payment Amounts to a maximum rate of the applicable Regional Access Charge as of the date the FERC-approved decreased Non-Subscriber Usage Rate is made effective.

(b) **Treatment of Excess Amounts.** For each month and Subscriber Participating TO,

(i) If the total Regional Access Charge and Wheeling Access Charge revenue received by the CAISO pursuant to this Section 15.1 of Schedule 3 exceeds the total calculated Non-Subscriber Usage Payment Amounts, then the excess amount will be added back to the RAC for allocation to the other Participating TOs besides the Subscriber Participating TO.

15.2 Subscriber Participating TO Facilities Not Used to Provide Subscriber Rights. Each Non-Subscriber that uses Subscriber Participating TO transmission assets, Entitlements, or Subscriber Encumbrances other than those used to provide Subscriber Rights will pay for such use pursuant to the applicable provisions of the CAISO Tariff rather than this Section 15.1 of Schedule 3.

Schedule 4

Eligible Intermittent Resources Forecast Fee

A charge up to $.10 per MWh shall be assessed on the metered Energy from (a) Eligible Intermittent Resources; (b) Variable Energy Resources that are EIM Participating Resources; and (c) the variable component of Hybrid Resources as a Forecast Fee, provided that Generating Units smaller than 10 MW that are not Participating Intermittent Resources and that sell power pursuant to a power purchase agreement entered into pursuant to PURPA prior to entering into a PGA or Net Scheduled PGA shall be exempt from the Forecast Fee.

The rate of the Forecast Fee shall be determined so as to recover the projected annual costs related to developing Energy forecasting systems, generating forecasts, validating forecasts, and monitoring forecast performance, that are incurred by the CAISO as a direct result of participation by Eligible Intermittent Resources, Variable Energy Resources that are EIM Participating Resources, and the variable component of Hybrid Resources in CAISO Markets, divided by their projected annual Energy production.

The initial Forecast Fee, and all subsequent changes as may be necessary from time to time to recover costs incurred by the CAISO for the forecasting conducted on the behalf of Eligible Intermittent Resources, Variable Energy Resources that are EIM Participating Resources, and the variable component of Hybrid Resources pursuant to the foregoing rate formula, shall be set forth in a Business Practice Manual.

Schedule 5

[NOT USED]

Schedule 6

CPM SCHEDULES FOR CPM DESIGNATIONS UNDER SECTION 43A

Monthly CPM Capacity Payment

The monthly CPM Capacity Payment shall be calculated in accordance with Section 43A.7.1.

Availability

The target availability for a resource designated under CPM is 95%. Incentives and penalties for availability above and below the target are as set forth in the table below, entitled "Availability Factor Table." The CAISO shall calculate availability on a monthly basis using actual availability data. The CPM Availability Factor for Forced Outages for each month shall be calculated using the following curve:

AVAILABILITY FACTOR TABLE

Availability	Capacity Payment Factor	CPM Availability Factor
100%	3.3%	1.139
99%	3.3%	1.106
98%	3.3%	1.073
97%	2.5%	1.040
96%	1.5%	1.015
95%	-	1.000
94%	-1.5%	.985
93%	-1.5%	.970
92%	-1.5%	.955
91%	-1.5%	.940
90%	-1.5%	.925
89-80%	-1.7%*	.908-.755
79-41%	-1.9%*	.736-.014
-40%	-	0.0

*The “Capacity Payment Factor” decreases by 1.7% and 1.9% respectively for every 1% decrease in availability.

The CPM Capacity Payment shall be adjusted upward from the 95% availability starting point by the positive percentages listed as the "Capacity Payment Factor" above, by multiplication by the amounts listed for each CPM Availability Factor above 95%, so that, for example, if a 97% availability is achieved for the month, then the CPM Capacity Payment for that month would be the monthly value for 95% plus an additional 4% (1.5% for the first percent availability above 95%, and 2.5% for the second percent availability above 95%), i.e., multiplication of the otherwise applicable CPM Capacity Payment by the CPM Availability Factor of 1.040. Reductions in the CPM Capacity Payment shall be made correspondingly according to the "Capacity Payment Factor" above for monthly availability levels falling short of the 95% availability starting point, by multiplication by the amounts listed for each CPM Availability Factor below 95%.

Schedule 7

Reliability Coordinator Services Charge

The Reliability Coordinator Services Charge shall be based on the RC Funding Requirement. The RC Funding Requirement will consist of the annual costs associated with the CAISO's provision of Reliability Coordinator Services, including the annual costs associated with maintaining shared reliability coordinator tools such as the Western Interchange Tool and the Enhanced Curtailment Calculator. The CAISO will determine the RC Funding Requirement based on the percentage of its overall revenue requirement attributable to the cost of providing RC Services. This percentage, known as the RC Funding Percentage, will initially be determined by assessing the costs associated with providing RC Services, using data from the CAISO's 2016 cost-of-service study modified to reflect the assessed RC Services costs, and based on the expected number of customers that will have committed to take RC Services by the RC Services Dates provided in Section 19.2(b)(6). This percentage will be updated in conjunction with the triennial cost-of-service study conducted by the CAISO as described in Schedule 1, Part A of this Appendix F. The RC Funding Requirement will be calculated, on an annual basis, as the product of this percentage multiplied by the annual revenue requirement for the same year.

The RC Funding Requirement will be developed utilizing the procedures associated with the development of the GMC revenue requirement, as set forth in Schedule 1, Part D of this Appendix F. Entities taking RC Services from the CAISO will have the opportunity to participate in that annual budget process. The RC Funding Percentage will be 8%, which will thereafter be used to calculate the annual RC Funding Requirement. The annual RC Funding Requirement will be assessed to applicable RC Customers, including Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, in proportion to the Net Energy for Load or Net Generation for the period during which this rate is in effect.

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The RC Funding Requirement will be treated as a component of the revenue in the CAISO Other Costs and Revenues category, for purposes of calculating the costs recovered through the GMC, as set forth in Schedule 1, Part C of this Appendix F.

The annual RC rate per MWh is calculated by taking the annual RC Funding Requirement less the known minimum RC Services Charge for the applicable year divided by the sum of 1) the annual Net Energy for Load MWh for all Balancing Authorities with load and Transmission Operators and 2) the annual Net Generation MWh for all generators connected to generation-only Balancing Authorities and Transmission Operators that the CAISO anticipates will take RC Services for the applicable year. The rates for the RC Services Charge shall be adjusted each year, effective January 1.

The annual RC Services Charge for each RC Customer will be calculated as follows:

- For RC Customers that that are, or are located in, generation-only Balancing Authorities, multiplying the annual RC Services Charge rate by the total Net Generation in MWh as determined in accordance with Section 19.6. The RC Services Charge for such RC Customers that are Balancing Authorities shall be calculated by removing any total Net Generation associated with Transmission Operators within such Balancing Authorities that have elected to receive direct billing of RC Services from the CAISO.
- For RC Customers that are, or are located in, Balancing Authority Areas with load, multiplying the annual RC Services Charge rate by the total Net Energy for Load in MWh as determined in accordance with Section 19.6 of the CAISO Tariff. The RC Services Charge for such RC Customers that are Balancing Authorities shall be calculated by removing any total Net Energy for Load associated with transmission operators within such Balancing Authorities that have elected to receive direct billing of RC Services from the CAISO.
- For RC Customers that are located in the CAISO's Balancing Authority Area and Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, multiplying the annual RC Services Charge rate by the RC Customer's share of the total NERC/WECC Metered Demand in MWh for the CAISO Balancing Authority Area determined in accordance with Section 11.20.9.

- There will be a minimum annual RC Services Charge of $5,000. This charge will be applied to RC Customers that either have no Net Energy for Load or Net Generation for a particular period as set forth in Section 19.6 of the CAISO Tariff, as well as RC Customers whose annual RC Services Charge, as calculated in accordance with this Schedule 7, would otherwise be less than $5,000.
- For RC Customers that take RC Services for less than a full year in either the initial or final year of participation, the annual RC Services Charge will be pro-rated according to the period that the RC Customer takes service during such year, rounded up to the nearest month.

Any excess or shortfall in the RC Services Charge collected as compared to the RC Funding Requirement for a particular year will be credited or debited, as applicable, to the CAISO Operating Reserve Account.

Attachment C – Chart of Tariff Sections with Dockets

Compliance Filing Reconciling Overlapping Tariff Records – DAME-EDAM

California Independent System Operator Corporation

June 29, 2026

Tariff Record	Dockets in Reconciliation	Effective Date
4.5.3	ER24-2687 – 2024 Bucket ER23-2686 – EDAM	5/1/2026
4.5.4	ER24-2687 – 2024 Bucket ER23-2686 – EDAM	5/1/2026
4.17.6	ER24-2687 – 2024 Bucket ER23-2686 – EDAM	5/1/2026
8.4.1	ER23-1533 – Energy Storage Enhanc. ER23-2686 – EDAM	5/1/2026
11.2	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.2.3	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.2.4	ER25-87 – Credit & Billing ER23-2686 – EDAM ER23-2557 – 2023 Bucket ER25-2637 – Congestion Rev in EDAM ER26-1294 – Support of EDAM	5/1/2026
11.3.1	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.3.2	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.5.2	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.5.7	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.5.8	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.8.4	ER23-1533 – Energy Storage Enhanc. ER25-576 – BCR to Storage Resources ER23-2686 – EDAM	5/1/2026
11.10.6	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.14	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.25.2	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.29.5	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
11.29.17	ER25-87 – Credit & Billing ER23-2686 – EDAM	5/1/2026
27	ER24-379 – BA in EDAM ER23-2686 – EDAM	5/1/2026
27.4.3	ER23-2020 – Market Parameters ER21-1790 – Load, Export, Wheeling ER23-2686 – EDAM	5/1/2026

Tariff Record	Dockets in Reconciliation	Effective Date
27.13	ER25-3255 – 2025 Bucket ER23-2686 – EDAM	5/1/2026
29.4	ER24-2687 – 2024 Bucket ER23-2686 – EDAM	5/1/2026
29.11	ER23-2686 – EDAM ER23-1534 – RSEE Phase 2 ER23-2974 – GMC & COSS ER25-576 – BCR to Storage Resources ER25-87 – Credit & Billing ER25-3491 – WEIM – Energy Transfer	5/1/2026
29.34	ER23-2686 – EDAM ER23-1099 – 2023 Reconciliation ER23-1534 – RSEE Phase 2 ER23-2505/ER21-955 – Remove Submission Deadlines ER24-2687 – 2024 Bucket ER25-3491 – WEIM – Energy Transfer	5/1/2026
29.39	ER23-2974 – GMC & COSS ER23-2686 – EDAM	5/1/2026
30.5.1	ER23-2686 – EDAM ER21-1790 – Load, Export, Wheeling ER22-906 – Trans Serv & Market Sched ER23-2510 – Wheeling Through	5/1/2026
30.5.2	ER23-2686 – EDAM ER26-1294 – Support of EDAM ER23-609 – 2022 Bucket ER23-1533 – Energy Storage Enhnc. ER21-2455 – Order No. 2222	5/1/2026
30.7.12	ER23-2686 – EDAM ER24-2168 – Price Formation	5/1/2026
31.2.1	ER23-2557 – 2023 Bucket ER23-2686 – EDAM	5/1/2026
31.5.3	ER23-2686 – EDAM ER25-3255 – 2025 Bucket ER26-1294 – Support of EDAM	5/1/2026
31.5.5	ER23-2686 – EDAM ER26-1294 – Support of EDAM ER22-906 – Trans Serv & Market Sched	5/1/2026
33.11.6	ER23-2686 – EDAM ER23-2974 – GMC & COSS	5/1/2026
33.30.5	ER23-2686 – EDAM ER23-2974 – GMC & COSS	5/1/2026
40.6.1	ER23-2686 – EDAM ER26-1294 – Support of EDAM ER24-1837 – Non-Gen Res. Bid in RUC	5/1/2026

Tariff Record	Dockets in Reconciliation	Effective Date
	ER25-87 – Credit & Billing	
App A – EIM Upward Available Balancing Capacity	ER23-2686 – EDAM ER24-2687 – 2024 Bucket	5/1/2026
App A – Generating Unit	ER23-2686 – EDAM ER24-2042 – Order No. 2023	5/1/2026
Appendix F	ER23-2686 – EDAM ER23-2917 – SPTO Model ER23-2974 – GMC & COSS ER24-2687 – 2024 Bucket	5/1/2026