

January 21, 2022

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

**Re: California Independent System Operator Corporation
CAISO Tariff Amendments to Implement the Energy Imbalance
Market Sub-Entity and Sub-Entity Scheduling Coordinator
Roles**

Docket No. ER22-____-000

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) proposes this amendment to the CAISO tariff to create the new roles of Energy Imbalance Market (“EIM”) Sub-Entity and EIM Sub-Entity Scheduling Coordinator.¹ The EIM Sub-Entity role will allow one or more electric utilities embedded within a single EIM Entity balancing authority area (“BAA”) to individually participate in the EIM by enabling them, through their EIM Sub-Entity Scheduling Coordinators, to schedule and financially settle non-participating loads and resources directly in the EIM. The current EIM rules require that these non-participating loads and resources be scheduled and settled through the EIM Entity representing the BAA.

This amendment creates a direct relationship between these EIM Sub-Entities and the CAISO, allowing for more diverse and expanded participation within the EIM. Specifically, this proposal supports the existing operational and financial relationships among EIM Entities and embedded utilities within an EIM Entity BAA and allows non-participating resources and loads to settle directly with CAISO. This direct relationship creates transparency while maintaining the existing operational autonomy between the operations of the EIM Entity BAA and the EIM Sub-Entity. Enabling broader participation in the EIM also will provide

¹ The CAISO submits the proposed tariff changes pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d. Capitalized terms not otherwise defined in this filing have the meanings set forth in Appendix A to the CAISO tariff as revised by this filing, and references to numbered sections are references to sections of the CAISO tariff as revised by this tariff filing, unless the context indicates otherwise.

benefits both to customers in regions joining EIM with embedded utilities that wish to be EIM Sub-Entities and to existing EIM market participants. These proven benefits of EIM participation include reduced energy costs, more efficient dispatch of renewable energy resources, and reduced need for real-time flexible reserves. Since November 2014, EIM has resulted in \$1.72 billion in gross benefits.² This amendment allows new entities to share in and contribute to these benefits going forward.

To establish the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator roles, the CAISO proposes the following tariff amendments: (1) new language and revisions to existing tariff provisions in Section 29 of the CAISO tariff; (2) new definitions specific to these roles in Appendix A; and (3) three new *pro forma* agreements in Appendix B to establish the EIM Sub-Entity and its scheduling coordinator representation and to compensate the CAISO for its implementation costs.³

The CAISO requests the Commission issue an order on this filing by April 1, 2022. There are several electric utilities embedded within a BAA that will become an EIM Entity that have expressed interest in representing their own loads and participating resources within the EIM as EIM Sub-Entities beginning in spring 2023. The proposed EIM Sub-Entity agreements and associated tariff provisions included in this filing must be in effect at least twelve months before the planned implementation date to (1) provide these interested parties time to review and execute the requisite EIM Sub-Entity agreements and (2) provide these entities and the CAISO sufficient time to complete the required implementation activities. Accordingly, an order on this filing by April 1, 2022 will provide the necessary time prior to the anticipated spring 2023 implementation date.

For the same reasons, the CAISO requests an April 1, 2022 effective date for the new language and revisions to the tariff provisions in Section 29, Appendix A, and Appendix B. These provisions are necessary to support the EIM Sub-Entities' execution of the *pro forma* EIM Sub-Entity agreements and their participation in the onboarding process leading up to their participation in the EIM.

I. Summary

² California Independent System Operator, Western EIM Benefits Report, Third Quarter 2021 (Oct. 29, 2021), available at <https://www.westerneim.com/Documents/ISO-EIM-Benefits-Report-Q3-2021.pdf>.

³ The first *pro forma* agreement is the EIM Sub-Entity Agreement, which must be executed by the EIM Sub-Entity. The second agreement is the EIM Sub-Entity Scheduling Coordinator Agreement, which may be executed by the EIM Sub-Entity (if the EIM Sub-Entity chooses to act as its own scheduling coordinator) or a designated third-party scheduling coordinator who will represent the EIM Sub-Entity's participation in the CAISO markets. The third agreement is the EIM Sub-Entity Implementation Agreement that establishes the commitment of an EIM Sub-Entity to compensate the CAISO for its implementation costs.

This proposal arises from the EIM Implementation Agreement between the CAISO and the Public Service Company of Colorado previously accepted by the Commission.⁴ In that agreement, the CAISO committed to pursuing, in a stakeholder process, a new EIM role that would allow separate scheduling and settlement functions for entities within an EIM Entity BAA.

As a result, the CAISO developed this proposal, which will allow an authorized electric utility to participate in the EIM as an EIM Sub-Entity. This participation, in turn, creates a relationship between the EIM Sub-Entity and the EIM Entity in its BAA, as well as with the CAISO. This proposal allows an EIM Sub-Entity to serve as an EIM Sub-Entity Scheduling Coordinator, or to designate another entity to serve as its EIM Sub-Entity Scheduling Coordinator. The EIM Sub-Entity Scheduling Coordinator will be responsible for scheduling and financially settling non-participating loads and resources within its service territory directly in the EIM. The EIM Sub-Entity Scheduling Coordinator will then be able to interact both with the CAISO directly and with the EIM Entity Scheduling Coordinator representing the BAA within which it has loads and resources.

The tariff changes necessary to implement the new EIM Sub-Entity Scheduling Coordinator role consist of the following items:

- New language and revisions to section 29 of the existing CAISO tariff regarding the authorization of the EIM Sub-Entity and the creation of the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator roles, including the existing provisions regarding access to the Real-Time Market, roles and responsibilities, manual dispatches, outages, settlements, and billing;
- New definitions for the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator roles to be included in Appendix A of the CAISO tariff;
- A new *pro forma* EIM Sub-Entity Implementation Agreement requiring prospective EIM Sub-Entities to pay the CAISO's actual costs to implement all of the associated technical requirements for participation in the EIM, prior to participation by the EIM Sub-Entity, in Appendix B; and
- Other new *pro forma* agreements to be entered into by the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator in Appendix B,

⁴ *California Independent System Operator Corp.*, Docket No. ER20-1937-000, Letter Order dated July 29, 2020 (accepting the EIM Implementation Agreement with the Public Service Company of Colorado, including principles for replacement of the Joint Dispatch Agreement).

which govern the relationship between the EIM Sub-Entity or EIM Sub-Entity Scheduling Coordinator and the CAISO.

As discussed in Section III, the CAISO developed these amendments through a comprehensive stakeholder process that included robust opportunities for stakeholder review and input, including two proposal documents and three agreements, review and comment periods regarding the draft tariff modifications, and a number of meetings with potentially interested entities.

II. Background

Currently, EIM Entities are solely responsible for the scheduling, bidding, and settling of all loads, interchange transactions, and non-participating resources within their balancing authority area. Each EIM Entity, through its EIM Scheduling Coordinator, is responsible for all EIM Area generation via the submission of generation base schedules for non-participating resources, as well as base schedules for participating resources.⁵ Each EIM Entity also is responsible for its area demand forecast if it elects not to use the forecast provided by the CAISO.⁶ The EIM Entity Scheduling Coordinator is responsible for the submission of base schedules for the base scheduling energy transfer system resource.⁷ The resource sufficiency evaluation, which is used to validate that an EIM Entity BAA is able to meet its own capacity and flexible ramping requirements, is also performed at a BAA level.⁸

Under the current EIM market paradigm, the CAISO market settles the energy differences between resource meter and the resource base schedule of participating resources, flexible ramp movement, bid cost recovery payments, flexible ramp uncertainty award and allocation, and relevant grid management charges with the EIM Participating Resource Scheduling Coordinator(s). The EIM Participating Resource Scheduling Coordinator receives daily/monthly statements, as well as weekly invoices associated with the participating resources' charges and payments.

For non-participating resources, the CAISO settles the energy difference between the resource meter and the resource base schedule with the EIM Entity Scheduling Coordinator.⁹ In addition, the EIM Entity Scheduling Coordinator is responsible for BAA costs such as over-scheduling/under-scheduling charges and payments, real time market offsets, bid cost recovery allocations, flexible ramp movement allocation, flexible ramp uncertainty allocation, and non-participating grid management charges. The EIM Entity Scheduling Coordinator

⁵ Existing tariff, section 29.34(f).

⁶ *Id.* at section 29.34(d).

⁷ *Id.* at section 29.4(c)(4).

⁸ *Id.* at section 29.34(l) – (n).

⁹ Existing tariff, section 29.11(b).

receives daily/monthly statements and weekly invoices associated with the non-participating resources' charges and payments, as well as balancing authority areas costs.

The EIM Entity then sub-allocates the payments and charges associated with the non-participating resources, as well as BAA costs, to its customers based on its BAA's OATT.

Outage coordination is also performed at the EIM Entity level. The CAISO provides an outage management system that allows EIM Entity Scheduling Coordinators to submit approved transmission and generation outages for the EIM Entity BAA.¹⁰

Under the proposed tariff revisions establishing the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator roles, the EIM Sub-Entity Scheduling Coordinator would be responsible for scheduling and settling supply and load within an EIM BAA that would otherwise be the responsibility of the applicable EIM Entity Scheduling Coordinator.¹¹ The EIM Sub-Entity Scheduling Coordinator would be responsible for submitting base schedules to the CAISO.¹² Settlements and invoicing associated with loads and resources would be performed at the EIM Entity and/or the EIM Sub-Entity Scheduling Coordinator level, depending on the scheduling coordinator responsible.

III. Stakeholder Process

As an initial step in developing a proposal for the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator roles, the CAISO published a straw proposal on November 9, 2020.¹³ The CAISO then hosted a public meeting to discuss the straw proposal on November 12, 2020. The CAISO received written comments, and provided a response to those comments on January 21, 2021 in its revised straw proposal to stakeholders. Based on stakeholder input on the revised straw proposal and further internal consideration, the CAISO published a draft final proposal on March 18, 2021, hosted a public meeting on March 25, 2021, and received written comments on April 9, 2021. After considering these comments, the CAISO published its final proposal on May 19, 2021 and received a final round of written comments on May 26, 2021. The EIM Governing Board

¹⁰ *Id.* at section 29.9.

¹¹ Proposed tariff, section 29.4(g)(4).

¹² *Id.*

¹³ All of the materials associated with this initiative can be found on the CAISO website at: <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Western-EIM-sub-entity-scheduling-coordinator-role>.

approved the final proposal on September 8, 2021¹⁴, and the CAISO Board of Governors approved it as a consent agenda item on September 23, 2021.¹⁵

As part of the stakeholder process, the CAISO published a complete draft of the proposed tariff revisions, including drafts of the three proposed *pro forma* agreements, on April 15, 2021. Stakeholders provided comments on April 29, 2021. On May 5, 2021, the CAISO hosted a stakeholder informational call to present the tariff framework and agreements. The next day, the CAISO also published detailed responses to stakeholder comments. Based on stakeholder feedback, the CAISO published revised drafts of the tariff language and three agreements on June 2, 2021. Stakeholders provided their comments on June 11, 2021. The CAISO then hosted a public meeting on June 16, 2021 to discuss the revised tariff framework and agreements.

Stakeholders provided valuable input that shaped this proposal, and they support the proposed tariff amendment, agreements, and the terms under which the CAISO plans to create the EIM Sub-Entity and EIM Sub-Entity Scheduling Coordinator roles. The primary concerns raised during the stakeholder process, and the CAISO's response, are discussed below.

IV. EIM Sub-Entities and EIM Sub-Entity Scheduling Coordinators

This proposal enables individual utilities within an EIM BAA to participate in the EIM by becoming an EIM Sub-Entity. Qualified EIM Sub-Entities may also become EIM Sub-Entity Scheduling Coordinators, who will interact both with the CAISO directly and with the EIM Entity Scheduling Coordinator representing the BAA within which they have loads and resources. Third parties may also act as EIM Sub-Entity Scheduling Coordinators. Registration as an EIM Sub-Entity must be authorized by the EIM Entity and agreed to by the Sub-Entity; an entity can neither unilaterally decide to become an EIM Sub-Entity, nor can it be compelled to become an EIM Sub-Entity.

The first step in this process is for the EIM Entity to decide whether to allow EIM Sub-Entity participation within its BAA. This question concerns matters best decided at the outset by the EIM Entity as the balancing authority responsible for reliability within its BAA and, as such, is in the best position to determine whether utilities within its BAA should be delegated EIM Sub-Entity

¹⁴ Under the Charter for EIM Governance, an initiative proposing to change rules of the real-time market falls within the primary authority of the EIM Governing Body either if the proposed new rule is EIM-specific in the sense that it applies uniquely or differently in the balancing authority areas of EIM entities, as opposed to a generally applicable rule, or for proposed market rules that are generally applicable, if "an issue that is specific to the EIM balancing authority areas is the primary driver for the proposed change." This initiative satisfies both tests and, thus, the EIM Governing Body had primary approval authority regarding the proposed changes described in this initiative. The EIM Governing Board memorandum is included as Attachment C.

¹⁵ The Board of Governors memorandum is included as Attachment D.

authority. Authorization of participation by EIM Sub-Entities within an EIM Entity BAA should be developed through the regulatory process applicable to each EIM Entity, most likely by amendment of the EIM Entity's OATT, prior to the CAISO implementing such services. This will require a written agreement between the EIM Entity and EIM Sub-Entity to address matters specific to EIM Sub-Entity participation within the EIM Entity BAA.

The CAISO recognizes that there are legitimate reasons why an EIM Entity may elect not to facilitate EIM Sub-Entity participation by electric utilities within its BAA. For example, the EIM Entity may not have the financial or operational capabilities to support participation by even a limited number of EIM Sub-Entities within its BAA. Alternatively, it may be that the number of eligible EIM Sub-Entities within its BAA is so numerous that it presents unreasonable operational or financial risks to the EIM Entity. Thus, the initial decision of whether to enable EIM Sub-Entity participation is best left to the EIM Entity serving as the balancing authority for electric utilities within its BAA. Under the Federal Power Act, they are required to act without undue discrimination or preference. The CAISO cannot accommodate an EIM sub-Entity's participation without the involvement of the EIM Entity.

Under Section 29.2(c)(2) of the proposed tariff revisions, if an EIM Entity decides to allow EIM Sub-Entity participation within its BAA, it has two options. First, the EIM Entity may enable participation by any electric utility within its BAA that meets the CAISO definition of an EIM Sub-Entity, discussed below. This option would allow each qualified electric utility to determine whether it wants to participate as an EIM Sub-Entity.

Alternatively, an EIM Entity may limit participation by otherwise qualified electric utilities within its BAA. However, an EIM Entity may only limit EIM Sub-Entity participation based upon an existing and accepted contractual or tariff-based practice for imbalance energy accounting within its BAA that distinguishes among otherwise qualified electric utilities. This option would allow an EIM Entity to enable EIM Sub-Entity participation in its BAA, while preserving an existing and accepted practice among otherwise qualified EIM Sub-Entities within its BAA.

Once an EIM Entity has authorized EIM Sub-Entity participation within its BAA, the EIM Sub-Entity must agree to participate and meet all applicable EIM Entity and CAISO requirements. Under Section 29.2(c)(1) of the proposed tariff, the EIM Sub-Entity must:

- be an electric utility embedded within an EIM Entity BAA and not receive long-term wholesale full requirements services from the EIM Entity;

- own a distribution system or transmission facilities directly connected to a transmission system embedded in the EIM Entity BAA for the purpose of providing (a) regulated electric service to eligible retail or wholesale customers, or (b) serve eligible customers in its capacity as a Local Publicly Owned Electric Utility; and
- own or control one or more resources for the primary purpose of serving its eligible customers.

During the stakeholder process, EIM Entities initially were concerned that widespread proliferation of EIM Sub-Entities could adversely impact their operational and business practices. In response, CAISO developed this eligibility criteria, which will limit participation to electric utilities located in an EIM Entity BAA that own a distribution or transmission system and serve eligible customers from resources they own.¹⁶ These entities, at least in part, depend upon transmission service from the host EIM Entity to meet their regulatory obligations, *i.e.*, they may be transmission dependent utilities. As a result, they are more likely to have a well-defined service territory bounded by distribution-transmission interfaces, which allows for more accurate forecasting, modeling, scheduling, and accounting for their associated loads and non-participating resources in the EIM. The CAISO will work through an onboarding process with the EIM Entity and each EIM Sub-Entity to implement all of the associated technical requirements for participation prior to participation by the EIM Sub-Entity.

Limiting the scope of the EIM Sub-Entity role to electric utilities with these characteristics is critical because disaggregation of the load within an EIM Entity BAA has significant financial and operational consequences and would otherwise become unmanageable. For example, having separate load forecasts within a BAA may reduce the accuracy of the aggregated EIM Entity load forecast, which is the baseline for the resource sufficiency evaluation. This occurs because the aggregation of individual EIM Sub-Entity forecasts can diverge from a forecast at the BAA level that the EIM Entity is ultimately responsible for financially and operationally. The potential for differences between the forecasted load and the measured demand can then lead to cost shifting among the transmission customers within an EIM Entity BAA.

Furthermore, if a mismatch arises between the load base schedule and the measured demands, it could lead to generation schedules from one EIM Sub-Entity serving another, higher uninstructed imbalance energy (“UIE”), and flexible uncertainty allocation, as well as inappropriate penalty charges following a failure of the balancing test. The EIM Entity is responsible for reliability within its BAA, and it must have some level of assurance that the EIM Sub-Entity will meet its

¹⁶ The EIM Sub-Entity may either be a distribution or transmission owner, or both, and provide wholesale or retail service to eligible customers, or both.

obligations without affecting other entities within the BAA. This can occur because the resource sufficiency evaluation is performed at the BAA level, whereas the EIM Sub-Entities are focused on serving their own forecasted load. In addition, any penalties associated with failure of the balancing test will be assessed to metered demand, which may not correlate to the entity whose inaccurate forecast may have resulted in failure.

A. Roles and Responsibilities

Each EIM Sub-Entity will function as its own load serving entity (“LSE”) within its EIM Sub-Entity area. To facilitate this, each Sub-Entity will have its own load aggregation point (“LAP”) and will submit demand forecasts to both the CAISO and the EIM entity within whose BAA it resides.¹⁷

Each EIM Sub-Entity must have an EIM Sub-Entity Scheduling Coordinator that will perform the obligations of a scheduling coordinator for such EIM Sub-Entity.¹⁸ An EIM Sub-Entity may act as its own EIM Sub-Entity Scheduling Coordinator. An EIM Sub-Entity Scheduling Coordinator may represent more than one EIM Sub-Entity if it has certified to the CAISO that it has informed each EIM Sub-Entity of the multiple representation.

Each EIM Sub-Entity Scheduling Coordinator also will be responsible for submitting base schedules through the CAISO base schedule aggregation portal (“BSAP”) for resources within its area for which it serves as the scheduling coordinator.¹⁹ These base schedules can include available balancing capacity. For supply resources within an EIM BAA to be settled directly with the CAISO, the resources will need to have either the EIM Sub-Entity Scheduling Coordinator or a Participating Resource Scheduling Coordinator as their registered scheduling coordinator. The scheduling coordinator will submit bids or schedules, where appropriate, to the CAISO using the scheduling infrastructure business rules (“SIBR”) application.

B. Resource Sufficiency Evaluation

The resource sufficiency evaluation will continue to be performed at the EIM Entity level.²⁰ This approach is consistent with the responsibility of the balancing authority to ensure supply and load balance for its area. Although there is potential for an EIM Sub-Entity to affect the EIM Entity’s ability as a whole to pass the test, the test is intended to ensure that the BAA as a whole

¹⁷ Proposed tariff at section 29.4(f)(2).

¹⁸ *Id.* at section 29.4(f)(2)(C); Proposed EIM Sub-Entity Implementation Agreement at Section 2.4.

¹⁹ Proposed tariff at section 29.34(f).

²⁰ *Id.* at section 29.34(r).

remains balanced and any differences are best left to the EIM Entity and EIM Sub-Entity to resolve according to their arrangement.

Within the proposed resource sufficiency evaluation design, Participating Resource Scheduling Coordinators and EIM Sub-Entity Scheduling Coordinators can submit base schedules prior to the T-55 resource sufficiency evaluation (*i.e.*, the evaluation that occurs fifty-five minutes prior to the upcoming hour), with the exact timing being specified by the EIM Entity.²¹ Following the T-55 resource sufficiency evaluation, schedules can only be modified by the EIM Entity Scheduling Coordinator, and any modification should be communicated to the EIM Sub-Entity.²² The modifications can be viewed by the EIM Sub-Entity within the CAISO BSAP applications. Any financial impact resulting from these modifications should be resolved between the EIM Entity and EIM Sub-Entity based on the EIM Entity's OATT or previously established bilateral contractual arrangements. This design allows for EIM Sub-Entity Scheduling Coordinators to maintain flexibility and control of their resources by updating their base schedules prior to the T-55 resource sufficiency evaluation, while also allowing the EIM Entity Scheduling Coordinator to retain reliability control. The EIM Entity is ultimately responsible for the capacity and flexible ramping tests, which are performed as part of the resource sufficiency evaluation at the EIM Entity level and are generally associated with their balancing authority function.

C. Model Submission

The CAISO maintains the full network model ("FNM") for all EIM Entities. This proposal will require an EIM Entity to submit FNM updates on behalf of its entire BAA, or with the EIM Entity's permission, allow EIM Sub-Entities to submit their own network model and network model updates.²³ If an EIM Sub-Entity submits its own model, it will be responsible for communicating any changes to the EIM Entity and the CAISO. All model updates performed by either an EIM Entity or by an EIM Sub-Entity will be subject to the already established CAISO FNM updating process. Any resource that the EIM Sub-Entity is acting as the scheduling coordinator for is required to be modeled in the CAISO FNM.²⁴

D. Dispatch Options

1. Automatic Dispatch System

The Automatic Dispatch System ("ADS") pulls data at a resource specific level. This proposal will provide access to ADS resource data within the EIM

²¹ *Id.* at section 29.34(f)(1).

²² *Id.*

²³ *Id.* at section 29.17(a).

²⁴ CAISO Business Practice Manual for Managing Full Network Model. CAISO Business Practice Manuals can be accessed at: <https://bpmcm.caiso.com/Pages/BPMLibrary.aspx>.

Sub-Entity area to both the EIM Sub-Entity and the EIM Entity. The CAISO will settle the resulting metered resource output. Any financial impact resulting from this action should be resolved between the EIM Entity and EIM Sub-Entity.

2. Manual Dispatch

With prior authorization from the EIM Entity, an EIM Sub-Entity will be able to manually dispatch on resources for which they are registered as the EIM Sub-Entity Scheduling Coordinator.²⁵ This action will be accomplished through an application programming interface that accesses the Balancing Authority Area Operations Portal (“BAAOP”). Any manual dispatches performed by an EIM Sub-Entity will be settled as imbalance energy.²⁶ Given that a manual dispatch performed by an EIM Sub-Entity potentially can affect the balancing function of the EIM Entity, the CAISO expects the use of this functionality will be for reliability related actions in accordance with previously agreed upon circumstances and conditions, such as participation within a reserve sharing group or similar operational purpose.

This proposal also will allow an EIM Entity to issue manual dispatch instructions for resources within its BAA because it retains ultimate responsibility for balancing.²⁷ Any financial impacts resulting from such a manual dispatch by the EIM Entity should be resolved between the EIM Entity and EIM Sub-Entity based on the EIM Entity’s OATT or previously established bilateral contractual arrangements.

E. Forecasting

1. Supply Forecast

As the entity responsible for balancing its control area, the EIM Entity will be able to decide whether the EIM Sub-Entity must use the CAISO provided supply forecast or if the Sub-Entity can use its own forecast for variable energy resources’ supply output.²⁸ If an EIM Sub-Entity Scheduling Coordinator uses its own forecasting services for variable energy resources’ supply output, the CAISO will treat the forecast similar to an EIM Entity Scheduling Coordinator electing to use its own forecast.²⁹ The EIM Sub-Entity will communicate to the CAISO and the EIM Entity what forecast it decides to use. To enable this functionality, each resource under an EIM Sub-Entity Scheduling Coordinator will need its own unique resource ID, as well as telemetry. To ensure that the EIM Entity can still perform its balancing function and pass the resource sufficiency evaluation, the

²⁵ Proposed tariff at section 29.7(g)(2).

²⁶ *Id.* at section 29.7(i).

²⁷ *Id.* at section 29.7(g)(1).

²⁸ See proposed tariff section 29.11(j)(2).

²⁹ CAISO Tariff Appendix Q – Eligible Intermittent Resource Protocol.

EIM Entity will be able to view, in a summed format, the forecast of all of the variable energy resources within its BAA. Forecasts for variable energy resources submitted by third party services, or provided by the CAISO, that are used in the resource sufficiency evaluation will be fixed after T-55, as is currently done within the EIM design, which serves to reduce the variability between resource sufficiency evaluation iterations.

2. Load Forecast

This proposal also allows the EIM Entity to decide whether it will be responsible for the load forecast for its entire area, or whether it will allow the EIM Sub-Entity to determine its own load forecast. In addition, the EIM Entity can either allow an EIM Sub-Entity to use its own load forecast or require it to use the CAISO provided forecast.³⁰ If an EIM Sub-Entity within a BAA elects to submit its own load forecast, it must provide an accurate representation of the actual load within its EIM Sub-Entity area, and the entire BAA will be subject to over/under scheduling charges.³¹ Because the decision of one EIM Sub-Entity may impact the settlements of both the EIM Entity and all other EIM Sub-Entities within the BAA, the EIM Entity, as the balancing authority responsible for reliability in its BAA, should have discretion as to whether to allow the EIM Sub-Entity to use its own load forecast.

F. Meter Data, Settlements and Invoicing

The EIM Sub-Entity Scheduling Coordinator will submit meter data to the CAISO for the non-participating resources within its area.³² Additionally, each EIM Sub-Entity Scheduling Coordinator will be required to submit load meter data for its associated LSE in the same manner as the EIM Entity Scheduling Coordinator.

The CAISO settlements process will create statements and invoices at the EIM Sub-Entity Scheduling Coordinator level for all charges and allocations associated with the EIM Sub-Entity's resources.³³ CAISO settlements will also continue to create statements and invoices at the EIM Entity level. The CAISO will continue to allocate Bid Cost Recovery charges and real time offset charges at the EIM Entity level with sub-allocations to EIM Sub-Entity Scheduling Coordinators performed according to the EIM Entity's OATT. The EIM Entity can access its statements and invoices, as well as all EIM Sub-Entity statements and invoices for Sub-Entities within its BAA.³⁴ This approach will allow for flexibility between the EIM Entity and its Sub-Entity scheduling coordinators.

³⁰ Proposed tariff at section 29.34(d)(4).

³¹ *Id.* at section 29.11(d)(4).

³² *Id.* at section 29.4(g)(4).

³³ *Id.* at section 29.4(g)(4)(H).

³⁴ *Id.* at section 29.11(s).

As discussed in Section IV.B above, the CAISO will perform the resource sufficiency evaluation at the BAA level. As a result, the CAISO will continue to perform the over-scheduling and under-scheduling assessment at the BAA level.³⁵ The over/under scheduling assessment is determined based on the net BAA load deviation. If the net BAA load deviation exceeds any of the penalty thresholds, the CAISO settlement will calculate the over-scheduling and under-scheduling charges at the EIM Sub-Entity level based on the EIM Sub-Entity deviations at the associated over/under scheduling Load Aggregation Point penalty price. If the BAA passes the balancing test or is within the penalty threshold, the EIM Sub-Entity level will be allocated a portion of the over-scheduling or under-scheduling total revenues based on the metered demand within the EIM Sub-Entity and the EIM Sub-Entity's submitted base schedule.

Each EIM Sub-Entity Scheduling Coordinator will be responsible for ensuring all generation and load within its area is metered in accordance with Section 29.10 of the CAISO tariff.³⁶ Each EIM Sub-Entity Scheduling Coordinator will also submit settlement quality meter data as described in Section 8 of the CAISO BPM for the Energy Imbalance Market.

G. System Access

The proposed EIM Sub-Entity Scheduling Coordinator role will have access to the following CAISO systems:

Automatic Dispatch System ("ADS")

- EIM Entity and EIM Sub-Entity Scheduling Coordinators will both have access to ADS for resources within their respective areas.

Balancing Authority Area Operations Portal ("BAAOP")

- If allowed by the EIM Entity, and if acting as a transmission operator, the EIM Sub-Entity Scheduling Coordinator can access BAAOP for the purpose of viewing market solutions and performing transmission conformance as part of its responsibilities as a transmission operator.
- If allowed by the EIM Entity, the EIM Sub-Entity Scheduling Coordinator can submit manual dispatch instructions via an API (automated programming interface) for resources for which it is registered scheduling coordinator.

³⁵ *Id.* at section 29.11(d).

³⁶ *Id.* at section 29.4(g)(4)(J).

Base Schedule Aggregation Portal (“BSAP”)

- EIM Sub-Entity Scheduling Coordinators will have access to BSAP to submit base schedules for the T-75 and T-55 resource sufficiency evaluation (*i.e.*, the resource sufficiency evaluations that occur seventy-five and fifty-five minutes prior to the upcoming hour).

Customer Market Results Interface (“CMRI”)

- EIM Sub-Entity Scheduling Coordinators will have access to CMRI for the purpose of viewing submitted load, generation, as well as the results of the T-75 resource sufficiency evaluation.

Market Results Interface for Settlements (“MRI-S”)

- EIM Sub-Entity Scheduling Coordinators can access invoices of load, generation, and interties that are associated with the EIM Sub-Entity Scheduling Coordinator. An invoice reflecting these values will also be available at the BAA level for review by the EIM Entity Scheduling Coordinator.
- EIM Sub-Entity Scheduling Coordinators will have access to MRI-S for the purpose of submitting required meter data for the non-participating resources within its area and for its associated load serving entity.

CAISO webOMS

- An EIM Sub-Entity Scheduling Coordinator will have access to webOMS where appropriate. Access will be determined based on its agreement with the EIM Entity to submit generation outages for resources for which it is the scheduling coordinator, as well as transmission outages for equipment for which it serves as the transmission operator. EIM Sub-Entities that are RC West participants will continue to submit transmission outages via CAISO webOMS.

H. Energy Transfers

The EIM Entity Scheduling Coordinator will be responsible for submitting all intertie transfers used by an EIM Sub-Entity Scheduling Coordinator as part of

its base schedule.³⁷ The EIM Entity is responsible for ensuring balanced schedules, net interchange, and tagging within its BAA. The EIM Entity will retain responsibility for the scheduling of base EIM transfer system resources (“ETSRs”) representing interchange from the BAA as a whole. If EIM Sub-Entities were allowed to represent an intertie transaction on their base schedule, it may create a conflict with another EIM Sub-Entity or the EIM Entity if the submitted schedules exceed the intertie limit.

Intra-EIM area transfers should be conducted based on the existing agreements between the EIM Entity and its EIM Sub-Entities. The CAISO will settle the base schedules submitted against metered demand, as described above.

During the stakeholder process, some entities asked if the CAISO could model energy transfers between entities within the same BAA as part of this proposal. The CAISO rejected this request because the CAISO does not model intra-BAA transfers, and it would be inconsistent with its existing procedures.

I. Outage Management

Outages will be submitted to the CAISO through the webOMS application. EIM Entities that are RC West members will submit outages in accordance with the Reliability Coordinator Services Business Practice Manual and the CAISO’s Outage Coordination RC0320 and RC0630 operating procedures.³⁸ Outage data submitted by the EIM Sub-Entity Scheduling Coordinator will be available within the CAISO webOMS system for review by the EIM Entity.

If the EIM Entity is not a member of RC West, the EIM Entity Scheduling Coordinator will submit all generation outages for its BAA. The CAISO will provide the option for an EIM Entity Scheduling Coordinator to delegate authority to EIM Sub-Entities to submit generation outages for resources for which they are acting as the scheduling coordinator.³⁹ These outages will be viewable by the EIM Entity Scheduling Coordinator.

The responsibility for transmission outage submission will remain with the EIM Entity. However, the EIM Entity may delegate its responsibility to an EIM Sub-Entity to submit outages with regard to transmission facilities for which the

³⁷ *Id.* at section 92.34(e)(4).

³⁸ CAISO Outage Review and Coordination, Procedure No. RC0320, available at <http://www.caiso.com/Documents/RC0320.pdf>; CAISO Outage Coordination Process, Procedure No. RC-630, available at <http://www.caiso.com/Documents/RC0630.pdf>.

³⁹ Proposed tariff at section 29.9(c). Giving this option to the EIM Entity Scheduling Coordinator allows the EIM Entity to retain full situational awareness of the generation in its BAA and ensures that a decision to delegate any of this awareness is made at the BAA level.

EIM Sub-Entity acts as the transmission operator.⁴⁰ These outages will be submitted by the EIM Entity Scheduling Coordinator. The outage submission process does not replace the BAA and transmission operator coordination required by neighboring Reliability Coordinator areas.⁴¹ The CAISO will block all outages submitted by the neighboring Reliability Coordinator for EIM Entities, and the EIM Entity Scheduling Coordinator will be responsible for ensuring outages submitted to the CAISO are consistent with outages submitted to their respective Reliability Coordinator.

J. Implementation of the EIM Sub-Entity Scheduling Coordinator Role

If an electric utility desires to become an EIM Sub-Entity under Section 29.2(c)(1) of the CAISO tariff, it must notify CAISO that the EIM Entity has authorized it to participate as an EIM Sub-Entity and it meets the qualifications for participation as an EIM Sub-Entity. It also must execute the *pro forma* EIM Sub-Entity agreement and, if it chooses to be its own EIM Sub-Entity Scheduling Coordinator, the EIM Sub-Entity Scheduling Coordinator agreement. These agreements conform to the CAISO's standards for *pro forma* agreements and their companion scheduling coordinator agreements. As such, these agreements are similar to the *pro forma* EIM Entity Agreement and EIM Entity Scheduling Coordinator Agreement, respectively, with limited modifications to account for the different roles and responsibilities associated with an EIM Sub-Entity and representation of an EIM Sub-Entity as an EIM Sub-Entity Scheduling Coordinator.

As discussed more fully below, the CAISO also will require execution of a *pro forma* implementation agreement that establishes the commitment of the EIM Sub-Entity to compensate the CAISO for its implementation costs.⁴²

Once the prospective EIM Sub-Entity notifies the CAISO that it has met these requirements, the CAISO will determine the implementation date based on the complexity and compatibility of the associated transmission and technology systems. However, the implementation date will not be less than 12 months or more than 24 months, after the date that the CAISO receives the aforementioned notice from the prospective EIM Sub-Entity.⁴³

⁴⁰ *Id.* at section 29.9(b).

⁴¹ NERC Standard IRO-017-1 – Outage Coordination.

⁴² These costs are separate from the EIM Entity implementation costs unless the EIM Implementation Agreement was in effect prior to April 1, 2022 and already provides effectively for EIM Sub-Entity participation within the EIM Entity BAA, in which case the EIM Sub-Entities previously identified in the existing EIM Implementation Agreement will not be assessed these additional costs and no separate EIM Sub-Entity implementation agreement will be required.

⁴³ Proposed tariff at section 29.2(c)(3)(B).

Section 29.2(c)(4) describes the implementation activities that the CAISO and the prospective EIM Sub-Entity will engage in to prepare the Sub-Entity for participation in the EIM. This process includes system integration and testing, as well as training, market simulation and a period of parallel operations.

The CAISO will report on its website at least once during market simulation on progress towards completing the implementation activities and once again during parallel operations confirming completion of the implementation activities in Section 29.2(c)(4). At least 10 days before the implementation date, the CAISO will determine, in consultation with the EIM Entity and the prospective EIM Sub-Entity, whether the systems and processes of the EIM Entity and the Sub-Entity will be ready for the Sub-Entity's participation in the EIM. These requirements will provide assurance and transparency with respect to the onboarding process.⁴⁴

V. EIM Sub-Entity Implementation Fee

The CAISO will recover the actual start-up costs it incurs to separate the EIM Sub-Entity from the EIM Entity BAA through an implementation fee under the EIM Sub-Entity Implementation Agreement.

The implementation fee will be charged based on the CAISO's cost of service.⁴⁵ For projection purposes, the CAISO used an hourly rate of \$200 for all implementation activities. The CAISO calculated this fully burdened rate based on the most recently published triennial Grid Management Charge Update Cost of Service Study.⁴⁶ For billing purposes, hourly rates for the CAISO's implementation activity will be determined on an annual basis based on current aggregated and burdened labor rates per implementation track. However, the CAISO currently does not project the hourly rates will exceed \$200 per hour for any activity. The majority of the implementation costs will be labor costs; however, it is reasonable to assume there may be some implementation specific non-labor costs incurred during the implementation. Based on the \$200 hourly

⁴⁴ The implementation of EIM Entities into the EIM follows a similar process. See existing tariff section 29.2(b)(4)-(8).

⁴⁵ These costs are separate from the EIM Entity implementation costs unless the EIM Implementation Agreement already contemplates EIM Sub-Entity participation within the EIM Entity BAA, in which case the EIM Sub-Entities previously identified in the EIM Implementation Agreement will not be assessed these additional costs and will not be required to execute an EIM Sub-Entity Implementation Agreement. These costs are also separate from the EIM administrative charge, which the CAISO will monitor for the additional burden to support the EIM Sub-Entity functionality.

⁴⁶ The most recent Cost of Service Study, completed in 2020 based on 2019 data, was filed with the Commission as Attachment C to the CAISO's October 15, 2020, Grid Management Charge filing in Docket No. ER21-112-000. A link to the study is available at: <http://www.caiso.com/Documents/DraftFinal2019CostofServiceStudyand2021GridManagementChargeUpdate.pdf>. Additional information regarding the CAISO's GMC rate structure is available at: http://www.caiso.com/Documents/DraftFinalProposal-2012GridManagementChargeFeb15_2011.pdf.

rate projection, the CAISO estimates that the cost to onboard an EIM Sub-Entity will be between \$216,000 and \$304,000, depending on the scope of the implementation activities described in Section 29.2(c)(4). The actual implementation costs per EIM Sub-Entity may vary depending on factors including, but not limited to, whether the BAA is already an EIM participant and the level of independence that the EIM Entity gives the Sub-Entity in relation to Full Network Model submission/maintenance, forecasting and outage submission.

The CAISO will charge electric utilities that enter into an EIM Sub-Entity Implementation Agreement a fee to cover the actual start-up costs the CAISO will incur to separate the EIM Sub-Entity from the EIM Entity BAA.⁴⁷ Under Section 29.2(g) of the CASO tariff, the EIM Sub-Entity will provide the CAISO a \$260,000 deposit to cover implementation costs at the time of the request. If the deposit exceeds the actual cost incurred to provide implementation services, the CAISO will refund the excess amount to the EIM Sub-Entity, including any interest accrued on the remaining deposit. If the actual cost of performing the service exceeds the deposit, the CAISO will require additional deposits in \$25,000 increments, which the EIM Sub-Entity must pay within thirty (30) calendar days.

If the EIM Sub-Entity fails to timely pay any undisputed costs, the CAISO will not be obligated to continue performing implementation activities unless and until the EIM Sub-Entity has paid all undisputed amounts. This is similar to the process the CAISO implemented to perform evaluations of material modification requests and other studies for generators interconnecting to the CAISO controlled grid.⁴⁸ Following this existing process allows the CAISO to efficiently account for its costs in performing the implementation activities during the onboarding process.

VI. EIM Sub-Entity *Pro Forma* Agreements

A. EIM Sub-Entity Implementation Agreement

First, a utility that is seeking to become an EIM Sub-Entity must enter into an EIM Sub-Entity Implementation Agreement with the CAISO, which requires the prospective EIM Sub-Entity to compensate the CAISO for the start-up costs the CAISO will incur to partition the EIM Sub-Entity from the EIM Entity BAA.⁴⁹ The agreement also establishes the implementation date for participation by the prospective EIM Sub-Entity in the CAISO Real-Time Market.

⁴⁷ Proposed tariff at section 29.11(g).

⁴⁸ CAISO tariff Appendix U, Section 6.4, 7.6, 8.5 and 10; Appendix Y, Section 6.9.2; Appendix DD, Section 6.7.2.

⁴⁹ See, *supra* fn. 45 (noting that when the EIM Implementation Agreement already contemplates EIM Sub-Entity participation within the EIM Entity BAA, the EIM Sub-Entities previously identified in the EIM Implementation Agreement will not be assessed these additional costs and will not be required to execute an EIM Sub-Entity Implementation Agreement).

This agreement requires the CAISO to perform changes to its systems, in accordance with the CAISO Tariff, to allow the prospective EIM Sub-Entity to participate in the CAISO Real-Time Market. These implementation activities include planning and project management, full network modeling of resources, system integration and testing, metering and settlements, and operations readiness and training. The CAISO will also provide a project plan of these implementation activities to the prospective EIM Sub-Entity, including a schedule by which information and data will be required to be sent to the CAISO, testing performed by the EIM Sub-Entity, and training conducted to meet the EIM Sub-Entity's implementation date. As compensation for these services, the prospective EIM Sub-Entity will provide a deposit to the CAISO that will be used to pay the CAISO's actual costs of the implementation, as described above in Section V.

Under the agreement, the prospective EIM Sub-Entity also must satisfy all requirements of the CAISO tariff provisions applicable to an EIM Sub-Entity prior to the established implementation date. Specifically, it must (1) demonstrate that the prospective EIM Sub-Entity satisfies all qualifications for participation as an EIM Sub-Entity, (2) show that the prospective EIM Sub-Entity has been authorized by the EIM Entity for the BAA in which it is located to participate as an EIM Sub-Entity, (3) enter into an EIM Sub-Entity Agreement with the CAISO; and (4) secure representation by an EIM Sub-Entity Scheduling Coordinator.

The CAISO may terminate the agreement under Section 29.1 of the CAISO tariff if the prospective EIM Sub-Entity materially defaults under the agreement or Section 29 and the default is not cured within 30 days, or if the EIM Entity for the BAA in which the EIM Sub-Entity is located terminates participation in the EIM. The prospective EIM Sub-Entity may terminate the agreement, without penalty, by giving at least 30 days' written notice to the CAISO. In the event of termination, the CAISO will make every effort to halt work and related costs on the implementation as soon as practical and refund any payments provided by the prospective EIM Sub-Entity in excess of costs already incurred by the CAISO.

The agreement also discusses how the deposits will be settled, including any refunds owed. It also provides the prospective EIM Sub-Entity the right to audit the CAISO's records to verify costs incurred by the CAISO. The remaining terms are identical to or consistent with those contained in other similar *pro forma* agreements.

B. EIM Sub-Entity Agreement

Any electric utility that will become an EIM Sub-Entity must then enter into the EIM Sub-Entity Agreement included in Appendix B. The terms of this agreement are similar to the existing *pro forma* EIM Entity Agreement. A prospective EIM Sub-

Entity must execute the EIM Sub-Entity Agreement no later than 90 days before its designated implementation date.⁵⁰

This agreement obligates the CAISO to provide open access to the Real-Time Market to the EIM Sub-Entity under the terms of the CAISO Tariff. In turn, the EIM Sub-Entity will have provisions in its OATT to enable operation of the Real-Time Market in accordance with the CAISO Tariff. The EIM Sub-Entity must also ensure that it is represented by an EIM Sub-Entity Scheduling Coordinator, which may be the Sub-Entity, itself, or another entity certified by the CAISO to perform the functions of an EIM Sub-Entity Scheduling Coordinator. If authorized by the EIM Entity, the EIM Sub-Entity will be responsible for providing information to the CAISO regarding the network topology of its facilities within the EIM Entity BAA, non-participating resources, and loads in accordance with the CAISO tariff and the Business Practice Manual for the Energy Imbalance Market. Finally, the EIM Sub-Entity will make available for use in the Real-Time Market transmission capacity on its system that is not otherwise encumbered, reserved, scheduled, or being used by its transmission customers or others. The EIM Sub-Entity will provide the CAISO with real time information regarding the availability of transmission capacity for use in the EIM, as authorized by the EIM Entity for its BAA.

The agreement also includes references to the CAISO tariff, as well as common general contractual terms, which support the roles and responsibilities of the EIM Sub-Entity.

Once the agreement becomes effective, it will remain in effect until terminated by the EIM Sub-Entity or by the CAISO pursuant to the terms of the agreement. The CAISO may suspend and ultimately terminate the agreement due to market or system operational issues that adversely impact the BAA in which the EIM Sub-Entity is located, under Section 29.1 of the CAISO tariff. The CAISO may also terminate the agreement if the EIM Sub-Entity materially defaults under the agreement or Section 29, unless the default is cured within 30 days, or if the EIM Entity for the BAA in which the EIM Sub-Entity is located terminates participation in the EIM.

The EIM Sub-Entity may terminate the agreement, without penalty, by giving no less than 180 days' written notice to the CAISO. The CAISO will then take all necessary steps to disable the EIM Sub-Entity within the EIM Entity BAA and transition responsibility to the EIM Entity.

Other provisions of the EIM Sub-Entity Agreement are identical to or consistent with other CAISO *pro forma* agreements previously accepted by the Commission. These include dispute resolution (Section 6.1), representations and

⁵⁰ Proposed tariff section 29.4(f)(1).

warranties (Section 7), limitations of liability (Section 8), governing law and venue (Section 10.4), and certain miscellaneous provisions.

C. EIM Sub-Entity Scheduling Coordinator Agreement

Any entity that wishes to act as an EIM Sub-Entity Scheduling Coordinator must execute an EIM Sub-Entity Scheduling Coordinator Agreement. The terms of this agreement are similar to those in the existing *pro forma* EIM Scheduling Coordinator Agreement. As stated above, either the EIM Sub-Entity itself or a third party scheduling coordinator designated to represent the EIM Sub-Entity's participation in the CAISO markets may execute the EIM Sub-Entity Scheduling Coordinator Agreement. .

The agreement, which incorporates Section 29 of the CAISO tariff, requires the EIM Sub-Entity Scheduling Coordinator to perform all of the obligations under Section 29 placed on EIM Sub-Entity Scheduling Coordinators, including obligations related to scheduling, settlement, system security policy and procedures, billing and payments, confidentiality, and dispute resolution. The EIM Sub-Entity Scheduling Coordinator also will have primary responsibility to the CAISO for the EIM Sub-Entity Scheduling Coordinator payment obligations under Section 29. In addition, it will ensure that each EIM Sub-Entity that it represents enters into an EIM Sub-Entity Agreement.

The agreement may only be terminated pursuant to Sections 4.5.4.4 and 4.5.4.5 of the CAISO Tariff, which contain the termination rights and duties pertaining to all scheduling coordinators. The penalties provision is governed by Section 29, which applies to all scheduling coordinators in the EIM. The remaining provisions are again identical to or consistent with those contained in the EIM Sub-Entity Agreement and other similar *pro forma* agreements. The CASO notes that 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. § 358.⁵¹

VII. Effective Date

The CAISO requests that the Commission issue an order by April 1, 2022 accepting this amendment effective as of April 1, 2022. As described above, this will provide parties currently interested in becoming an EIM Sub-Entity sufficient time to execute the requisite EIM Sub-Entity agreements and complete the implementation and other activities associated with the onboarding processes prior to the April 2023 time period. Execution of the required *pro forma* agreements will

⁵¹ See proposed tariff section 29.4(g)(5).

commit entities to the activities associated with the onboarding processes, and the CAISO will know the scope of the initial onboarding effort.

VIII. Requests for Waiver

The CAISO submits that this filing substantially complies with the requirements of section 35.13 of the Commission's regulations, 18 C.F.R. § 35.13, applicable to filings of this type. The CAISO respectfully requests waiver of any such requirement to the extent this filing does not satisfy that requirement.

IX. Service

The CAISO has served copies of this filing upon 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 the filing on the CAISO website.

X. Contents of Filing

In addition to this transmittal letter, this filing includes the following attachments:

Attachment A	Clean tariff sheets with a requested effective date of April 1, 2022
Attachment B	Marked tariff sheets with a requested effective date of April 1, 2022
Attachment C	Western EIM Governing Board and Board of Governors Memorandum
Attachment D	Final Proposal

XI. Correspondence

Pursuant to Rule 203(b) of the Commission's Rules of Practice and Procedure,⁵² the CAISO requests that all correspondence, pleadings, and other communications concerning this filing be served upon the following:

John C. Anders
Assistant General Counsel
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Sean A. Atkins
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⁵² 18 C.F.R. § 385.203(b).

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XII. Conclusion

The CAISO requests that the Commission accept the amendment proposed in this filing effective April 1, 2022 as requested. If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

By: /s/ John C. Anders

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Attachment A – Clean Tariff

EIM Sub-Entity and Sub-Entity Scheduling Coordinator Roles

California Independent System Operator Corporation

January 21, 2022

29. Energy Imbalance Market

29.1 General Provisions.

- (a) **Operation of EIM.** Pursuant to Section 29, the CAISO shall expand operation and settlement of the Real-Time Market to provide for the purchase and sale of balancing Energy in any Balancing Authority Area for which the Balancing Authority executes an EIM Entity Agreement with the CAISO.
- (b) **EIM Tariff Obligations.** EIM Market Participants shall comply with –
 - (1) the provisions of Section 29; and
 - (2) other provisions of the CAISO Tariff that apply to the extent such provisions –
 - (A) expressly refer to Section 29 or EIM Market Participants;
 - (B) are cross referenced in Section 29; or
 - (C) are not limited in applicability to the CAISO Controlled Grid, the CAISO Balancing Authority Area, or CAISO Markets other than the Real-Time Market.
- (c) **Inconsistency Between Provisions.** If there is an inconsistency between a provision in Section 29 and another provision of the CAISO Tariff regarding the rights or obligations of EIM Market Participants, the provision in Section 29 shall prevail to the extent of the inconsistency.
- (d) **Suspension of EIM Entity Participation.**
 - (1) **Temporary Suspension.** The CAISO may, within 60 days following an EIM Entity Implementation Date for an EIM Entity, and pursuant to the terms of a Market Notice, temporarily suspend the participation of that EIM Entity in the Real-Time Market for a period not to exceed 60 days if market or system operational issues adversely impact any portion of the EIM Area, provided that the ISO may continue operation of the Real-Time Market without the participation of the EIM Entity for a reasonable additional period of time in order to implement a resolution of the market or system operational issues.

- (2) **CAISO Termination.** If the CAISO is not able to identify a resolution of the EIM-related market or system operational issues within 60 days after issuance of the Market Notice of temporary suspension of EIM participation by an EIM Entity, the CAISO may, upon issuance of a subsequent Market Notice, terminate participation by the EIM Entity in the Real-Time Market and may extend the suspension of EIM participation by the EIM Entity for a time sufficient to process the termination of the EIM Entity Agreement.
- (3) **Reinstatement.**
- (A) **After Temporary Suspension.** The CAISO may reinstate EIM operations after a temporary suspension of EIM participation by an EIM Entity by issuing a Market Notice announcing the intended reinstatement no less than 5 days in advance of the reinstatement date.
- (B) **After CAISO Termination.** The CAISO may only reinstate EIM operations with respect to an EIM Entity after termination of EIM participation by an EIM Entity pursuant to a filing accepted by FERC.
- (4) **EIM Entity Action.** In the event the CAISO issues a Market Notice of the temporary suspension of EIM participation by an EIM Entity, the EIM Entity shall continue to submit EIM Base Schedules and the associated meter data to enable continued operation of the Real-Time Market until the CAISO issues a subsequent Market Notice either that –
- (i) the cause of the temporary suspension has been resolved and the EIM Entity has been reinstated, in which case EIM participation by the EIM Entity shall return to normal; or
- (ii) EIM participation by the EIM Entity has been terminated.
- (5) **CAISO Action.** In the event the CAISO issues a Market Notice of the temporary suspension of EIM participation by an EIM Entity, the CAISO shall –
- (i) prevent EIM Transfers and separate the EIM Entity Balancing Authority Area from operation of the Real-Time Market in the EIM Area in

accordance with the provisions of the Business Practice Manual for the Energy Imbalance Market;

- (ii) suspend Settlement of Real-Time Market charges with respect to the EIM Entity in accordance with the provisions of the Business Practice Manual for the Energy Imbalance Market; and
- (iii) issue a subsequent Market Notice either that (i) the cause of the temporary suspension has been resolved and the EIM Entity has been reinstated, in which case EIM participation by the EIM Entity shall return to normal, or (ii) EIM participation by the EIM Entity has been terminated.

29.2 EIM Entity and EIM Sub-Entity Access to the Real-Time Market

(a) **In general.** The CAISO shall –

- (1) provide open and non-discriminatory access to the Real-Time Market, including the Energy Imbalance Market, in accordance with the provisions of the CAISO Tariff; and
- (2) make available for use in the Real-Time Market the transmission capacity that is available in Real-Time –
 - (A) on the CAISO Controlled Grid; and
 - (B) for which an EIM Entity or EIM Sub-Entity provides EIM Transmission Service Information pursuant to Section 29.17.

(b) **Implementation of Access as an EIM Entity.**

- (1) **EIM Implementation Agreement.** A Balancing Authority that wishes to become an EIM Entity must first execute an EIM Implementation Agreement with the CAISO that establishes –
 - (A) the activities the parties must undertake to enable the Balancing Authority to participate in the Real-Time Market;
 - (B) the EIM Entity Implementation Date;
 - (C) the implementation fee the Balancing Authority must pay to the CAISO for the start-up costs the CAISO incurs to accommodate the participation

of the Balancing Authority in the Real-Time Market as provided in the agreement; and

(D) the obligation of the Balancing Authority to enter into an EIM Entity Agreement governing its participation in the Real-Time Market.

(2) **FERC Approval.** The EIM Entity Implementation Date must be not less than six months and not more than twenty-four months after the date that the EIM Implementation Agreement between the CAISO and the Balancing Authority is accepted by FERC.

(3) **Implementation Period.** The CAISO shall in its discretion determine the EIM Entity Implementation Date based on the complexity and compatibility of the Balancing Authority's transmission and technology systems with the CAISO systems and the planned timing of the CAISO's implementation of software enhancements.

(4) **Market Simulation and Parallel Operations.** The CAISO and the prospective EIM Entity shall engage in –

(A) a market simulation that accounts for the prospective EIM Entity's implementation circumstances sufficient to meet the readiness criteria set forth in Section 29.2(b)(7); and

(B) at least 30 days of parallel operations representing the Energy Imbalance Market to support the CAISO and the prospective EIM Entity's readiness certification required by section 29.2(b)(6), an adequate period of which must occur prior to the readiness determination required by section 29.2(b)(5).

(5) **Readiness Determination.** No later than 30 days prior to the prospective EIM Entity Implementation Date as established by the EIM Implementation Agreement, the CAISO will determine, in consultation with the prospective EIM Entity, whether the systems and processes of the prospective EIM Entity will be ready for the prospective EIM Entity's participation in the Energy Imbalance

Market according to the criteria set forth in Section 29.2(b)(7) as measured by the thresholds specified in the Business Practice Manual for the Energy Imbalance Market, or consistent with any exceptions to thresholds, for certifying the prospective EIM Entity's readiness.

(6) **Readiness Certification.**

(A) **Certification.** The CAISO and the prospective EIM Entity shall each file a market readiness certificate with the FERC at least 30 days prior to the EIM Entity Implementation Date in which a senior officer of each entity attests –

- (i) that the processes and systems of the prospective EIM entity have satisfied or will have satisfied the readiness criteria set forth in Section 29.2(b)(7) as of the EIM Entity Implementation Date;
- (ii) to any known issues requiring resolution prior to the EIM Entity Implementation Date in accordance with section 29.2(b)(8);
- (iii) to any exceptions from the established thresholds specified in the Business Practice Manuals, and that despite such exceptions the criteria were met or will be met as specified in 29.2(b)(7); and
- (iv) that the EIM Entity Implementation Date is conditional on the resolution of the known issues identified in the certificates and any unforeseen issues that undermine the satisfaction of the readiness criteria set forth in Section 29.2(b)(7).

(B) **Delay or Re-Certification.** If, subsequent to readiness certification pursuant to Section 29.2(b)(6)(A), the CAISO or the prospective EIM Entity determines that it cannot proceed with implementation on the EIM Entity Implementation Date, the CAISO or the prospective EIM Entity will notify the FERC of the delay, the reason for the delay, the new EIM Entity Implementation Date if it can be determined, and whether it will need to re-issue a portion or all of the readiness certification.

(7) **Readiness Criteria.**

(A) **Prospective EIM Entity Full Network Model Integration.** The network model data of the prospective EIM Entity is integrated into the Full Network Model such that –

- (i) the Load, EIM Internal Intertie and EIM External Interties and Generating Unit definition in the Full Network Model is consistent with the Load, EIM Internal Intertie and EIM External Interties and Generating Unit definition in the prospective EIM Entity network model file that it delivered to the CAISO;
- (ii) the SCADA measurements used in the prospective EIM Entity's EMS model match the measurements observed by the CAISO through the CAISO EMS;
- (iii) the State Estimator solution is equivalent or superior to the prospective EIM Entity's state estimator solution for its Balancing Authority Area; and
- (iv) the physical representation of the prospective EIM Entity network matches the Base Market Model that accounts for non-conforming load, behind-the-meter generation, Pseudo-Ties, and Dynamic Schedules, and third party transmission service provider and path operator information that the CAISO agrees is used to support EIM Transfers and Real-Time Dispatch in the Energy Imbalance Market, as applicable.

(B) **Operations Training.** Prior to the start of parallel operations as set forth in Section 29.2(b)(4), all operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and settlements, have completed –

- (i) the introduction to Energy Imbalance Market training module;
- (ii) the specific hourly and daily tasks and duties for normal

operation training module; and

- (iii) the assessment of market results and response to contingencies and abnormal situations training module.

(C) **Forecasting Capability.** The CAISO and, to the extent the prospective EIM Entity will use its own forecasts or is otherwise required to provide forecasting information to the CAISO, the prospective EIM Entity have demonstrated their respective forecasting capability through –

- (i) the definition of EIM Demand forecast boundaries based on the conforming and non-conforming Load characteristics, as applicable;
- (ii) the accuracy of the CAISO forecast of EIM Demand based on historical actual Load data for the defined EIM Demand forecast boundaries;
- (iii) the identification of weather stations locations used in forecasting, as applicable;
- (iv) the identification of the source of Variable Energy Resource forecasts pursuant to Section 29.11(j); and
- (v) the identification of the source of Hybrid Resource forecasts pursuant to Section 29.11(j).

(D) **Balanced Schedules.** The prospective EIM Entity's Scheduling Coordinator has demonstrated it has the –

- (i) ability to balance EIM Demand and EIM Supply for the prospective EIM Entity's Balancing Authority Area;
- (ii) ability to pass the capacity test, as set forth in Section 29.34(l); and
- (iii) ability to pass the flexible ramping sufficiency test, as set forth in Section 29.34(m).

(E) **System Readiness and Integration.**

- (i) **Readiness.** The prospective EIM Entity and the CAISO have tested the functional and system elements in accordance with functional and system testing documentation posted on the CAISO Website.
 - (ii) **System Integration.** The prospective EIM Entity and the CAISO have tested system integration testing in accordance with the system integration testing documentation posted on the CAISO Website.
 - (iii) **Certificates.** The prospective EIM Entity has issued all necessary certificates to its employees that require system access to perform EIM-related job functions.
- (F) **Settlements.** The CAISO and the prospective EIM Entity have demonstrated that –
- (i) the CAISO Settlement Statements and Invoices match the operational data published to stakeholders or fed into the settlement system and the resulting calculations correspond to the formulas defined in the CAISO Tariff and applicable Business Practice Manuals during market simulation and parallel operations; and
 - (ii) the Settlement Statements and Invoices of the prospective EIM Entity allocating charges and credits to its customers accurately reflect system and market data during parallel operations.
- (G) **Outage Management System.** The prospective EIM Entity has verified its ability to submit and retrieve accurate and correct outage information to and from the CAISO within the required timelines.
- (H) **Communications between the CAISO and the prospective EIM Entity.**
- (i) **Messaging.** The process and procedures used for voice and

electronic messaging between the prospective EIM Entity and the CAISO are identified and incorporated into the prospective EIM Entity's operating procedures before the start of market simulation specified in Section 29.2(b)(4)(A).

- (ii) **Training.** The operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and settlements are trained on the relevant Operating Procedures and tools used for EIM related communications before the start of parallel operations specified in Section 29.2(b)(4)(B).
- (iii) **Third Party Transmission Service Providers.** Third party transmission service provider and path operator information that the CAISO agrees is used to support EIM Transfers and Real-Time Dispatch is made available by the CAISO to the prospective EIM Entity during parallel operations.

(I) **Market Simulation.**

- (i) **Prospective EIM Entity Identification.** The CAISO has established and the prospective EIM Entity has tested all necessary SCIDs and Resource IDs established for the prospective EIM Entity's Balancing Authority Area.
- (ii) **Day in the life simulation.** The prospective EIM Entity operations staff identified by the prospective EIM Entity who will have responsibility for EIM grid operations, have completed end-to-end daily market workflow with no critical defects.
- (iii) **Structured scenarios simulation.** The prospective EIM Entity operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and

settlements, have executed and passed all structured scenarios provided by CAISO with all significant issues resolved.

- (iv) **Unstructured scenarios simulation.** The prospective EIM Entity operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and settlements, have executed and passed all unstructured scenarios provided by the prospective EIM Entity, with significant issues resolved.
- (v) **Market results reports.** Market results are appropriate based on inputs, and the prospective EIM Entity and CAISO executive project sponsors approve the results.
- (vi) **Market quality review.** The CAISO prices are validated based on input data for parallel operations specified in Section 29.2(b)(4)(B).

(J) **Parallel Operations Plan.** The period of parallel operations specified in Section 29.2(b)(4)(B) runs consistently and in accordance with the prospective EIM Entity specific parallel operations plan.

(K) **Additional Criteria**

- (i) **Execution of Necessary Agreements.** The prospective EIM Entity has complied with Section 29.4(c)(2) and executed any necessary agreements for operating as an EIM Entity, including any non-disclosure agreements required for the exchange of information.
- (ii) **Operating Procedures.** Prior to the start of parallel operations pursuant to Section 29.2(b)(4)(B), the CAISO and the prospective EIM Entity have defined, completed, and tested operating procedures for the prospective EIM Entity and its Scheduling Coordinator's participation in the Energy Imbalance

Market.

- (iii) **Identification of EIM Available Balancing Capacity.** The prospective EIM Entity has identified EIM Participating Resources and non-participating resources that it intends to designate in the EIM Resource Plan as EIM Available Balancing Capacity.
- (iv) **Flexible Capacity Requirements.** The CAISO has received and stored all historical data from the prospective EIM Entity necessary and sufficient for the CAISO to perform the flexible ramp requirement, and the CAISO has established flexible capacity requirements for the prospective EIM Entity's Balancing Authority Area and for the combined EIM Area including the prospective EIM Entity.
- (v) **Monitoring.** Sufficient and adequate data is available to the CAISO and the Department of Market Monitoring to enable market monitoring as of the Implementation Date.

- (8) **Readiness Reporting.** The CAISO shall report on the CAISO Website periodically, but not less than monthly during market simulation pursuant to Section 29.2(b)(4)(A) and not less than twice a month during parallel operations pursuant to Section 29.2(b)(4)(B), on progress towards achieving the readiness criteria in Section 29.2(b)(7), including providing information explaining any exceptions to or deviations from the readiness thresholds granted according to the standards and procedures for granting exceptions or deviations set forth in the Business Practice Manual for the Energy Imbalance Market, and the reasons therefore, and publish such reports on its website in advance of and in support of the certificate to be filed pursuant to Section 29.2(b)(6).

(c) **Access as an EIM Sub-Entity.**

- (1) **EIM Sub-Entity Qualification.** An electric utility that wishes to become an EIM

Sub-Entity must—

- (A) be an electric utility embedded within an EIM Entity Balancing Authority Area and not receive long-term wholesale full requirements services from the EIM Entity;
- (B) own a distribution system or transmission facilities directly connected to a transmission system embedded in the EIM Entity Balancing Authority Area for the purpose of providing—
 - (i) regulated electric service to eligible retail or wholesale customers, or
 - (ii) serve eligible customers in its capacity as a Local Publicly Owned Electric Utility;
- (C) own or control one or more resources for the primary purpose of serving its eligible customers; and
- (D) obtain authorization from the EIM Entity in whose Balancing Authority Area the prospective EIM Sub-Entity is located.

(2) **EIM Entity Authorization.** An EIM Entity may elect at its sole discretion whether or not to authorize participation by an EIM Sub-Entity within its Balancing Authority Area, which may encompass—

- (A) no electric utility regardless of whether one or more electric utilities in its Balancing Authority Area meets the qualifications in Section 29.2(c)(1);
- (B) all electric utilities that meet the qualifications in Section 29.2(c)(1) and seek to become EIM Sub-Entities; or
- (C) some electric utilities that meet the qualifications in Section 29.2(c)(1), and seek to become EIM Sub-Entities, provided the EIM Entity finds that there is a supportive existing and accepted contractual or tariff based practice for imbalance energy accounting within its Balancing Authority Area that distinguishes the EIM Sub-Entity from its other transmission service customers.

- (3) **EIM Sub-Entity Implementation Agreement.** An electric utility that has been authorized by the EIM Entity to participate as an EIM Sub-Entity in accordance with 29.2(c)(2) and wishes to become an EIM Sub-Entity must also execute an EIM Sub-Entity Implementation Agreement with the CAISO that establishes—
- (A) the electric utility meets the CAISO qualifications for participation as an EIM Sub-Entity in Section 29.2(c)(1);
 - (B) the EIM Sub-Entity Implementation Date, which—
 - (i) the CAISO shall in its discretion determine based on the complexity and compatibility of the transmission and technology systems and the planned timing of the CAISO's implementation of software enhancements, and
 - (ii) must be not less than twelve months and not more than twenty-four months after CAISO confirms that the electric utility meets the CAISO qualifications for participation as an EIM Sub-Entity;
 - (C) the implementation fee deposit the electric utility must pay to the CAISO for the estimated start-up costs the CAISO will incur to partition the EIM Sub-Entity from the EIM Entity Balancing Authority Area, subject to true-up based on actual costs incurred in accordance with the EIM Sub-Entity Implementation Agreement;
 - (D) the obligation of the electric utility to enter into an EIM Sub-Entity Agreement governing its participation in the Real-Time Market; and
 - (E) the obligation of the EIM Sub-Entity to either execute the EIM Sub-Entity Scheduling Coordinator Agreement, or retain the services of an entity that has executed the EIM Sub-Entity Scheduling Coordinator Agreement.
- (4) **EIM Sub-Entity Implementation Activities.** The CAISO and the prospective EIM Sub-Entity will engage in –
- (A) project management planning and tracking of all implementation tasks,

issues and risks through regular meetings and status reports following a detailed project schedule outlining all the steps leading to the market simulation, parallel operations and participation;

- (B) authorization and certification processes associated with execution of the required agreements and any applicable tariff changes necessary for participation;
- (C) integration of the network model data with the CAISO's Full Network Model, including connectivity testing and Full Network Model verification prior to market simulation testing;
- (D) integration and access to non-production environments for integration and testing of market data exchange and modification of prospective EIM Sub-Entity operating and bid-to-bill systems associated with participation, including system integration, security and functional testing of all impacted systems and processes followed by market simulation according to a CAISO test plan outlining scenarios, a timeline and expected actions prior to testing;
- (E) review and approval of information and processes to confirm the Meter Data meets all requirements necessary for the implementation and Settlement of the prospective EIM Sub-Entity, including any associated testing;
- (F) training events including computer based training modules for various roles and responsibilities, train-the-trainer courses which include hands-on scenario trainings with application tools, and optional participation in modeling workshops and other tracks as appropriate to prepare for transition to production.

- (5) **Readiness Reporting.** The CAISO shall report on the CAISO Website periodically, but not less than once during market simulation on progress towards completing the implementation activities in Section 29.2(c)(4) and once again

during parallel operations confirming completion of the implementation activities in Section 29.2(c)(4).

- (6) **Readiness Determination.** No later than 10 days prior to the prospective EIM Sub-Entity Implementation Date as established in the EIM Sub-Entity Implementation Agreement, the CAISO will determine, in consultation with the EIM Entity and the prospective EIM Sub-Entity, whether the systems and processes of the EIM Entity and the prospective EIM Sub-Entity will be ready for the prospective EIM Sub-Entity's participation in the Energy Imbalance Market.

29.3 [Not Used]

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 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);
and
 - (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).
- (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.

29.5 [Not Used]

29.6 Communications

- (a) **EIM Entity and EIM Sub-Entity.** The EIM Entity or EIM Sub-Entity, as applicable, shall meet the technical and communication requirements specified in the Business Practice Manual for the Energy Imbalance Market, which shall be based on the Inter-Control Center Communication Protocol and Reliability Standards.
- (b) **EIM Communications and OASIS.** Section 6 shall govern communications and information availability regarding the participation of EIM Market Participants in the Real-Time Market except that –
- (1) references to internal resources shall be deemed to include EIM Resources;
 - (2) references in Sections 6.2.2.1 and 6.5.2.1 to the CAISO Controlled Grid and references in Sections 6.5.4.2.2(a) and 6.5.5.1.1 to CAISO Balancing Authority Area shall be deemed references to the EIM Area; and
 - (3) the provisions of Section 6.3.1 that authorize the CAISO to communicate directly with Generators and Demand Response Providers to ensure System Reliability shall not apply to Generators and Demand Response Providers in the EIM Entity's Balancing Authority Area or pseudo-tied from an external Balancing Authority Area to the EIM Entity Balancing Authority Area.
- (c) **Loss of Communications.**
- (1) **Procedures.** The CAISO and each EIM Entity, EIM Sub-Entity, EIM Entity

Scheduling Coordinator, and EIM Sub-Entity Scheduling Coordinator shall establish procedures to address an interruption of Real-Time Market communications, which shall include steps to be taken to restore communications and address any impact on system or market operations as provided in Section 29.

- (2) **Responsibilities.** An EIM Entity or EIM Sub-Entity that loses communication with the CAISO remains responsible for managing its Balancing Authority Area or EIM Sub-Entity area imbalance needs without balancing Energy from the Real-Time Market, and EIM Entities and EIM Sub-Entities shall have communication procedures to address such circumstances.
- (d) **Variable Energy Resource Forecast Communications.** If the EIM Participating Resource Scheduling Coordinator for a Variable Energy Resource elects to use an independent forecasting service, it must make data transfer arrangements with the CAISO for the CAISO to receive the forecast in a format and on a schedule set forth in the Business Practice Manual for the Energy Imbalance Market.
- (e) **Hybrid Resource Forecast Communications.** If the EIM Participating Resource Scheduling Coordinator for a Hybrid Resource elects to use an independent forecasting service, it must make data transfer arrangements with the CAISO for the CAISO to receive the forecast in a format and on a schedule set forth in the Business Practice Manual for the Energy Imbalance Market.

29.7 EIM Operations Under Normal and Emergency Conditions.

- (a) **CAISO Controlled Grid Operations.** Section 7 shall not apply to EIM Market Participants in their capacities as such.
- (b) **Normal EIM Operations.** The CAISO shall administer the transmission capacity made available to the Real-Time Market to manage Energy imbalances in the EIM Area under normal operations.
- (c) **Load Curtailment.** The CAISO will not issue Dispatch Instructions to an EIM Entity Scheduling Coordinator or an EIM Sub-Entity Scheduling Coordinator with respect to

Load or Demand that has not been bid into the Real-Time Market.

- (d) **Dispatch Instructions for EIM Participating Resources.** The CAISO will not issue Dispatch Instructions to an EIM Participating Resource Scheduling Coordinator with respect to Supply that has not been bid into the Real-Time Market.
- (e) **EIM Transfers.** The CAISO shall manage EIM Transfers as aggregate Dynamic Schedules with each EIM Entity Balancing Authority Area, which –
 - (1) shall not require individual resource E-Tags;
 - (2) shall not constitute inadvertent Energy;
 - (3) shall reflect intra-hour incremental EIM Transfers between the CAISO Balancing Authority Area and each EIM Entity Balancing Authority Area;
 - (4) shall be updated by the CAISO within 60 minutes after the end of each Operating Hour to include the integrated Energy during the hour for the sum of all EIM Transfers between each Balancing Authority Area in the EIM Area in accordance with WECC business practices for purposes of inadvertent Energy accounting; and
 - (5) shall be subsequently updated as necessary consistent with the requirements of WECC, NERC, and North American Energy Standards Board standards and business practices.
- (f) **Dynamic Imbalance Schedule to Net EIM Transfers.** The CAISO will –
 - (1) model changes in the net five-minute scheduled EIM Transfers that result from Real-Time Dispatch as a Dynamic Schedule between the CAISO and EIM Entity for AGC control accuracy; and
 - (2) calculate the dynamic net scheduled EIM Transfers for the CAISO and each EIM Entity Balancing Authority Area and derive from these dynamic net scheduled EIM Transfers the Dynamic Schedules on EIM Internal Inerties for E-Tag purposes.
- (g) **EIM Manual Dispatch.**
 - (1) The EIM Entity may issue an EIM Manual Dispatch to an EIM Participating

Resource or a non-participating resource in its Balancing Authority Area, outside of the Market Clearing of the Real-Time Market, when necessary to address reliability or operational issues in the EIM Entity Balancing Authority Area that the CAISO is not able to address through normal economic Dispatch and Congestion Management. The EIM Entity may issue an EIM Manual Dispatch to any EIM Participating Resource or a non-participating resource in its Balancing Authority Area regardless of whether an EIM Sub-Entity Scheduling Coordinator has rights to issue an EIM Manual Dispatch to such EIM Participating Resource or non-participating resource.

- (2) If authorized by the EIM Entity, the EIM Sub-Entity may issue an EIM Manual Dispatch to an EIM Participating Resource or a non-participating resource for which it is registered as the EIM Sub-Entity Scheduling Coordinator when necessary to address reliability or operational issues in its service territory that the CAISO is not able to address through normal economic Dispatch and Congestion Management, provided that such ability by the EIM Sub-Entity shall not prevent the EIM Entity from issuing an EIM Manual Dispatch to any EIM Participating Resource or a non-participating resource in its Balancing Authority Area, and the most recent EIM Manual Dispatch shall take precedence over any prior EIM Manual Dispatch issued to the EIM Participating Resource. Any financial or operational impact on an EIM Sub-Entity resulting from an EIM Manual Dispatch issued by the EIM Entity shall be resolved in accordance with the applicable tariff or contractual arrangements between the EIM Entity and the EIM Sub-Entity.

(h) **EIM Entity and EIM Sub-Entity Actions in Response to an EIM Manual Dispatch.** If the EIM Entity or EIM Sub-Entity issues an EIM Manual Dispatch to address circumstances on its system –

- (1) the EIM Entity shall immediately inform the CAISO, as specified in the Business Practice Manual for the Energy Imbalance Market, if the EIM Entity Balancing

Authority Area is under manual operation;

- (2) the EIM Entity or EIM Sub-Entity shall immediately inform the CAISO of the EIM Manual Dispatch issued to any EIM Participating Resource or non-participating resource by submitting the EIM Manual Dispatch instruction for the affected resource to the CAISO as specified in the Business Practice Manual for the Energy Imbalance Market; and
 - (3) the EIM Entity or EIM Sub-Entity remains responsible for informing the Reliability Coordinator of the circumstances creating the need for the EIM Manual Dispatch and may enforce Transmission Constraints, as may be required.
- (i) **CAISO Actions in Response to Notification of EIM Manual Dispatch.** Upon receipt of notice of an EIM Manual Dispatch, the CAISO shall –
- (1) reflect the EIM Manual Dispatch in the Real-Time Market;
 - (2) disregard an EIM Manual Dispatch in the determination of the Locational Marginal Price; and
 - (3) treat an EIM Manual Dispatch to an EIM Participating Resource or non-participating resource as FMM or RTD Instructed Imbalance Energy for Settlement.
- (j) **EIM Disruption.**
- (1) **Declaration.** The CAISO may declare an interruption of EIM Entity participation in the Real-Time Market when in its judgment –
 - (A) operational circumstances (including a failure of the Real-Time Market operation to produce feasible results in the EIM Area or other CAISO Market Disruption) in the EIM Area have caused or are in danger of causing an abnormal system condition in the CAISO Balancing Authority Area or an EIM Balancing Authority Area that requires immediate action to prevent loss of Load, equipment damage, or tripping system elements that might result in cascading Outages, or to restore system operation to meet Applicable Reliability Criteria; or

(B) communications between the CAISO and EIM Market Participants are disrupted and prevent an EIM Entity, EIM Entity Scheduling Coordinator, EIM Sub-Entity, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator from accessing CAISO systems to submit or receive information.

(2) **CAISO Response to EIM Disruption.** If the CAISO declares an interruption of EIM Entity participation in the Real-Time Market, the CAISO may in its judgment, among other things-

(A) separate the affected EIM Entity Balancing Authority Area from the EIM Area and maintain the Real-Time Market for other Balancing Authority Areas in the EIM Area by enforcing a net transfer constraint for the affected Balancing Authority Area to separate it from the remainder of the EIM Area;

(B) reduce or suspend EIM Transfers between one or more Balancing Authority Areas in the EIM Area;

(C) instruct one or more EIM Entities to maintain system balance within their Balancing Authority Area without RTM Dispatch; or

(D) in addition or as an alternative, use market results in the Real-Time Market in accordance with Section 7.7.9 or take any of the actions specified in Section 7.7.6 with respect to the Real-Time Market, except that if Section 7.7.6 calls for the use of Day-Ahead Market results, the CAISO will use:

(i) the price specified in the EIM Entity's open access transmission tariff as the LMP;

(ii) the EIM Entity's or EIM Sub-Entity's EIM Base Schedule as the schedule;

(iii) the EIM Bid Adder from the most recent corresponding interval that is available as the EIM Bid Adder; and

- (iv) the emissions rate set by the California Air Resources Board for an unspecified source multiplied by the daily Greenhouse Gas Allowance Price.
 - (3) **EIM Entity Responsibility.** In response to an interruption of EIM Entity participation in the Real-Time Market by the CAISO, all EIM Entities shall follow NERC Reliability Standards applicable to their roles as Balancing Authorities in an effort to alleviate operational and system conditions and restore routine operations.
 - (4) **EIM Entity and EIM Sub-Entity Scheduling Coordinator Responsibility.** All EIM Entity Scheduling Coordinators and EIM Sub-Entity Scheduling Coordinators shall promptly inform the CAISO of actions taken by the EIM Entities and EIM Sub-Entities they represent in response to an interruption of EIM Entity or EIM Sub-Entity participation in the Real-Time Market by the CAISO through updates to their EIM Base Schedules, Interchange E-Tags, transmission limit adjustments, or Outage and derate information, as applicable.
 - (5) **System Restoration.** The CAISO shall reinstate normal operation of the Real-Time Market in the EIM Area at such time as it determines that the conditions that caused the interruption of EIM Entity or EIM Sub-Entity participation in the Real-Time Market have been resolved.
- (k) **Congestion Management and Unscheduled Flow.**
- (1) **Inability to Resolve Congestion.** The CAISO will provide information to EIM Entities about Congestion that the Real-Time Market cannot resolve.
 - (2) **Initiation of Unscheduled Flow Procedures.** The CAISO or an EIM Entity may initiate WECC's unscheduled flow mitigation procedure if applicable for conditions in its Balancing Authority Area.
 - (3) **EIM Entity Action.** When the WECC unscheduled flow mitigation procedure is initiated, each EIM Entity shall adjust its schedules as determined by the WECC procedure and immediately inform the CAISO of the changes, as well as any

affected EIM Sub-Entities.

- (4) **CAISO Action.** When WECC's unscheduled flow mitigation procedure is initiated, the CAISO shall reflect the affected EIM Market Participant schedules in the Real-Time Market as determined by the WECC procedure, EIM Entity, EIM Sub-Entity, CAISO Operating Procedures, and Business Practice Manuals for the CAISO Balancing Authority Area and EIM Entity Balancing Authority Areas.

29.8 [Not Used]

29.9 Outages and Critical Contingencies.

- (a) **Applicability of Section 9.** Section 9 shall not apply to EIM Market Participants except as referenced in Section 29.9.
- (b) **Transmission Scheduled Outages.**
 - (1) **Responsibility.** The EIM Entity shall be responsible for performing engineering studies with regard to, and modeling and approving, Outages on transmission facilities for maintenance purposes within the EIM Entity Balancing Authority Area, including making any necessary arrangements for this purpose regarding the transmission capacity made available by an EIM Transmission Service Provider to the Real-Time Market. The EIM Entity may delegate its responsibilities under this Section 29.9(b) to an EIM Sub-Entity within its Balancing Authority Area with regard to transmission facilities for which the EIM Sub-Entity acts as the transmission operator, provided that the EIM Entity shall notify the CAISO of the delegation in accordance with the timelines and procedures in the Business Practice Manual for the Energy Imbalance Market.
 - (2) **Notice.** The EIM Entity Scheduling Coordinator or, if delegated under Section 29.9(b)(1), the EIM Sub-Entity Scheduling Coordinator shall submit notice of transmission Outages approved by the EIM Entity or EIM Sub-Entity to the CAISO by the means set forth in the Business Practice Manual for the Energy Imbalance Market and at least seven Business Days prior to the planned Outage.
 - (3) **Notice of Modification.** The EIM Entity Scheduling Coordinator or, if delegated

under Section 29.9(b)(1), the EIM Sub-Entity Scheduling Coordinator may submit a notice of modification of an approved transmission Outage and any resulting updates to EIM Intertie limits to the CAISO by the means set forth in the Business Practice Manual for the Energy Imbalance Market and in accordance with the deadlines set forth in Section 9 and Section 29.9.

(4) **Contents of Notice.** The EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator notices of approved transmission Outages shall include

–

- (A) the start and finish date for each Outage for maintenance purposes; and
- (B) such information other than start and finish date as is required in Section 9.3.6 for transmission operators seeking approval of Outages.

(c) **Generation Maintenance Outages.**

(1) **Responsibility.** The EIM Entity shall be responsible for performing engineering studies with regard to, and modeling and approving, Outages of EIM Resources and non-participating resources for maintenance purposes within the EIM Entity Balancing Authority Area. The EIM Entity may delegate its responsibilities under this Section 29.9(c) to an EIM Sub-Entity within its Balancing Authority Area with regard to EIM Resources and non-participating resources for which the EIM Sub-Entity acts as the EIM Sub-Entity Scheduling Coordinator, provided that the EIM Entity shall notify the CAISO of the delegation in accordance with the timelines and procedures in the Business Practice Manual for the Energy Imbalance Market.

(2) **Notice.** The EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator shall submit notice of Outages of EIM Resources and non-participating resources approved by the EIM Entity or EIM Sub-Entity to the CAISO by the means set forth in the Business Practice Manual for the Energy Imbalance Market and at least seven Business Days prior to the planned Outage.

(3) **Contents of Notice.** The EIM Entity Scheduling Coordinator and EIM Sub-Entity

Scheduling Coordinator notices of approved Outages of EIM Resources and non-participating resources shall include-

- (A) the start and finish date for each Outage for maintenance purposes; and
- (B) such information other than start and finish date as is required in Section 9.3.6 for Operators seeking approval of Generating Unit Outages.

(d) **Actions Regarding Scheduled Outages.**

- (1) **CAISO Evaluation of Scheduled Outages.** The CAISO will implement the transmission and Generation Outages approved by the EIM Entity or EIM Sub-Entity through the Day-Ahead Market process and will inform the EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator where applicable of any anticipated overloads.
- (2) **EIM Entity and EIM Sub-Entity Action.** Based on the information provided by the CAISO to the EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator, the EIM Entity and EIM Sub-Entity shall have the opportunity to take action to adjust or cancel Outages as it determines to be necessary.
- (3) **Notice to Reliability Coordinator.**
 - (A) **EIM Entity and EIM Sub-Entity Responsibility.** The EIM Entity and EIM Sub-Entity are responsible for informing the Reliability Coordinator of scheduled Outages.
 - (B) **CAISO Facilitation.** Upon request of an EIM Entity or EIM Sub-Entity, and without assuming any liability, the CAISO will provide the Reliability Coordinator with Outage information submitted to the CAISO by the EIM Entity or EIM Sub-Entity on behalf of the EIM Entity or EIM Sub-Entity.

- (e) **Forced Outages.** An EIM Entity Scheduling Coordinator and an EIM Sub-Entity Scheduling Coordinator shall comply with the reporting provisions of Section 9 with regard to Forced Outages of transmission facilities within the EIM Entity Balancing Authority Area or within the EIM Sub-Entity area they represent and an EIM Participating

Resource Scheduling Coordinator shall comply with the reporting provisions of Section 9 with regard to Forced Outages of Generating Units it represents as EIM Resources.

(f) **Transmission Limits.** An EIM Entity Scheduling Coordinator must notify the CAISO by the means specified in the Business Practice Manual for the Energy Imbalance Market with respect to transmission limits on the transmission capacity made available to the Real-Time Market within the EIM Entity Balancing Authority Area that need to be enforced in the Real-Time Market, including-

- (1) physical MVA or MW limits under base case and contingencies;
- (2) scheduling limits for EIM Intertie transactions based on E-Tags; and
- (3) contractual limits on Transmission Interfaces where the EIM Transmission Service Provider has transmission rights.

29.10 Metering and Settlement Data.

- (a) **Telemetry Requirements.** The EIM Entity shall ensure that each EIM Resource and non-participating resource in an EIM Entity Balancing Authority Area that is not a Generating Unit or is a Generating Unit with a rated capacity of 10 MW or greater (including each aggregated resource with a total rated capacity of 10 MW or greater) and each EIM Intertie has telemetry meeting the requirements of the Business Practice Manual for the Energy Imbalance Market.
- (b) **Metering for Settlement Purposes.** The EIM Entity shall ensure that each EIM Participating Resource and non-participating resource in an EIM Entity Balancing Authority Area becomes either a CAISO Metered Entity or a Scheduling Coordinator Metered Entity and complies with the requirements of Section 10 except as provided in Section 29.10(c). The EIM Sub-Entity will include the EIM Entity on Schedule 3 or 5 of the applicable meter service agreement to give the EIM Entity access to the EIM Sub-Entity Meter Data.
- (c) **Exception to Requirements of Section 10.3.9.** In the absence of metering standards set by a Local Regulatory Authority, EIM Participating Resources and non-participating resources in an EIM Entity Balancing Authority Area may qualify as Scheduling

Coordinator Metered Entities without the need for third party certification if the CAISO determines that the applicable metering standards meet or exceed the standards for CAISO Metered Entities.

- (d) **Interchange Meter Data.** Metering for Settlement purposes is required for all EIM Interties.
- (e) **EIM Energy Imbalance with an External Balancing Authority Area.** For each EIM External Intertie Bid that clears the FMM resulting in a 15-minute EIM External Intertie schedule –
 - (1) the EIM Entity Scheduling Coordinator must submit to the CAISO the corresponding hourly transmission profile and 15-minute Energy profiles from the respective E-Tags, which must reflect the Point of Receipt and Point of Delivery that was declared in the FMM Bid submittal, at least 20 minutes before the start of the Operating Hour; and
 - (2) the EIM Entity Scheduling Coordinator must provide an updated Energy profile to the extent required by Section 30.5.7.

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.
- (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 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 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.
- (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 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 11.5.4.1.1.
 - (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.
 - (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.
 - (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.
 - (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) **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.
 - (4) **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-portion of the Market Services Charge and the System Operations Charge.
 - (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.** The System Operations Charge shall 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 market 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) **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 chart 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.
- (5) **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.
- (6) **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.
- (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 or EIM Transfers as follows –
 - (1) EIM Entity Scheduling Coordinators will receive a payment 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 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.

29.12 Creditworthiness

- (a) **Requirements.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators shall comply with the credit and other requirements of Section 12.
- (b) **Credit Default.** In the event of a failure to satisfy the credit or other requirements in

Section 12, the consequences specified in Section 12 shall apply to EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators.

29.13 Dispute Resolution

- (a) **Invoices.** Confirmation and validation of any dispute associated with the participation of EIM Market Participants in the Real Time Market is subject to Section 11.29.8 and shall be managed through the CAISO's customer inquiry, dispute, and information system and as provided in the Business Practice Manual for the Energy Imbalance Market.
- (b) **Other Disputes.** EIM Market Participants shall be subject to dispute resolution pursuant to Section 13.

29.14 Uncontrollable Forces, Indemnity, Liabilities, and Penalties

The provisions of Section 14 regarding Uncontrollable Forces, indemnity, liability, and penalties shall apply to the participation of EIM Market Participants in the Real-Time Market.

29.15 [Not Used]

29.16 [Not Used]

29.17 EIM Transmission System

- (a) **Information.** Each EIM Entity, and any EIM Sub-Entity authorized by the EIM Entity to perform one or more of the following tasks, shall –
 - (1) deliver EIM Transmission Service Information to the CAISO regarding the network topology information associated with transmission capacity that it owns, controls, or has a contractual entitlement to that may be used in the Real-Time Market;
 - (2) deliver EIM Transmission Service Information to the CAISO regarding the network topology information associated with transmission capacity that each other EIM Transmission Service Provider owns, controls, or has a contractual entitlement to within the EIM Entity Balancing Authority Area that may be used in the Real-Time Market;
 - (3) update the EIM Transmission Service Information no less frequently than the

timelines for updates to the Full Network Model as provided in the CAISO Tariff and Business Practice Manual for the Energy Imbalance Market; and

- (4) ensure that the EIM Transmission Service Information is accurate and complete.
- (b) **Effectiveness.** The EIM Transmission Service Information shall only be used for operation of the CAISO Markets in accordance with the procedures set forth in the Business Practice Manual for the Energy Imbalance Market.
 - (c) **Availability.** Each EIM Entity and EIM Sub-Entity shall ensure that all EIM Transmission Service Providers in its Balancing Authority Area or EIM Sub-Entity area make available for use in the Real-Time Market transmission capacity that is included in the EIM Transmission Service Information and that is not otherwise encumbered, reserved, scheduled, or being used by its transmission customers or by others.
 - (d) **Information on Availability.** Each EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator shall inform the CAISO in the manner and by the deadlines specified in the Business Practice Manual for the Energy Imbalance Market regarding the availability of the transmission capacity identified in the EIM Transmission Service Information for use in the Real-Time Market.
 - (e) **EIM Transfer Limit.** A Balancing Authority that has entered into an EIM Implementation Agreement to become an EIM Entity shall establish and inform the CAISO of the maximum EIM Transfer limit at least ninety days prior to the EIM Entity Implementation Date in accordance with the Business Practice Manual for the Energy Imbalance Market.
 - (f) **EIM Transfer Availability.**
 - (1) **In General.** The ISO will model individual constraints for each EIM Transfer limit submitted by each EIM Entity that makes transmission available on an EIM Internal Intertie.
 - (2) **Use of Interchange Transmission Rights.** The EIM Entity Scheduling Coordinator shall determine the EIM Transfer limit made available for use in the Real-Time Market through interchange transmission rights and communicate that limit to the CAISO prior to the start of the next Dispatch Interval in accordance

with the procedures and timelines for submission and acceptance in the Business Practice Manual for the Energy Imbalance Market.

- (3) **Use of Available Transfer Capability.** The EIM Entity Scheduling Coordinator shall determine the EIM Transfer limit made available to the Real-Time Market through available transfer capability in accordance with its tariff and communicate that limit to the CAISO prior to the start of the next Dispatch Interval in accordance with the procedures and timelines for submission and acceptance in the Business Practice Manual for the Energy Imbalance Market.
- (4) **Multiple EIM Transfer Limits.** If there are two or more EIM Entity Balancing Authority Areas that share the same EIM Internal Intertie, the CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch will enforce the individual EIM Transfer limit for each EIM Entity Balancing Authority Area while allowing Energy to wheel through the EIM Entity Balancing Authority Areas based on the transmission made available for use in the Real-Time Market.
- (5) **EIM Transfers and CAISO Scheduling Points.** EIM Transfers shall compete for Available Transfer Capability at interties that are an EIM Internal Intertie and a CAISO Scheduling Point.
- (6) **EIM Transfer Limit Constraints.** The CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch shall enforce the EIM Transfer limit and the associated physical limit at each EIM Internal Intertie.
- (g) **EIM Transfer Schedule Cost.**
 - (1) **In General.** The CAISO's Security Constrained Economic Dispatch in the Fifteen Minute Market and Real-Time Dispatch shall use an EIM Transfer schedule cost associated with EIM Transfers at each EIM Internal Intertie to determine the optimal scheduling path for EIM Transfers, which in all intervals shall be less than \$0.01.

- (2) **Objectives.** The CAISO shall use the lowest EIM Transfer schedule cost determined based upon the objectives of –
 - (A) maximizing the use of the transmission capacity made available for EIM Transfers in both the Fifteen-Minute Market and Real-Time Dispatch;
 - (B) minimizing the number of E-Tags required to comply with the WECC scheduling practices; and
 - (C) minimizing the impact of outages or curtailments on the E-Tags used to account for EIM Transfers based on historical outage and curtailment data for each EIM Internal Intertie.
- (3) **EIM Transfer Schedule Cost Publication.** The CAISO will publish the EIM Transfer schedule cost associated with each EIM Internal Intertie in the Business Practice Manual for the Energy Imbalance Market.
- (4) **EIM Transfer Schedule Cost Adjustment.** The CAISO may adjust the EIM Transfer schedule costs to maintain the path priorities established by the criteria in Section 29.17(g)(2) when an EIM Entity Balancing Authority Area is added or subtracted from the EIM Area, as seasonal transmission system ratings change, or the transmission system topology changes.
- (5) **Locational Marginal Price.** The CAISO will reflect the EIM Transfer schedule cost in the Marginal Cost of Congestion.

29.18 [Not Used]

29.19 [Not Used]

29.20 Confidentiality

The confidentiality provisions of Section 20 shall apply to participation of EIM Market Participants in the Real-Time Market.

29.21 [Not Used]

29.22 Miscellaneous Provisions in Addition to Section 22.

Section 22 and the additional miscellaneous provisions of Section 29.22 shall apply to the Energy Imbalance Market.

- (a) **Tax Liability.** To the extent that the CAISO would incur any tax liability as a result of the participation of EIM Market Participants in the Real-Time Market, as market operator or as central counterparty to Energy Imbalance Market transactions, for example, the CAISO will pass those taxes on to the EIM Entity Scheduling Coordinator for the EIM Entity area where the transactions triggered the tax liability.
- (b) **Purchasing Selling Agent.** Neither the CAISO nor the EIM Entity is a “Purchasing Selling Entity” for purposes of E-Tagging or EIM Transfers, nor shall either be listed as a “Purchasing Selling Entity” for purposes of E-Tagging or EIM Transfers.
- (c) **Title to Energy.** Title to Energy in the Real-Time Market passes directly from the entity that holds title when the Energy enters the CAISO Controlled Grid or the transmission system of an EIM Transmission Service Provider, whichever is first following Dispatch, to the entity that removes the Energy from the CAISO Controlled Grid or the transmission system of a EIM Transmission Service Provider, whichever last precedes delivery to Load.

29.23 [Not Used]

29.24 [Not Used]

29.25 [Not Used]

29.26 Transmission Rates and Charges.

- (a) **Transmission Charges for CAISO Facilities.**
 - (1) **Access Charge.** Transmission service charges for Real-Time Market transactions serving Load within the CAISO Balancing Authority Area that use the CAISO Controlled Grid are governed by Section 26.
 - (2) **Wheeling Access Charge.** EIM Transfers from the CAISO Controlled Grid to another EIM Entity Balancing Authority Area using the contractual or ownership rights of an EIM Entity shall not constitute Wheeling Out and shall not be subject to the Wheeling Access Charge under Section 26.
- (b) **Non-CAISO Facilities.** The determination and charges for transmission service for Real-Time Market transactions on facilities that are part of the contractual or ownership rights

made available to the Real-Time Market by an EIM Transmission Service Provider through an EIM Entity or EIM Sub-Entity will be the responsibility of the EIM Entity or EIM Sub-Entity that made the facilities available, except that the EIM Entity or EIM Sub-Entity shall ensure that no EIM Transmission Service Provider imposes a separate charge for EIM Transfers that use its facilities, provided that charges for transmission service in excess of contractual limits shall not be considered a separate charge.

29.27 CAISO Markets and Processes.

- (a) **In General.** Except as provided in subsection (b) of this section, the provisions of Section 27 that are applicable to the Real-Time Market shall apply to EIM Market Participants.
- (b) **Transition Period for New EIM Entities.**
 - (1) **Transmission Constraint Relaxation.** For a period of six months following the Implementation Date of a new EIM Entity, the provisions of Section 27.4.3.2 and the second sentence of Section 27.4.3.4 shall not apply to constraints that are within Balancing Authority Areas of the new EIM Entity or affect EIM Transfers between the Balancing Authority Areas of the new EIM Entity and any other EIM Entity that is subject to this subsection (b). For those intervals that experience infeasibilities described in those provisions, the CAISO shall instead determine prices consistent with the provisions of Sections 27, 34, and Appendix C, that would apply in the absence of Section 27.4.3.2 and the second sentence of Section 27.4.3.4.
 - (2) **Flexible Ramping Product.** For a period of six months following the EIM Entity Implementation Date of a new EIM Entity, when the transmission and/or power balance constraints as specified in Sections 27.4.3.2 and 27.4.3.4, respectively, are relaxed, the CAISO shall set the Flexible Ramping Product parameter for pricing purposes, for the new EIM Entity Balancing Authority Area, at an amount between and including \$0 and \$0.01.
 - (3) **Extension of Transition Period Pricing.** Any extensions of the initial six-month

transition period, as approved by the Federal Energy Regulatory Commission, are specified below. Sixty days prior to the expiration of the transition period, the CAISO will post on the CAISO website an assessment of whether an extension of the transition period, for up to an additional six months, is needed for the applicable EIM Entity. The CAISO will post an update to such assessment prior to the expiration of the transition period should there be any changes to its posted conclusions.

(A) [reserved]

- (4) **Reports.** During the term of the transition period, the CAISO will submit monthly reports with the Commission on the infeasibilities observed in the applicable EIM Entity Balancing Authority Area, the nature of the issues causing the infeasibility and remedies adopted to address the issues identified.
- (c) **Automated EIM Mirror.** If the CAISO updates an Interchange E-Tag for a schedule change outside of the Market Clearing of the Real-Time Market for System Resources and Scheduling Points and the associated energy is generated at, wheeled through, or consumed at an EIM Entity Balancing Authority Area, the CAISO will automatically EIM Mirror the schedule change using the relevant EIM Mirror System Resource in accordance with the procedures specified in the Business Practice Manual for the Energy Imbalance Market.
- (d) **Base GDFs for Aggregated EIM Non-Participating Resources.** The CAISO will allow base Generation Distribution Factor submission for aggregate EIM non-participating resources through the submission of EIM Base Schedules and will distribute the base schedule and any imbalances of aggregate EIM non-participating resources using the submitted base GDFs, if available, or otherwise the registered default base GDFs for the resource in the Master File, normalized for Outages.

29.28 Inter-SC Trades

EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators may not submit Inter-SC Trades.

29.29 [Not Used]

29.30 Bid and Self-Schedule Submission for CAISO Markets.

- (a) **In General.** The provisions of Section 30 that are applicable to the Real-Time Market, as supplemented by Section 29.30, shall apply to EIM Market Participants.
- (b) **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 Charge reflected in the EIM Administrative Charge.
- (c) **EIM Available Balancing Capacity Energy Bid Curve for EIM Participating Resources.** For each Trading Hour, the CAISO will apply Energy Bids submitted for EIM Participating Resources, which may be subject to mitigation pursuant to Section 29.39, towards the EIM Available Balancing Capacity as provided in Section 29.30(e).
- (d) **EIM Available Balancing Capacity Bids Used for EIM Available Balancing Capacity Served by Non-Participating Resources.** The CAISO will create an Energy Bid Curve based on the Default Energy Bid established by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and the CAISO pursuant to Section 29.4(c)(4)(K) for all non-participating resources that the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator may identify as EIM Available Balancing Capacity, and will apply such bids to the EIM Available Balancing Capacity as provided in Section 29.30(e).
- (e) **Treatment of Energy Bid Curves for EIM Available Balancing Capacity.** For each Trading Hour the CAISO will allocate the categories of the EIM Resource Plan specified in Section 29.34(e)(3)(C) and (D) as follows.
 - (1) **Upward Capacity.** For upward capacity above the EIM Base Schedule, the CAISO will –
 - (A) allocate the Spinning and Non-Spinning Reserves down from the upper regulating limit as registered in the Master File, taking into account any PMax rerates; and then
 - (B) allocate EIM Upward Available Balancing Capacity to the Energy Bid Curve starting at the highest value of the Energy Bid Curve that does not

overlap with Spinning or Non-Spinning Reserves.

- (2) **Downward Capacity.** For downward capacity below the EIM Base Schedule, the CAISO will allocate EIM Downward Available Balancing Capacity to the Energy Bid Curve starting at its lowest value, taking into account any PMin rerates.
- (3) **Remaining Capacity.** The CAISO will use any remaining portion of the Energy Bid Curve after the allocations in Section 29.30(e)(1) and 29.30(e)(2) for Dispatch under any condition, except that for non-participating resources the CAISO will adjust the EIM Upward Available Balancing Capacity and EIM Downward Available Balancing Capacity towards the EIM Base Schedule so that there will not be any remaining capacity for Dispatch.

29.31 Day-Ahead.

EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators and EIM Participating Resource Scheduling Coordinators may not submit Bids in the CAISO's Day-Ahead Market on behalf of EIM Market Participants that they represent in their capacity as an EIM Entity Scheduling Coordinator, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator.

29.32 Greenhouse Gas Regulation and EIM Bid Adders.

- (a) **EIM Bid Adders.**
 - (1) **In General.** EIM Participating Resources will have an opportunity to recover costs of compliance with California Air Resources Board greenhouse gas regulations, which may include the cost of allowances, uncertainty on the final resource specific emission factor, and other costs of greenhouse gas regulation compliance.
 - (2) **EIM Bid Adder.**
 - (A) **Bid Submission.** EIM Participating Resource Scheduling Coordinators for EIM Participating Resources located in an EIM Entity Balancing Authority Area outside of California may submit an EIM Bid Adder as a separate hourly Bid component to recover costs of compliance with

California Air Resources Board greenhouse gas regulations, which must include a price and quantity and the price portion of which must be equal to or less than 110% of the EIM Participating Resource's greenhouse gas maximum compliance cost as determined in accordance with section 29.32(a)(3).

(B) **Default Treatment.** If an EIM Participating Resource located in an EIM Entity Balancing Authority Area outside of California does not submit an EIM Bid Adder, the CAISO will assume that the EIM Participating Resource will not be selected for delivery to the CAISO Balancing Authority Area.

(3) **Determination of EIM Greenhouse Gas Maximum Cost.** Each day the CAISO will determine the greenhouse gas maximum compliance cost for each EIM Participating Resource located in an EIM Entity Balancing Authority Area outside of California as set forth in the EIM Business Practice Manual, based on:

- (A) the EIM Resource's highest incremental heat rate; the applicable Greenhouse Gas Allowance Price; and the EIM Participating Resource's emission rate, as set forth in the applicable U.S. Environmental Protection Agency publication and registered in the Master File; or
- (B) a price determined in accordance with the negotiated rate option procedures in section 39.7.1.3.1; or,
- (C) with respect to, and only with respect to, Bids at EIM External Interties, the carbon dioxide equivalent emission rate of the resource with the highest such rate in the WECC region and the applicable Greenhouse Gas Allowance Price index.

(4) **EIM Bid Adder Price.** The price included in the EIM Bid Adder shall not be less than \$0/MWh and the sum of the price component of the EIM Bid Adder and the Energy cost portion of the Bid cannot exceed \$1000/MWh.

(b) **Consideration of EIM Bid Adders in Market Clearing.**

- (1) **Dispatch of EIM Participating Resources with Nonzero Bid Adders.** The CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch shall take into account EIM Bid Adders in selecting Energy produced by EIM Participating Resources located in an EIM Entity Balancing Authority Area outside of California for import into the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California up to the associated MW quantity included in the EIM Bid Adder, but not when selecting EIM Participating Resources to serve Load outside of the combined area of the CAISO Balancing Authority Area and other EIM Entity Balancing Authority Areas within California.
 - (2) **EIM Participating Resources EIM Bid Adder MW Quantity.** The CAISO's Real-Time Unit Commitment and Real-Time Dispatch will limit the maximum EIM Bid Adder MW quantity of an EIM Participating Resource to a value equal to the EIM Participating Resource's dispatchable Bid range between the EIM Participating Resource's Base Schedule and the EIM Participating Resource's effective upper economic Bid, considering any applicable derates and ancillary services capacity reservations, for the relevant Operating Hour.
 - (3) **Dispatch of EIM Participating Resources Bid Adders of Zero.** The CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch shall not dispatch EIM Participating Resources outside the CAISO Balancing Authority Area for delivery into the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California if the MW quantity included in the EIM Bid Adder is zero.
- (c) **Effect on Locational Marginal Price.** Using the methodology described in Appendix C, the CAISO will include the Marginal Greenhouse Gas Cost as a negative component in the Locational Marginal Prices for EIM Entity Balancing Authority Areas not subject to a greenhouse compliance obligation under the regulations administered by the California Air Resources Board in addition to those specified in Appendix C and Section 27.

- (d) **Notice to EIM Participating Resource.** The CAISO will notify the EIM Participating Resource Scheduling Coordinator through the Dispatch Instruction of the megawatt quantity of any Energy of an EIM Participating Resource located in an EIM Entity Balancing Authority Area outside of California that is deemed to have been imported into the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California as a result of the Market Clearing of the Real-Time Market.
- (e) **Compensation.** The CAISO will allocate the Net Imbalance Energy Export optimally to EIM Participating Resource Scheduling Coordinators and will distribute Greenhouse Gas Emission Cost Revenues to EIM Participating Resources pursuant to that allocation.
- (f) **Reporting Requirements.** The CAISO will report to each EIM Participating Resource Scheduling Coordinator the portion of the FMM Energy Schedule and the portion of RTD Energy Dispatch that is associated with Energy deemed to have been imported to the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California from all EIM Resources as part of the Real-Time Market results publication from each of its EIM Resources.

29.33 [Not Used]

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.
- (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.
- (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, for EIM Entities, and 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 Forecasts 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.** The CAISO Markets systems will validate the initial EIM Resource Plan by 1:00 p.m. on the day before the Operating Day, and within 15 minutes of the submission of EIM Base Schedules or adjustments to EIM Base Schedules, the CAISO will validate the EIM Resource Plan and notify the EIM Entity Scheduling Coordinator-
 - (1) if the EIM Resource Plan is not balanced;
 - (2) if the EIM Resource Plan provides insufficient Flexible Ramping Product capacity to meet requirements determined pursuant to Section 29.34(m); and
 - (3) if the CAISO anticipates Congestion based on the submitted EIM Resource Plans.
- (k) **EIM Resource Plan Balance.** 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.

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

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

Forecast that the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority Area plus the Uncertainty Requirement determined in accordance with Section 44.2.4, and for the CAISO Balancing Authority Area the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules, as applicable and as detailed in Business Practice Manuals, are greater than the total Demand Forecast and the Uncertainty Requirement determined in accordance with Section 44.2.4.

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

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

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

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

For a period of 12 months after the Uncertainty Requirement has been included in accordance with this Section 29.34(l), the CAISO may upon Market Notice of

at least three (3) Business Days no longer include the Uncertainty Requirement if—

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

(m) **Flexible Ramping Sufficiency Determination.**

(1) **Review.**

- (A) **EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements, as adjusted pursuant to Sections 29.34(m)(2), (3), and (5).
- (B) **CAISO Balancing Authority Area.** The CAISO will review the Day-Ahead Schedules in the CAISO Balancing Authority Area and verify that it has sufficient Bids for Ramping capability to meet the CAISO Balancing Authority Area upward and downward Ramping requirements, as adjusted pursuant to Sections 29.34(m)(2), (3), (5), and (6).

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

- (3) **Effects of EIM Diversity Benefit.** For each Balancing Authority Area in the EIM Area, the CAISO will reduce the upward and downward Uncertainty Requirements by the Balancing Authority Area's pro rata share of the upward and downward EIM diversity benefit in the EIM Area as may be limited by –
- (A) the available net import EIM Transfer capability into that Balancing Authority Area in the case of an upward Uncertainty Requirement; and
 - (B) the available net export EIM Transfer capability from that Balancing Authority Area in the case of a downward Uncertainty Requirement.
- (4) **Determination of Flexible Ramping Sufficiency Credit.** The CAISO will calculate for each Balancing Authority Area in the EIM Area, the upward flexible Ramping sufficiency credit as the outgoing EIM Transfer from that area and the downward flexible Ramping sufficiency credit as the incoming EIM transfer into that area.
- (5) **Effect of Flexible Ramping Sufficiency Credit.** The CAISO will reduce the upward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its upward flexible Ramping sufficiency credit, and will reduce the downward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its downward flexible Ramping sufficiency credit.
- (6) **Incremental Requirements.**
- (i) **In General.** If the CAISO determines under the procedures set forth in the Business Practice Manual for the Energy Imbalance Market that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has historically high import or export schedule changes between T-40 and T-20, the CAISO will add to the EIM Entity's or the CAISO's flexible capacity requirement an additional incremental requirement.
 - (ii) **Additional Incremental Requirement.** On a monthly basis, according to procedures set forth in the Business Practice Manual for the Energy Imbalance Market, the CAISO will calculate for each EIM Entity

Balancing Authority Area and the CAISO Balancing Authority Area histograms of the percentage of the difference between imports and exports scheduled at T-40 and the final imports at T-20 based on the E-Tags submitted at T-40 and T-20 and calculate additional incremental and decremental requirements for the capacity test component of the resource sufficiency evaluation.

(n) **Effect of Resource Plan Insufficiency.**

- (1) **Resource Plan Balance.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules as provided in Section 29.34(f)(1)(c), the EIM Resource Plan or the CAISO equivalent has insufficient supply as determined according to Section 29.34(l)-
 - (A) the CAISO will not include the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area in the Uncertainty Requirement of the EIM Area;
 - (B) the CAISO will hold the EIM Transfer limit into or from the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area, as specified in Section 29.34(n)(2), at the value for the last 15-minute interval.
- (2) **Flexible Ramping Insufficiency.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules or the CAISO equivalent as provided in Section 29.34(f)(1)(c), the CAISO determines-
 - (i) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient upward Ramping capacity according to Section 29.34(m), the CAISO will take the actions described in Section 29.34(n)(1)(A) and (B) in the upward and into the EIM Entity BAA or CAISO BAA direction; and
 - (ii) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient downward Ramping capacity according to

Section 29.34(m), the CAISO will take the actions described in Section 29.34(n)(1)(A) and (B) in the downward and from the EIM Entity BAA or CAISO BAA direction.

- (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) **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.

29.35 Market Validation and Price Correction

Market validation and price correction for the Energy Imbalance Market shall be governed by Section 35, except that, for a period not to exceed 90 days after an EIM Entity Implementation Date, the time allowed for the CAISO's correction of Real-Time Market prices shall be 10 Business Days.

29.36 [Not Used]

29.37 Rules of Conduct

All EIM Market Participants shall be subject to the provisions of Section 37 except for Section 37.2.

29.38 Market Monitoring

The CAISO Department of Market Monitoring shall provide market monitoring services for the participation of EIM Market Participants in the Real-Time Market, including –

- (a) monitoring markets administered by the CAISO for actual or potential ineffective market rules, market abuses, market power, violations of FERC or CAISO Market rules prohibiting provision of false information, or market manipulation;
- (b) coordinating with CAISO business units that review and monitor the performance and quality of the CAISO Markets;
- (c) providing recommendations about potential market design flaws or ineffective market rules to the CAISO and FERC; and
- (d) referring a matter to FERC if the Department of Market Monitoring determines there is sufficient credible evidence that a violation of FERC or CAISO Market rules has occurred.

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.
- (b) **Competitive Path Assessment.** The CAISO shall conduct the competitive path assessment to determine for each EIM Entity Balancing Authority Area whether a path is competitive or non-competitive, consistent with Section 39.7.2, except that –
 - (1) 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 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 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 EIM Participating Resources, except that the CAISO will use the Market Services Charge and System Operations Charge reflected in the EIM Administrative Charge.

29.40 [Not Used]

29.41 [Not Used]

29.42 [Not Used]

29.43 [Not Used]

29.44 Flexible Ramping Product

The CAISO will procure flexible ramping product for the Energy Imbalance Market as set forth in Section 44, except that the CAISO will consider the EIM Base Schedules of non-participating resources as Self-Schedules for the calculation of flexible ramping product requirements.

Appendix A

Master Definition Supplement

* * * * *

- EIM Base Schedule

An hourly forward Energy Schedule that does not take into account Dispatches from the Real-Time Market and is submitted by an EIM Entity Scheduling Coordinator, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator for use in the Real-Time Market.

- EIM Downward Available Balancing Capacity

Any downward 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 constraint violations in the EIM Balancing Authority Area.

- EIM Manual Dispatch

A Dispatch by an EIM Entity or EIM Sub-Entity to an EIM Participating Resource or a non-participating resource for which it is responsible, outside of Market Clearing of the Real-Time Market.

- EIM Market Participant

An EIM Entity, EIM Entity Scheduling Coordinator, EIM Sub-Entity, EIM Sub-Entity Scheduling Coordinator, EIM Participating Resource, or EIM Participating Resource Scheduling Coordinator.

- EIM Transmission Service Information

Information provided by an EIM Entity or EIM Sub-Entity to the CAISO about transmission capacity available for use in the Real-Time Market through the Energy Imbalance Market.

- EIM Transmission Service Provider

An EIM Entity, EIM Sub-Entity or third party that owns transmission or has transmission service rights on an EIM Intertie that makes transmission service available for use in the Real-Time Market through an EIM Entity.

- EIM Upward Availability 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.

* * * * *

- EIM Sub-Entity

An electric utility that meets the criteria in Section 29.2(c)(1) and that enters into an EIM Sub-Entity Agreement with the CAISO to enable the operation of the Real-Time Market in its service territory.

- EIM Sub-Entity Agreement

An agreement between an EIM Sub-Entity and the CAISO, a pro forma version of which is set forth in Appendix B.

- EIM Sub-Entity Implementation Agreement

An agreement between an electric utility seeking to become an EIM Sub-Entity and the CAISO, a pro forma version of which is set forth in Appendix B.

- EIM Sub-Entity Implementation Date

The first Trading Day when an electric utility becomes an EIM Sub-Entity.

- EIM Sub-Entity Scheduling Coordinator

The EIM Sub-Entity, or a third party designated by the EIM Sub-Entity, that is certified by the CAISO and that enters into an EIM Sub-Entity Scheduling Coordinator Agreement under which it is a Scheduling Coordinator and a Market Participant and is responsible for meeting the requirements in Section 29 on behalf of the EIM Sub-Entity.

- EIM Sub-Entity Scheduling Coordinator Agreement

An agreement between an EIM Sub-Entity Scheduling Coordinator and the CAISO, a pro forma version of which is set forth in Appendix B.

Appendix B.24

ENERGY IMBALANCE MARKET SUB-ENTITY IMPLEMENTATION AGREEMENT

THIS ENERGY IMBALANCE MARKET SUB-ENTITY IMPLEMENTATION AGREEMENT (“Agreement”) is established this ____ day of _____, _____, and is accepted by and between:

(1) [Full legal name] having its registered and principal executive office at [address] (“Short Legal Name” or “Prospective EIM Sub-Entity”),

and

(2) California Independent System Operator Corporation, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, (“CAISO”).

[Short Legal Name] and the CAISO each are hereinafter referred to as a "Party," or collectively as the "Parties."

RECITALS

- A. **WHEREAS**, [Short Legal Name], has requested to participate in the CAISO’s Real-Time Market as an EIM Sub-Entity.
- B. **WHEREAS**, the Parties acknowledge that the rules and procedures governing participation in the CAISO’s Real-Time Market as an EIM Sub-Entity are set forth in the provisions of the CAISO Tariff as filed with the Federal Energy Regulatory Commission ("FERC") and that implementation as an EIM Sub-Entity requires corresponding revisions to [Short Legal Name’s] Open Access Transmission Tariff/retail distribution tariff and the execution of associated service agreements;
- C. **WHEREAS**, [Short Legal Name] meets the CAISO Tariff requirements for participation as an EIM Sub-Entity, including any EIM Entity Balancing Authority requirements necessary for the [Short Legal Name] to separately participate in the CAISO’s Real-Time Market.
- D. **WHEREAS**, implementation of participation by [Short Legal Name] in the CAISO’s Real-Time Market as an EIM Sub-Entity requires the CAISO to

incur costs to set up its business and software systems on behalf of [Short Legal Name].

- E. **WHEREAS**, [Short Legal Name] has requested the CAISO to conduct or cause to be performed work to implement [Short Legal Name] as an EIM Sub-Entity into the CAISO systems and [Short Legal Name] will reimburse the CAISO for the actual costs incurred.

- F. **WHEREAS**, the Parties are entering into this Agreement to set forth the terms upon which the CAISO will timely configure its systems to incorporate [Short Legal Name] as an EIM Sub-Entity on or before [date] ("EIM Sub-Entity Implementation Date").

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the Parties agree as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATION

- 1.1 Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.

- 1.2 Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Agreement:
 - (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;
 - (b) the singular shall include the plural and vice versa;
 - (c) the masculine shall include the feminine and neutral and vice versa;
 - (d) "includes" or "including" shall mean "including without limitation";
 - (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
 - (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;

- (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
- (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
- (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
- (j) any reference to a day, week, month or year is to a calendar day, week, month or year;
- (k) unless the context requires otherwise, “or” is used in the conjunctive sense; and
- (l) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

ARTICLE II

RESPONSIBILITIES OF EIM SUB-ENTITY AND CAISO

2.1 Scope of Responsibilities. The CAISO shall conduct or cause to be performed changes to the CAISO business and software systems, in accordance with the CAISO Tariff, to allow [Short Legal Name] to participate in the CAISO Real-Time Market as an EIM Sub-Entity. The scope of the implementation will include, but is not limited to, planning and project management; full network modeling of resources; system integration and testing; metering and settlements; and operations readiness and training. The CAISO shall also provide [Short Legal Name] a project plan of implementation activities, including a schedule by which information and data will be required to be sent to the CAISO; testing to be performed by [Short Legal Name]; and training to meet the EIM Sub-Entity Implementation Date.

2.2 Implementation Deposit and Cost Allocation. Consistent with Section 29.11(g) of the CAISO tariff, [Short Legal Name] will provide a deposit and pay the actual costs of the implementation, including any actual amounts in excess of the initial deposit. The CAISO will provide invoices and refunds on a timely

basis. Any difference between the deposit(s) made toward the implementation of [Short Legal Name] and associated administrative costs, and the actual cost of the implementation of [Short Legal Name] shall be paid by or refunded to [Short Legal Name], in accordance with Article V of this Agreement.

- 2.3 Technical Data.** [Short Legal Name] will provide the CAISO technical data to facilitate the implementation in the Real-Time Market as an EIM Sub-Entity and assumptions used for the data, such as system conditions, existing and planned generation, and unit modeling. The CAISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by [Short Legal Name] as a result of implementation in the Real-Time Market as an EIM Sub-Entity.
- 2.4 Compliance with CAISO Tariff Requirements for an EIM Sub-Entity.** Prior to the EIM Sub-Entity Implementation Date, [Short Legal Name] will satisfy all requirements of the CAISO Tariff applicable to an EIM Sub-Entity, including: (1) demonstrating that [Short Legal Name] satisfies all qualifications for participation as an EIM Sub-Entity; (2) showing that [Short Legal Name] has been authorized by the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located to participate as an EIM Sub-Entity; (3) entering into an EIM Sub-Entity Agreement with the CAISO governing [Short Legal Name's] participation in the Real-Time Market; and (4) securing representation by an EIM Sub-Entity Scheduling Coordinator.

ARTICLE III

TERM AND TERMINATION

- 3.1 Effective Date.** This Agreement shall be effective as of the later of the date it is executed by the Parties or the date it is accepted for filing and made effective by FERC (if applicable) and shall remain in full force and effect until terminated pursuant to Section 3.2 of this Agreement.
- 3.2 Termination**

3.2.1 Termination by CAISO. The CAISO may terminate this Agreement by giving written notice of termination pursuant to Section 29.1(d) of the CAISO Tariff or in the event that (i) [Short Legal Name] commits any material default under this Agreement or Section 29 of the CAISO Tariff that, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given [Short Legal Name] written notice of the default, unless the default is excused by reason of Uncontrollable Forces in accordance with Article IX of this Agreement, or (ii) the EIM Entity for the Balancing Authority Area in which [Short Legal Name] is located terminates participation in the EIM. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within sixty (60) days after issuance of the notice of default; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or thirty (30) days after the date of the CAISO's notice of default, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

3.2.2 Termination by [Short Legal Name]. In the event that [Short Legal Name] no longer wishes to participate in the CAISO's Real-Time Market as an EIM Sub-Entity pursuant to the CAISO Tariff, it may terminate this Agreement on giving the CAISO not less than (30) days written notice. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the request to file a notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within thirty (30) days of receipt of such request; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or upon the next production date of the Full-Network Model release following the thirty (30) days after the CAISO's receipt of [Short Legal Name]'s notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

- 3.3 No Termination Charge.** With the exception of the implementation costs, the CAISO shall not levy an exit fee or other charge associated with CAISO systems, procedures, or other changes required by the termination of [Short Legal Name]'s participation in the Energy Imbalance Market as of the effective date of such notice, provided that [Short Legal Name] obligations incurred under this Agreement shall survive termination until satisfied.

ARTICLE IV

CAISO TARIFF

- 4.1 Agreement Subject to CAISO Tariff.** This Agreement shall be subject to Section 29 of the CAISO Tariff and all other provisions of the CAISO Tariff applicable to an EIM Sub-Entity, which shall be deemed to be incorporated herein. [Short Legal Name] shall abide by, and shall perform, all of the obligations of EIM Sub-Entities under the CAISO Tariff.

ARTICLE V

COSTS AND ACCOUNTING

- 5.1 Costs.** The CAISO shall maintain records and accounts of all costs incurred in performing the implementation of the EIM Sub-Entity in sufficient detail to allow verification of all costs incurred, including associated overheads.
- 5.2 Settlement of Deposit(s).** The deposit provided in accordance with Section 2.2 of this Agreement shall be applied to the prudent costs of the CAISO in implementing [Short Legal Name] as an EIM Sub-Entity in the Real-Time Market. If the actual costs of the implementation of [Short Legal Name] are greater than the initial deposit provided by [Short Legal Name], the CAISO will invoice [Short Legal Name] for an additional deposit amount to cover expenses. Payment of 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.

At the end of the implementation, the CAISO will provide a report that details

deposit(s) received, actual costs incurred, and applicable interest earnings (on deposit balance) for each implementation project. Interest will be calculated at the end of the implementation project, from the time the deposit(s) was received until the implementation is completed. The calculation will be based on the average earning of the bank account, in which the deposit is held, on the remaining amount of the deposit. Any unused deposit remaining after the implementation is completed plus interest on the remaining deposit will be returned to [Short Legal Name] within ninety (90) calendar days after the implementation is completed; the CAISO and [Short Legal Name] approve the completion; and all required documents for the refund are received by the CAISO. All refunds will be processed following the CAISO's generally accepted accounting practices. Any deadline for CAISO action will be tolled to the extent [Short Legal Name] has not provided the CAISO with the appropriate documents to facilitate an eligible refund.

In the event this agreement is terminated by either party or both parties after [Short Legal Name]'s implementation has begun then the CAISO will make every attempt to halt work and related costs on the implementation as soon as practical and begin the refund process for any payments provided by [Short Legal Name] in excess of costs incurred by the CAISO, if applicable.

- 5.3 Audit.** [Short Legal Name] shall have the right, upon reasonable notice, within a reasonable time at the CAISO's offices and at its own expense, to audit the CAISO's records as necessary and as appropriate in order to verify costs incurred by the CAISO. Any audit requested by [Short Legal Name] shall be completed, and written notice of any audit dispute provided to the CAISO representative, within one hundred eighty (180) calendar days following receipt by [Short Legal Name] of the CAISO's notification of the final costs of the implementation of [Short Legal Name].

ARTICLE VI

DISPUTE RESOLUTION

- 6.1 Dispute Resolution.** The Parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the Parties shall adhere to the CAISO ADR Procedures set forth in Section 13 of the CAISO Tariff, which is incorporated by reference,

except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE VII

REPRESENTATIONS AND WARRANTIES

- 7.1 Representation and Warranties.** Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.
- 7.2 Necessary Approvals.** [Short Legal Name] represents that all necessary rights, leases, approvals, permits, licenses, easements, access to operate in compliance with this Agreement have been or will be obtained by [Short Legal Name] prior to the effective date of this Agreement, including any arrangement with the EIM Entity for the Balancing Authority Area in which [Short Legal Name] is located and any third party Balancing Authorities.

ARTICLE VIII

LIABILITY

- 8.1 Liability.** The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE IX

UNCONTROLLABLE FORCES

- 9.1 Uncontrollable Forces Tariff Provisions.** Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE X

MISCELLANEOUS

- 10.1 Assignments.** Either Party may assign or transfer any or all of its rights or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights or obligations under this Agreement as if said successor in interest were an original Party to this Agreement.
- 10.2 Notices.** Any notice, demand or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.
- 10.3 Waivers.** Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver

with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

- 10.4 Governing Law and Forum.** This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.
- 10.5 Consistency with Federal Laws and Regulations.** This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.
- 10.6 Merger.** This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.
- 10.7 Severability.** If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.
- 10.8 Amendments.** This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing.

Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing contained herein shall be construed as affecting in any way the right of the CAISO to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the Federal Power Act ("FPA") and pursuant to FERC's rules and regulations promulgated thereunder, and [Short Legal Name] shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

10.9 Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date hereinabove written.

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

[NAME OF PROSPECTIVE EIM SUB-ENTITY]

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

NOTICES

[Section 10.2]

[Short Legal Name]

Name of Primary

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

CAISO

Name of Primary

Representative: Regulatory Contracts

Title: N/A

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: RegulatoryContracts@caiso.com

Phone: (916) 351-4400

Fax: (916) 608-5063

Name of Alternative

Representative: Christopher J. Sibley

Title: Manager, Regulatory Contracts

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: csibley@caiso.com

Phone: (916) 608-7030

Fax: (916) 608-5063

Appendix B.25

EIM SUB-ENTITY AGREEMENT

THIS ENERGY IMBALANCE MARKET SUB-ENTITY AGREEMENT (“AGREEMENT”) is established this ____ day of _____, _____, and is accepted by and between:

- (1) **[Full legal name]** (“EIM Sub-Entity”), having its registered and principal executive office at [address],
and
- (2) **California Independent System Operator Corporation** (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate.

The EIM Sub-Entity and the CAISO are hereinafter referred to as the “Parties.”

Whereas:

- A.** The EIM Sub-Entity is an electric utility located in an EIM Entity Balancing Authority Area that has been authorized by the EIM Entity for the Balancing Authority Area in which it is located to participate in the CAISO’s Real-Time Market as an EIM Sub-Entity.
- B.** The CAISO operates the Real-Time Market pursuant to the CAISO Tariff.
- C.** The Parties are entering into this Agreement to enable the EIM Sub-Entity to participate in the CAISO’s Real-Time Market.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, **THE PARTIES AGREE** as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATION

- 1.1 Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.
- 1.2 Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Agreement:
- (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;
 - (b) the singular shall include the plural and vice versa;
 - (c) the masculine shall include the feminine and neutral and vice versa;
 - (d) “includes” or “including” shall mean “including without limitation”;
 - (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
 - (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
 - (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
 - (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
 - (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
 - (j) any reference to a day, week, month or year is to a calendar day, week, month or year;
 - (k) unless the context requires otherwise, “or” is used in the conjunctive sense; and

- (l) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

ARTICLE II

RESPONSIBILITIES OF EIM SUB-ENTITY AND CAISO

- 2.1 Scope of Responsibilities.** The Parties are individually responsible for compliance with the Reliability Standards established by the Western Electricity Coordinating Council (“WECC”) and the North American Electric Reliability Corporation (“NERC”), and in accordance with their respective tariffs on file with the Federal Energy Regulatory Commission (“FERC”), if applicable. Nothing in this Agreement is intended to change, supersede, or alter either Party's obligations to abide by NERC and WECC Reliability Standards or to provide open and non-discriminatory transmission access in accordance with the terms of their respective FERC tariffs, if applicable.
- 2.2 Tariff Provisions.** The CAISO shall provide open access to the Real-Time Market in accordance with the terms of the CAISO Tariff. The EIM Sub-Entity shall have in effect provisions in its OATT to enable operation of the Real-Time Market in accordance with the CAISO Tariff, if applicable.
- 2.3 EIM Sub-Entity Scheduling Coordinator.** The EIM Sub-Entity shall be represented by an EIM Sub-Entity Scheduling Coordinator, which may be the EIM Sub-Entity or another entity certified by the CAISO to perform the functions of an EIM Sub-Entity Scheduling Coordinator.
- 2.4 EIM Transmission Service and Resource Information.** The EIM Sub-Entity may, if authorized by the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located, provide information to the CAISO for Energy Imbalance Market purposes regarding the network topology of its facilities within the EIM Entity Balancing Authority Area, non-participating resources, and loads in accordance with the CAISO Tariff and the Business Practice Manual for the Energy Imbalance Market. The EIM Sub-Entity will be responsible for the accuracy and completeness of this information.
- 2.5 EIM Transmission Availability.** The EIM Sub-Entity shall make available for use in the Real-Time Market transmission capacity on its system that is not otherwise encumbered, reserved, scheduled, or being used by its transmission customers or by others. The EIM Sub-Entity shall provide the CAISO with real time information regarding the availability of transmission capacity for use in the Energy Imbalance Market as authorized by the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located and provided in the CAISO Tariff and Business Practice Manual for the Energy Imbalance Market.

ARTICLE III

TERM AND TERMINATION

- 3.1 Effective Date.** This Agreement shall be effective as of the later of the date it is executed by the Parties or the date it is accepted for filing and made effective by FERC and shall remain in full force and effect until terminated pursuant to Section 3.2 of this Agreement.
- 3.2 Termination**
- 3.2.1 Termination by CAISO.** The CAISO may terminate this Agreement by giving written notice of termination pursuant to Section 29.1(d) of the CAISO Tariff or in the event that (i) the EIM Sub-Entity commits any material default under this Agreement or Section 29 of the CAISO Tariff that, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given the EIM Sub-Entity written notice of the default, unless the default is excused by reason of Uncontrollable Forces in accordance with Article IX of this Agreement, or (ii) the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located terminates participation in the EIM. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within sixty (60) days after issuance of the notice of default; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or thirty (30) days after the date of the CAISO's notice of default, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.
- 3.2.2 Termination by EIM Sub-Entity.** In the event that the EIM Sub-Entity no longer wishes to separately account for its non-participating resources and loads pursuant to the CAISO Tariff, it may terminate this Agreement on giving the CAISO not less than one-hundred and eighty (180) days written notice. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the request to file a notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within thirty (30) days of receipt of such request; or (2) the CAISO files the notice of termination in accordance with the requirements of

FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or upon the next production date of the Full-Network Model release following the one-hundred and eighty (180) days after the CAISO's receipt of the EIM Sub-Entity's notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

- 3.3 No Termination Charge.** The CAISO shall not levy an exit fee or other charge associated with CAISO systems, procedures, or other changes required by the termination of the EIM Sub-Entity's participation in the Energy Imbalance Market as of the effective date of such notice, provided that EIM Sub-Entity obligations incurred under this Agreement prior to the effective date of such notice shall survive termination until satisfied.

ARTICLE IV

CAISO TARIFF

- 4.1 Agreement Subject to CAISO Tariff.** This Agreement shall be subject to Section 29 of the CAISO Tariff, which shall be deemed to be incorporated herein. The EIM Sub-Entity shall abide by, and shall perform, all of the obligations of EIM Sub-Entities under the CAISO Tariff.

ARTICLE V

COSTS

- 5.1 Operating and Maintenance Costs.** The EIM Sub-Entity shall be responsible for all its costs incurred in connection with meeting its obligations under this Agreement.

ARTICLE VI

DISPUTE RESOLUTION

- 6.1 Dispute Resolution.** The Parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the Parties shall adhere to the CAISO ADR Procedures set forth in Section 13 of the CAISO Tariff, which is incorporated by reference, except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE VII

REPRESENTATIONS AND WARRANTIES

7.1 Representation and Warranties. Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.

7.2 Necessary Approvals. The EIM Sub-Entity represents that all necessary rights, leases, approvals, permits, licenses, easements, access to operate in compliance with this Agreement have been or will be obtained by the EIM Sub-Entity prior to the effective date of this Agreement, including any arrangement with the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located and any third party Balancing Authorities.

ARTICLE VIII

LIABILITY

8.1 Liability. The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE IX

UNCONTROLLABLE FORCES

9.1 Uncontrollable Forces Tariff Provisions. Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE X

MISCELLANEOUS

10.1 Assignments. Either Party may assign or transfer any or all of its rights or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights or obligations under this Agreement as if said successor in interest were an original Party to this Agreement.

- 10.2 Notices.** Any notice, demand or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.
- 10.3 Waivers.** Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.
- 10.4 Governing Law and Forum.** This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.
- 10.5 Consistency with Federal Laws and Regulations.** This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.
- 10.6 Merger.** This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.
- 10.7 Severability.** If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination

unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

- 10.8 Amendments.** This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing contained herein shall be construed as affecting in any way the right of the CAISO to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the FPA and pursuant to FERC's rules and regulations promulgated thereunder, and the EIM Sub-Entity shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.
- 10.9 Counterparts.** This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date hereinabove written.

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

[NAME OF EIM SUB-ENTITY]

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

NOTICES

[Section 10.2]

EIM Sub-Entity

Name of Primary

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

CAISO

Name of Primary Representative: Regulatory Contracts
Title: N/A
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: RegulatoryContracts@caiso.com
Phone: (916) 351-4400
Fax: (916) 608-5063

Name of Alternative Representative: Christopher J. Sibley
Title: Manager, Regulatory Contracts
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: csibley@caiso.com
Phone: (916) 608-7030
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Appendix B.26

ENERGY IMBALANCE MARKET SUB-ENTITY SCHEDULING COORDINATOR AGREEMENT

THIS ENERGY IMBALANCE MARKET SUB-ENTITY SCHEDULING COORDINATOR AGREEMENT (“AGREEMENT”) is established this ____ day of _____, _____, and is accepted by and between:

- (1) **[Full legal name]** having its registered and principal executive office at [address] (“EIM Sub-Entity Scheduling Coordinator”),
and
- (2) **CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate (the “CAISO”).

The EIM Sub-Entity Scheduling Coordinator and the CAISO are hereinafter referred to as the “Parties.”

Whereas:

- A. The EIM Sub-Entity Scheduling Coordinator has applied for certification or has been certified by the CAISO under the certification procedure referred to in Section 29 of the CAISO Tariff.
- B. The EIM Sub-Entity Scheduling Coordinator wishes to represent an EIM Sub-Entity under the terms and conditions set forth in Section 29 of the CAISO Tariff.

NOW IT IS HEREBY AGREED as follows:

1. **Definitions and Interpretation.**
 - 1.1 **Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.
 - 1.2 **Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Agreement:
 - (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;

- (b) the singular shall include the plural and vice versa;
- (c) the masculine shall include the feminine and neutral and vice versa;
- (d) “includes” or “including” shall mean “including without limitation”;
- (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
- (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
- (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
- (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
- (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
- (j) any reference to a day, week, month or year is to a calendar day, week, month or year;
- (k) unless the context requires otherwise, “or” is used in the conjunctive sense; and
- (l) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

2. Covenant of the EIM Sub-Entity Scheduling Coordinator.

2.1 The EIM Sub-Entity Scheduling Coordinator agrees that:

- 2.1.1** CAISO Tariff Section 29 governs all aspects of Energy Imbalance Market information submission, including the financial and technical criteria for EIM Sub-Entity Scheduling Coordinator EIM Base Schedule submissions, Settlement, information reporting requirements, and confidentiality restrictions;

- 2.1.2 It will abide by and will perform all of the obligations under Section 29 of the CAISO Tariff placed on EIM Sub-Entity Scheduling Coordinators in respect of all matters set forth therein, including ongoing obligations in respect of scheduling, Settlement, system security policy and procedures to be developed by the CAISO from time to time, billing and payments, confidentiality and dispute resolution;
- 2.1.3 It shall ensure that each EIM Sub-Entity that it represents enters into an EIM Sub-Entity Agreement in accordance with Section 29 of the CAISO Tariff;
- 2.1.4 It shall have the primary responsibility to the CAISO, as principal, for all EIM Sub-Entity Scheduling Coordinator payment obligations under Section 29 of the CAISO Tariff; and
- 2.1.5 Its status as an EIM Sub-Entity Scheduling Coordinator is at all times subject to Section 29 of the CAISO Tariff.

3. Term and Termination.

- 3.1 This Agreement shall commence on the later of (a) the date of execution of this Agreement or (b) the date the EIM Sub-Entity Scheduling Coordinator is certified by the CAISO as an EIM Sub-Entity Scheduling Coordinator.
- 3.2 This Agreement may be terminated in accordance with the provisions of Section 4.5.4.4 and 4.5.4.5 of the CAISO Tariff; provided, however, that any outstanding financial right or obligation or any other right or obligation under the CAISO Tariff of the EIM Sub-Entity Scheduling Coordinator that may have arisen under this Agreement, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive such termination until satisfied. The CAISO shall timely file any notice of termination with FERC, if this Agreement has been filed with FERC, or must otherwise comply with the requirements of FERC rules regarding termination.

4. Settlement Account.

- 4.1 The EIM Sub-Entity Scheduling Coordinator shall maintain at all times an account with a bank capable of Fedwire transfer and, at its option, may also maintain an account capable of ACH transfers, to which credits or debits that arise under Section 29 of the CAISO Tariff shall be made in accordance with the billing and Settlement provisions of Section 11 of the CAISO Tariff. Such account shall be the account as notified by the EIM Sub-Entity Scheduling Coordinator to the CAISO from time to time by giving at least 20 days written notice before the new account becomes operational, together with all information necessary for the CAISO's processing of a change in that account.

5. Agreement to be bound by CAISO Tariff.

5.1 Section 29 of the CAISO Tariff is incorporated herein and made a part hereof. In the event of a conflict between the terms and conditions of this Agreement and any other terms and conditions set forth in the CAISO Tariff that may apply to EIM Sub-Entity Scheduling Coordinators, the terms and conditions of the CAISO Tariff shall prevail.

6. Electronic Contracting.

6.1 All submitted information, applications, schedules, Bids, confirmations, changes to information on file with the CAISO and other communications conducted via electronic transfer (e.g. direct computer link, FTP file transfer, bulletin board, e-mail, facsimile or any other means established by the CAISO) shall have the same legal rights, responsibilities, obligations and other implications as set forth in the terms and conditions of Section 29 of the CAISO Tariff as if executed in written format.

7. Penalties and Sanctions.

7.1 The EIM Sub-Entity Scheduling Coordinator shall be subject to all penalties made applicable to EIM Sub-Entity Scheduling Coordinators set forth in Section 29 of the CAISO Tariff.

8. Costs.

8.1 The EIM Sub-Entity Scheduling Coordinator shall be responsible for all its costs incurred for the purpose of meeting its obligations under this Agreement.

9. Dispute Resolution.

9.1 The Parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the Parties shall adhere to the CAISO ADR Procedures set forth in Section 13 of the CAISO Tariff, which is incorporated by reference, except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement.

10. Representation and Warranties.

10.1 Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.

11. Liability.

11.1 The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement.

12. Uncontrollable Forces.

12.1 Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement.

13. Miscellaneous.

13.1 Assignments. Either Party may assign or transfer any or all of its rights and/or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights and/or obligations under this Agreement as if said successor in interest was an original Party to this Agreement.

13.2 Notices. Any notice, demand or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.

13.3 Waivers. Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

- 13.4 Governing Law and Forum.** This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply, shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.
- 13.5 Consistency with Federal Laws and Regulations.** This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.
- 13.6 Merger.** This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.
- 13.7 Severability.** If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.
- 13.8 Amendments.** This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing contained herein shall be construed as affecting in any way the right of the CAISO to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the FPA and pursuant to FERC's rules and regulations promulgated thereunder, and the EIM Sub-Entity Scheduling Coordinator shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the

FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

13.9 Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

[NAME OF EIM SUB-ENTITY SCHEDULING COORDINATOR]

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

NOTICES

[Section 13.2]

EIM Sub-Entity Scheduling Coordinator

Name of Primary

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

CAISO

Name of Primary Representative: Regulatory Contracts
Title: N/A
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: RegulatoryContracts@caiso.com
Phone: (916) 351-4400
Fax: (916) 608-5063

Name of Alternative Representative: Christopher J. Sibley
Title: Manager, Regulatory Contracts
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: csibley@caiso.com
Phone: (916) 608-7030
Fax: (916) 608-5063

Attachment B – Tariff Redlines

EIM Sub-Entity and Sub-Entity Scheduling Coordinator Roles

California Independent System Operator Corporation

January 21, 2022

29. Energy Imbalance Market

29.1 General Provisions.

- (a) **Operation of EIM.** Pursuant to Section 29, the CAISO shall expand operation and settlement of the Real-Time Market to provide for the purchase and sale of balancing Energy in any Balancing Authority Area for which the Balancing Authority executes an EIM Entity Agreement with the CAISO.
- (b) **EIM Tariff Obligations.** EIM Market Participants shall comply with –
 - (1) the provisions of Section 29; and
 - (2) other provisions of the CAISO Tariff that apply to the extent such provisions –
 - (A) expressly refer to Section 29 or EIM Market Participants;
 - (B) are cross referenced in Section 29; or
 - (C) are not limited in applicability to the CAISO Controlled Grid, the CAISO Balancing Authority Area, or CAISO Markets other than the Real-Time Market.
- (c) **Inconsistency Between Provisions.** If there is an inconsistency between a provision in Section 29 and another provision of the CAISO Tariff regarding the rights or obligations of EIM Market Participants, the provision in Section 29 shall prevail to the extent of the inconsistency.
- (d) **Suspension of EIM Entity Participation.**
 - (1) **Temporary Suspension.** The CAISO may, within 60 days following an EIM Entity Implementation Date for an EIM Entity, and pursuant to the terms of a Market Notice, temporarily suspend the participation of that EIM Entity in the Real-Time Market for a period not to exceed 60 days if market or system operational issues adversely impact any portion of the EIM Area, provided that the ISO may continue operation of the Real-Time Market without the participation of the EIM Entity for a reasonable additional period of time in order to implement a resolution of the market or system operational issues.

- (2) **CAISO Termination.** If the CAISO is not able to identify a resolution of the EIM-related market or system operational issues within 60 days after issuance of the Market Notice of temporary suspension of EIM participation by an EIM Entity, the CAISO may, upon issuance of a subsequent Market Notice, terminate participation by the EIM Entity in the Real-Time Market and may extend the suspension of EIM participation by the EIM Entity for a time sufficient to process the termination of the EIM Entity Agreement.
- (3) **Reinstatement.**
- (A) **After Temporary Suspension.** The CAISO may reinstate EIM operations after a temporary suspension of EIM participation by an EIM Entity by issuing a Market Notice announcing the intended reinstatement no less than 5 days in advance of the reinstatement date.
- (B) **After CAISO Termination.** The CAISO may only reinstate EIM operations with respect to an EIM Entity after termination of EIM participation by an EIM Entity pursuant to a filing accepted by FERC.
- (4) **EIM Entity Action.** In the event the CAISO issues a Market Notice of the temporary suspension of EIM participation by an EIM Entity, the EIM Entity shall continue to submit EIM Base Schedules and the associated meter data to enable continued operation of the Real-Time Market until the CAISO issues a subsequent Market Notice either that –
- (i) the cause of the temporary suspension has been resolved and the EIM Entity has been reinstated, in which case EIM participation by the EIM Entity shall return to normal; or
- (ii) EIM participation by the EIM Entity has been terminated.
- (5) **CAISO Action.** In the event the CAISO issues a Market Notice of the temporary suspension of EIM participation by an EIM Entity, the CAISO shall –
- (i) prevent EIM Transfers and separate the EIM Entity Balancing Authority Area from operation of the Real-Time Market in the EIM Area in

accordance with the provisions of the Business Practice Manual for the Energy Imbalance Market;

- (ii) suspend Settlement of Real-Time Market charges with respect to the EIM Entity in accordance with the provisions of the Business Practice Manual for the Energy Imbalance Market; and
- (iii) issue a subsequent Market Notice either that (i) the cause of the temporary suspension has been resolved and the EIM Entity has been reinstated, in which case EIM participation by the EIM Entity shall return to normal, or (ii) EIM participation by the EIM Entity has been terminated.

29.2 EIM Entity and EIM Sub-Entity Access to the Real-Time Market

(a) **In general.** The CAISO shall –

- (1) provide open and non-discriminatory access to the Real-Time Market, including the Energy Imbalance Market, in accordance with the provisions of the CAISO Tariff; and
- (2) make available for use in the Real-Time Market the transmission capacity that is available in Real-Time –
 - (A) on the CAISO Controlled Grid; and
 - (B) for which an EIM Entity or EIM Sub-Entity provides EIM Transmission Service Information pursuant to Section 29.17.

(b) **Implementation of Access as an EIM Entity.**

- (1) **EIM Implementation Agreement.** A Balancing Authority that wishes to become an EIM Entity must first execute an EIM Implementation Agreement with the CAISO that establishes –
 - (A) the activities the parties must undertake to enable the Balancing Authority to participate in the Real-Time Market;
 - (B) the EIM Entity Implementation Date;
 - (C) the implementation fee the Balancing Authority must pay to the CAISO for the start-up costs the CAISO incurs to accommodate the participation

of the Balancing Authority in the Real-Time Market as provided in the agreement; and

(D) the obligation of the Balancing Authority to enter into an EIM Entity Agreement governing its participation in the Real-Time Market.

(2) **FERC Approval.** The EIM Entity Implementation Date must be not less than six months and not more than twenty-four months after the date that the EIM Implementation Agreement between the CAISO and the Balancing Authority is accepted by FERC.

(3) **Implementation Period.** The CAISO shall in its discretion determine the EIM Entity Implementation Date based on the complexity and compatibility of the Balancing Authority's transmission and technology systems with the CAISO systems and the planned timing of the CAISO's implementation of software enhancements.

(4) **Market Simulation and Parallel Operations.** The CAISO and the prospective EIM Entity shall engage in –

(A) a market simulation that accounts for the prospective EIM Entity's implementation circumstances sufficient to meet the readiness criteria set forth in Section 29.2(b)(7); and

(B) at least 30 days of parallel operations representing the Energy Imbalance Market to support the CAISO and the prospective EIM Entity's readiness certification required by section 29.2(b)(6), an adequate period of which must occur prior to the readiness determination required by section 29.2(b)(5).

(5) **Readiness Determination.** No later than 30 days prior to the prospective EIM Entity Implementation Date as established by the EIM Implementation Agreement, the CAISO will determine, in consultation with the prospective EIM Entity, whether the systems and processes of the prospective EIM Entity will be ready for the prospective EIM Entity's participation in the Energy Imbalance

Market according to the criteria set forth in Section 29.2(b)(7) as measured by the thresholds specified in the Business Practice Manual for the Energy Imbalance Market, or consistent with any exceptions to thresholds, for certifying the prospective EIM Entity's readiness.

(6) **Readiness Certification.**

(A) **Certification.** The CAISO and the prospective EIM Entity shall each file a market readiness certificate with the ~~FERC~~Federal Energy Regulatory Commission at least 30 days prior to the EIM Entity Implementation Date in which a senior office of each entity attests –

- (i) that the processes and systems of the prospective EIM entity have satisfied or will have satisfied the readiness criteria set forth in Section 29.2(b)(7) as of the EIM Entity Implementation Date;
- (ii) to any known issues requiring resolution prior to the EIM Entity Implementation Date in accordance with section 29.2(b)(8);
- (iii) to any exceptions from the established thresholds specified in the Business Practice Manuals, and that despite such exceptions the criteria were met or will be met as specified in 29.2(b)(7); and
- (iv) that the EIM Entity Implementation Date is conditional on the resolution of the known issues identified in the certificates and any unforeseen issues that undermine the satisfaction of the readiness criteria set forth in Section 29.2(b)(7).

(B) **Delay or Re-Certification.** If, subsequent to readiness certification pursuant to Section 29.2(b)(6)(A), the CAISO or the prospective EIM Entity determines that it cannot proceed with implementation on the EIM Entity Implementation Date, the CAISO or the prospective EIM Entity will notify the ~~FERC~~Federal Energy Regulatory Commission of the delay, the reason for the delay, the new EIM Entity Implementation Date if it can be determined, and whether it will need to re-issue a portion or all of the

readiness certification.

(7) **Readiness Criteria.**

(A) **Prospective EIM Entity Full Network Model Integration.** The ~~Full~~ ~~N~~network ~~M~~model data of the prospective EIM Entity is integrated into the Full Network Model such that –

- (i) the Load, EIM Internal Intertie and EIM External Interties and Generating Unit definition in the Full Network Model is consistent with the Load, EIM Internal Intertie and EIM External Interties and Generating Unit definition in the prospective EIM Entity network model file that it delivered to the CAISO;
- (ii) the SCADA measurements used in the prospective EIM Entity's EMS model match the measurements observed by the CAISO through the CAISO EMS;
- (iii) the State Estimator solution is equivalent or superior to the prospective EIM Entity's state estimator solution for its Balancing Authority Area; and
- (iv) the physical representation of the prospective EIM Entity network matches the Base Market Model that accounts for non-conforming load, behind-the-meter generation, Pseudo-Ties, and Dynamic Schedules, and third party transmission service provider and path operator information that the CAISO agrees is used to support EIM Transfers and Real-Time Dispatch in the Energy Imbalance Market, as applicable.

(B) **Operations Training.** Prior to the start of parallel operations as set forth in Section 29.2(b)(4), all operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and settlements, have completed –

- (i) the introduction to Energy Imbalance Market training module;

- (ii) the specific hourly and daily tasks and duties for normal operation training module; and
- (iii) the assessment of market results and response to contingencies and abnormal situations training module.

(C) **Forecasting Capability.** The CAISO and, to the extent the prospective EIM Entity will use its own forecasts or is otherwise required to provide forecasting information to the CAISO, the prospective EIM Entity have demonstrated their respective forecasting capability through –

- (i) the definition of EIM Demand forecast boundaries based on the conforming and non-conforming Load characteristics, as applicable;
- (ii) the accuracy of the CAISO forecast of EIM Demand based on historical actual Load data for the defined EIM Demand forecast boundaries;
- (iii) the identification of weather stations locations used in forecasting, as applicable;
- (iv) the identification of the source of Variable Energy Resource forecasts pursuant to Section 29.11(j); and
- (v) the identification of the source of Hybrid Resource forecasts pursuant to Section 29.11(j).

(D) **Balanced Schedules.** The prospective EIM Entity's Scheduling Coordinator has demonstrated it has the –

- (i) ability to balance EIM Demand and EIM Supply for the prospective EIM Entity's Balancing Authority Area;
- (ii) ability to pass the capacity test, as set forth in Section 29.34(l); and
- (iii) ability to pass the flexible ramping sufficiency test, as set forth in Section 29.34(m).

- (E) **System Readiness and Integration.**
- (i) **Readiness.** The prospective EIM Entity and the CAISO have tested the functional and system elements in accordance with functional and system testing documentation posted on the CAISO Website.
 - (ii) **System Integration.** The prospective EIM Entity and the CAISO have tested system integration testing in accordance with the system integration testing documentation posted on the CAISO Website.
 - (iii) **Certificates.** The prospective EIM Entity has issued all necessary certificates to its employees that require system access to perform EIM-related job functions.
- (F) **Settlements.** The CAISO and the prospective EIM Entity have demonstrated that –
- (i) the CAISO Settlement Statements and Invoices match the operational data published to stakeholders or fed into the settlement system and the resulting calculations correspond to the formulas defined in the CAISO Tariff and applicable Business Practice Manuals during market simulation and parallel operations; and
 - (ii) the Settlement Statements and Invoices of the prospective EIM Entity allocating charges and credits to its customers accurately reflect system and market data during parallel operations.
- (G) **Outage Management System.** The prospective EIM Entity has verified its ability to submit and retrieve accurate and correct outage information to and from the CAISO within the required timelines.
- (H) **Communications between the CAISO and the prospective EIM Entity.**

- (i) **Messaging.** The process and procedures used for voice and electronic messaging between the prospective EIM Entity and the CAISO are identified and incorporated into the prospective EIM Entity's operating procedures before the start of market simulation specified in Section 29.2(b)(4)(A).
 - (ii) **Training.** The operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and settlements are trained on the relevant Operating Procedures and tools used for EIM related communications before the start of parallel operations specified in Section 29.2(b)(4)(B).
 - (iii) **Third Party Transmission Service Providers.** Third party transmission service provider and path operator information that the CAISO agrees is used to support EIM Transfers and Real-Time Dispatch is made available by the CAISO to the prospective EIM Entity during parallel operations.
- (I) **Market Simulation.**
- (i) **Prospective EIM Entity Identification.** The CAISO has established and the prospective EIM Entity has tested all necessary SCIDs and Resource IDs established for the prospective EIM Entity's Balancing Authority Area.
 - (ii) **Day in the life simulation.** The prospective EIM Entity operations staff identified by the prospective EIM Entity who will have responsibility for EIM grid operations, have completed end-to-end daily market workflow with no critical defects.
 - (iii) **Structured scenarios simulation.** The prospective EIM Entity operations staff identified by the prospective EIM Entity who will

have responsibility for EIM operations, transactions and settlements, have executed and passed all structured scenarios provided by CAISO with all significant issues resolved.

- (iv) **Unstructured scenarios simulation.** The prospective EIM Entity operations staff identified by the prospective EIM Entity who will have responsibility for EIM operations, transactions and settlements, have executed and passed all unstructured scenarios provided by the prospective EIM Entity, with significant issues resolved.
 - (v) **Market results reports.** Market results are appropriate based on inputs, and the prospective EIM Entity and CAISO executive project sponsors approve the results.
 - (vi) **Market quality review.** The CAISO prices are validated based on input data for parallel operations specified in Section 29.2(b)(4)(B).
- (J) **Parallel Operations Plan.** The period of parallel operations specified in Section 29.2(b)(4)(B) runs consistently and in accordance with the prospective EIM Entity specific parallel operations plan.
- (K) **Additional Criteria**
- (i) **Execution of Necessary Agreements.** The prospective EIM Entity has complied with Section 29.4(c)(2) and executed any necessary agreements for operating as an EIM Entity, including any non-disclosure agreements required for the exchange of information.
 - (ii) **Operating Procedures.** Prior to the start of parallel operations pursuant to Section 29.2(b)(4)(B), the CAISO and the prospective EIM Entity have defined, completed, and tested operating procedures for the prospective EIM Entity and its

Scheduling Coordinator's participation in the Energy Imbalance Market.

- (iii) **Identification of EIM Available Balancing Capacity.** The prospective EIM Entity has identified EIM Participating Resources and non-participating resources that it intends to designate in the EIM Resource Plan as EIM Available Balancing Capacity.
 - (iv) **Flexible Capacity Requirements.** The CAISO has received and stored all historical data from the prospective EIM Entity necessary and sufficient for the CAISO to perform the flexible ramp requirement, and the CAISO has established flexible capacity requirements for the prospective EIM Entity's Balancing Authority Area and for the combined EIM Area including the prospective EIM Entity.
 - (v) **Monitoring.** Sufficient and adequate data is available to the CAISO and the Department of Market Monitoring to enable market monitoring as of the Implementation Date.
- (8) **Readiness Reporting.** The CAISO shall report on the CAISO Website periodically, but not less than monthly during market simulation pursuant to Section 29.2(b)(4)(A) and not less than twice a month during parallel operations pursuant to Section 29.2(b)(4)(B), on progress towards achieving the readiness criteria in Section 29.2(b)(7), including providing information explaining any exceptions to or deviations from the readiness thresholds granted according to the standards and procedures for granting exceptions or deviations set forth in the Business Practice Manual for the Energy Imbalance Market, and the reasons therefore, and publish such reports on its website in advance of and in support of the certificate to be filed pursuant to Section 29.2(b)(6).

(c) Access as an EIM Sub-Entity.

(1) **EIM Sub-Entity Qualification.** An electric utility that wishes to become an EIM Sub-Entity must—

(A) be an electric utility embedded within an EIM Entity Balancing Authority Area and not receive long-term wholesale full requirements services from the EIM Entity;

(B) own a distribution system or transmission facilities directly connected to a transmission system embedded in the EIM Entity Balancing Authority Area for the purpose of providing—

(i) regulated electric service to eligible retail or wholesale customers, or

(ii) serve eligible customers in its capacity as a Local Publicly Owned Electric Utility;

(C) own or control one or more resources for the primary purpose of serving its eligible customers; and

(D) obtain authorization from the EIM Entity in whose Balancing Authority Area the prospective EIM Sub-Entity is located.

(2) **EIM Entity Authorization.** An EIM Entity may elect at its sole discretion whether or not to authorize participation by an EIM Sub-Entity within its Balancing Authority Area, which may encompass—

(A) no electric utility regardless of whether one or more electric utilities in its Balancing Authority Area meets the qualifications in Section 29.2(c)(1);

(B) all electric utilities that meet the qualifications in Section 29.2(c)(1) and seek to become EIM Sub-Entities; or

(C) some electric utilities that meet the qualifications in Section 29.2(c)(1), and seek to become EIM Sub-Entities, provided the EIM Entity finds that there is a supportive existing and accepted contractual or tariff based practice for imbalance energy accounting within its Balancing Authority Area that distinguishes the EIM Sub-Entity from its other transmission

service customers.

- (3) **EIM Sub-Entity Implementation Agreement.** An electric utility that has been authorized by the EIM Entity to participate as an EIM Sub-Entity in accordance with 29.2(c)(2) and wishes to become an EIM Sub-Entity must also execute an EIM Sub-Entity Implementation Agreement with the CAISO that establishes—
- (A) the electric utility meets the CAISO qualifications for participation as an EIM Sub-Entity in Section 29.2(c)(1);
 - (B) the EIM Sub-Entity Implementation Date, which—
 - (i) the CAISO shall in its discretion determine based on the complexity and compatibility of the transmission and technology systems and the planned timing of the CAISO's implementation of software enhancements, and
 - (ii) must be not less than twelve months and not more than twenty-four months after CAISO confirms that the electric utility meets the CAISO qualifications for participation as an EIM Sub-Entity;
 - (C) the implementation fee deposit the electric utility must pay to the CAISO for the estimated start-up costs the CAISO will incur to partition the EIM Sub-Entity from the EIM Entity Balancing Authority Area, subject to true-up based on actual costs incurred in accordance with the EIM Sub-Entity Implementation Agreement;
 - (D) the obligation of the electric utility to enter into an EIM Sub-Entity Agreement governing its participation in the Real-Time Market; and
 - (E) the obligation of the EIM Sub-Entity to either execute the EIM Sub-Entity Scheduling Coordinator Agreement, or retain the services of an entity that has executed the EIM Sub-Entity Scheduling Coordinator Agreement.
- (4) **EIM Sub-Entity Implementation Activities.** The CAISO and the prospective EIM Sub-Entity will engage in –

- (A) project management planning and tracking of all implementation tasks, issues and risks through regular meetings and status reports following a detailed project schedule outlining all the steps leading to the market simulation, parallel operations and participation;
- (B) authorization and certification processes associated with execution of the required agreements and any applicable tariff changes necessary for participation;
- (C) integration of the network model data with the CAISO's Full Network Model, including connectivity testing and Full Network Model verification prior to market simulation testing;
- (D) integration and access to non-production environments for integration and testing of market data exchange and modification of prospective EIM Sub-Entity operating and bid-to-bill systems associated with participation, including system integration, security and functional testing of all impacted systems and processes followed by market simulation according to a CAISO test plan outlining scenarios, a timeline and expected actions prior to testing;
- (E) review and approval of information and processes to confirm the Meter Data meets all requirements necessary for the implementation and Settlement of the prospective EIM Sub-Entity, including any associated testing;
- (F) training events including computer based training modules for various roles and responsibilities, train-the-trainer courses which include hands-on scenario trainings with application tools, and optional participation in modeling workshops and other tracks as appropriate to prepare for transition to production.

(5) **Readiness Reporting.** The CAISO shall report on the CAISO Website periodically, but not less than once during market simulation on progress towards

completing the implementation activities in Section 29.2(c)(4) and once again during parallel operations confirming completion of the implementation activities in Section 29.2(c)(4).

(6) **Readiness Determination.** No later than 10 days prior to the prospective EIM Sub-Entity Implementation Date as established in the EIM Sub-Entity Implementation Agreement, the CAISO will determine, in consultation with the EIM Entity and the prospective EIM Sub-Entity, whether the systems and processes of the EIM Entity and the prospective EIM Sub-Entity will be ready for the prospective EIM Sub-Entity's participation in the Energy Imbalance Market.

29.3 [Not Used]

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 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); and
 - (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).
- (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.

29.5 [Not Used]

29.6 Communications

- (a) **EIM Entity and EIM Sub-Entity.** The EIM Entity or EIM Sub-Entity, as applicable, shall meet the technical and communication requirements specified in the Business Practice Manual for the Energy Imbalance Market, which shall be based on the Inter-Control Center Communication Protocol and Reliability Standards.
- (b) **EIM Communications and OASIS.** Section 6 shall govern communications and information availability regarding the participation of EIM Market Participants in the Real-Time Market except that –
 - (1) references to internal resources shall be deemed to include EIM Resources;
 - (2) references in Sections 6.2.2.1 and 6.5.2.1 to the CAISO Controlled Grid and references in Sections 6.5.4.2.2(a) and 6.5.5.1.1 to CAISO Balancing Authority Area shall be deemed references to the EIM Area; and
 - (3) the provisions of Section 6.3.1 that authorize the CAISO to communicate directly with Generators and Demand Response Providers to ensure System Reliability shall not apply to Generators and Demand Response Providers in the EIM Entity's Balancing Authority Area or pseudo-tied from an external Balancing Authority Area to the EIM Entity Balancing Authority Area.
- (c) **Loss of Communications.**

- (1) **Procedures.** The CAISO and each EIM Entity, EIM Sub-Entity, ~~and~~ EIM Entity Scheduling Coordinator, and EIM Sub-Entity Scheduling Coordinator shall establish procedures to address an interruption of Real-Time Market communications, which shall include steps to be taken to restore communications and address any impact on system or market operations as provided in Section 29.
 - (2) **Responsibilities.** An EIM Entity or EIM Sub-Entity that loses communication with the CAISO remains responsible for managing its Balancing Authority Area or EIM Sub-Entity area imbalance needs without balancing Energy from the Real-Time Market, and EIM Entities and EIM Sub-Entities shall have communication procedures to address such circumstances.
- (d) **Variable Energy Resource Forecast Communications.** If the EIM Participating Resource Scheduling Coordinator for a Variable Energy Resource elects to use an independent forecasting service, it must make data transfer arrangements with the CAISO for the CAISO to receive the forecast in a format and on a schedule set forth in the Business Practice Manual for the Energy Imbalance Market.
 - (e) **Hybrid Resource Forecast Communications.** If the EIM Participating Resource Scheduling Coordinator for a Hybrid Resource elects to use an independent forecasting service, it must make data transfer arrangements with the CAISO for the CAISO to receive the forecast in a format and on a schedule set forth in the Business Practice Manual for the Energy Imbalance Market.

29.7 EIM Operations Under Normal and Emergency Conditions.

- (a) **CAISO Controlled Grid Operations.** Section 7 shall not apply to EIM Market Participants in their capacities as such.
- (b) **Normal EIM Operations.** The CAISO shall administer the transmission capacity made available to the Real-Time Market to manage Energy imbalances in the EIM Area under normal operations.
- (c) **Load Curtailment.** The CAISO will not issue Dispatch Instructions to an EIM Entity

Scheduling Coordinator or an EIM Sub-Entity Scheduling Coordinator with respect to Load or Demand that has not been bid into the Real-Time Market.

- (d) **Dispatch Instructions for EIM Participating Resources.** The CAISO will not issue Dispatch Instructions to an EIM Participating Resource Scheduling Coordinator with respect to Supply that has not been bid into the Real-Time Market.
- (e) **EIM Transfers.** The CAISO shall manage EIM Transfers as aggregate Dynamic Schedules with each EIM Entity Balancing Authority Area, which –
 - (1) shall not require individual resource E-Tags;
 - (2) shall not constitute inadvertent Energy;
 - (3) shall reflect intra-hour incremental EIM Transfers between the CAISO Balancing Authority Area and each EIM Entity Balancing Authority Area;
 - (4) shall be updated by the CAISO within 60 minutes after the end of each Operating Hour to include the integrated Energy during the hour for the sum of all EIM Transfers between each Balancing Authority Area in the EIM Area in accordance with WECC business practices for purposes of inadvertent Energy accounting; and
 - (5) shall be subsequently updated as necessary consistent with the requirements of WECC, NERC, and North American Energy Standards Board standards and business practices.
- (f) **Dynamic Imbalance Schedule to Net EIM Transfers.** The CAISO will –
 - (1) model changes in the net five-minute scheduled EIM Transfers that result from Real-Time Dispatch as a Dynamic Schedule between the CAISO and EIM Entity for AGC control accuracy; and
 - (2) calculate the dynamic net scheduled EIM Transfers for the CAISO and each EIM Entity Balancing Authority Area and derive from these dynamic net scheduled EIM Transfers the Dynamic Schedules on EIM Internal Inerties for E-Tag purposes.
- (g) **EIM Manual Dispatch.**

(1) The EIM Entity may issue an EIM Manual Dispatch to an EIM Participating Resource or a non-participating resource in its Balancing Authority Area, outside of the Market Clearing of the Real-Time Market, when necessary to address reliability or operational issues in the EIM Entity Balancing Authority Area that the CAISO is not able to address through normal economic Dispatch and Congestion Management. The EIM Entity may issue an EIM Manual Dispatch to any EIM Participating Resource or a non-participating resource in its Balancing Authority Area regardless of whether an EIM Sub-Entity Scheduling Coordinator has rights to issue an EIM Manual Dispatch to such EIM Participating Resource or non-participating resource.

(2) If authorized by the EIM Entity, the EIM Sub-Entity may issue an EIM Manual Dispatch to an EIM Participating Resource or a non-participating resource for which it is registered as the EIM Sub-Entity Scheduling Coordinator when necessary to address reliability or operational issues in its service territory that the CAISO is not able to address through normal economic Dispatch and Congestion Management, provided that such ability by the EIM Sub-Entity shall not prevent the EIM Entity from issuing an EIM Manual Dispatch to any EIM Participating Resource or a non-participating resource in its Balancing Authority Area, and the most recent EIM Manual Dispatch shall take precedence over any prior EIM Manual Dispatch issued to the EIM Participating Resource. Any financial or operational impact on an EIM Sub-Entity resulting from an EIM Manual Dispatch issued by the EIM Entity shall be resolved in accordance with the applicable tariff or contractual arrangements between the EIM Entity and the EIM Sub-Entity.

(h) **EIM Entity and EIM Sub-Entity Actions in Response to an EIM Manual Dispatch.** If the EIM Entity or EIM Sub-Entity issues an EIM Manual Dispatch to address circumstances on its system –

(1) the EIM Entity shall immediately inform the CAISO, as specified in the Business

Practice Manual for the Energy Imbalance Market, if the EIM Entity Balancing Authority Area is under manual operation;

(2) the EIM Entity or EIM Sub-Entity shall immediately inform the CAISO of the EIM Manual Dispatch issued to any EIM Participating Resource or non-participating resource by submitting the EIM Manual Dispatch instruction for the affected resource to the CAISO as specified in the Business Practice Manual for the Energy Imbalance Market; and

(3) the EIM Entity or EIM Sub-Entity remains responsible for informing the Reliability Coordinator of the circumstances creating the need for the EIM Manual Dispatch and may enforce Transmission Constraints, as may be required.

(i) **CAISO Actions in Response to Notification of EIM Manual Dispatch.** Upon receipt of notice of an EIM Manual Dispatch, the CAISO shall –

- (1) reflect the EIM Manual Dispatch in the Real-Time Market;
- (2) disregard an EIM Manual Dispatch in the determination of the Locational Marginal Price; and
- (3) treat an EIM Manual Dispatch to an EIM Participating Resource or non-participating resource as FMM or RTD Instructed Imbalance Energy for Settlement.

(j) **EIM Disruption.**

(1) **Declaration.** The CAISO may declare an interruption of EIM Entity participation in the Real-Time Market when in its judgment –

- (A) operational circumstances (including a failure of the Real-Time Market operation to produce feasible results in the EIM Area or other CAISO Market Disruption) in the EIM Area have caused or are in danger of causing an abnormal system condition in the CAISO Balancing Authority Area or an EIM Balancing Authority Area that requires immediate action to prevent loss of Load, equipment damage, or tripping system elements that might result in cascading Outages, or to restore system operation to

meet Applicable Reliability Criteria; or

- (B) communications between the CAISO and EIM Market Participants are disrupted and prevent an EIM Entity, EIM Entity Scheduling Coordinator, EIM Sub-Entity, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator from accessing CAISO systems to submit or receive information.

(2) **CAISO Response to EIM Disruption.** If the CAISO declares an interruption of EIM Entity participation in the Real-Time Market, the CAISO may in its judgment, among other things-

- (A) separate the affected EIM Entity Balancing Authority Area from the EIM Area and maintain the Real-Time Market for other Balancing Authority Areas in the EIM Area by enforcing a net transfer constraint for the affected Balancing Authority Area to separate it from the remainder of the EIM Area;
- (B) reduce or suspend EIM Transfers between one or more Balancing Authority Areas in the EIM Area;
- (C) instruct one or more EIM Entities to maintain system balance within their Balancing Authority Area without RTM Dispatch; or
- (D) in addition or as an alternative, use market results in the Real-Time Market in accordance with Section 7.7.9 or take any of the actions specified in Section 7.7.6 with respect to the Real-Time Market, except that if Section 7.7.6 calls for the use of Day-Ahead Market results, the CAISO will use:
 - (i) the price specified in the EIM Entity's open access transmission tariff as the LMP;
 - (ii) the EIM Entity's or EIM Sub-Entity's EIM Base Schedule as the schedule;
 - (iii) the EIM Bid Adder from the most recent corresponding interval

that is available as the EIM Bid Adder; and

- (iv) the emissions rate set by the California Air Resources Board for an unspecified source multiplied by the daily Greenhouse Gas Allowance Price.

(3) **EIM Entity Responsibility.** In response to an interruption of EIM Entity participation in the Real-Time Market by the CAISO, all EIM Entities shall follow NERC Reliability Standards applicable to their roles as Balancing Authorities in an effort to alleviate operational and system conditions and restore routine operations.

(4) **EIM Entity and EIM Sub-Entity Scheduling Coordinator Responsibility.** All EIM Entity Scheduling Coordinators and EIM Sub-Entity Scheduling Coordinators shall promptly inform the CAISO of actions taken by the EIM Entities and EIM Sub-Entities they represent in response to an interruption of EIM Entity or EIM Sub-Entity participation in the Real-Time Market by the CAISO through updates to their EIM Base Schedules, Interchange E-Tags, transmission limit adjustments, or Outage and derate information, as applicable.

(5) **System Restoration.** The CAISO shall reinstate normal operation of the Real-Time Market in the EIM Area at such time as it determines that the conditions that caused the interruption of EIM Entity or EIM Sub-Entity participation in the Real-Time Market have been resolved.

(k) **Congestion Management and Unscheduled Flow.**

(1) **Inability to Resolve Congestion.** The CAISO will provide information to EIM Entities about Congestion that the Real-Time Market cannot resolve.

(2) **Initiation of Unscheduled Flow Procedures.** The CAISO or an EIM Entity may initiate WECC's unscheduled flow mitigation procedure if applicable for conditions in its Balancing Authority Area.

(3) **EIM Entity Action.** When the WECC unscheduled flow mitigation procedure is initiated, each EIM Entity shall adjust its schedules as determined by the WECC

procedure and immediately inform the CAISO of the changes, as well as any affected EIM Sub-Entities.

- (4) **CAISO Action.** When WECC's unscheduled flow mitigation procedure is initiated, the CAISO shall reflect the affected EIM Market Participant schedules in the Real-Time Market as determined by the WECC procedure, EIM Entity, EIM Sub-Entity, CAISO Operating Procedures, and Business Practice Manuals for the CAISO Balancing Authority Area and EIM Entity Balancing Authority Areas.

29.8 [Not Used]

29.9 Outages and Critical Contingencies.

- (a) **Applicability of Section 9.** Section 9 shall not apply to EIM Market Participants except as referenced in Section 29.9.

(b) **Transmission Scheduled Outages.**

- (1) **Responsibility.** The EIM Entity shall be responsible for performing engineering studies with regard to, and modeling and approving, Outages on transmission facilities for maintenance purposes within the EIM Entity Balancing Authority Area, including making any necessary arrangements for this purpose regarding the transmission capacity made available by an EIM Transmission Service Provider to the Real-Time Market. The EIM Entity may delegate its responsibilities under this Section 29.9(b) to an EIM Sub-Entity within its Balancing Authority Area with regard to transmission facilities for which the EIM Sub-Entity acts as the transmission operator, provided that the EIM Entity shall notify the CAISO of the delegation in accordance with the timelines and procedures in the Business Practice Manual for the Energy Imbalance Market.
- (2) **Notice.** The EIM Entity Scheduling Coordinator or, if delegated under Section 29.9(b)(1), the EIM Sub-Entity Scheduling Coordinator shall submit notice of transmission Outages approved by the EIM Entity or EIM Sub-Entity to the CAISO by the means set forth in the Business Practice Manual for the Energy Imbalance Market and at least seven Business Days prior to the planned Outage.

(3) **Notice of Modification.** The EIM Entity Scheduling Coordinator or, if delegated under Section 29.9(b)(1), the EIM Sub-Entity Scheduling Coordinator may submit a notice of modification of an approved transmission Outage and any resulting updates to EIM Intertie limits to the CAISO by the means set forth in the Business Practice Manual for the Energy Imbalance Market and in accordance with the deadlines set forth in Section 9 and Section 29.9.

(4) **Contents of Notice.** The EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator notices of approved transmission Outages shall include

–

(A) the start and finish date for each Outage for maintenance purposes; and

(B) such information other than start and finish date as is required in Section 9.3.6 for transmission Operators seeking approval of Outages.

(c) **Generation Maintenance Outages.**

(1) **Responsibility.** The EIM Entity shall be responsible for performing engineering studies with regard to, and modeling and approving, Outages of EIM Resources and non-participating resources for maintenance purposes within the EIM Entity Balancing Authority Area. The EIM Entity may delegate its responsibilities under this Section 29.9(c) to an EIM Sub-Entity within its Balancing Authority Area with regard to EIM Resources and non-participating resources for which the EIM Sub-Entity acts as the EIM Sub-Entity Scheduling Coordinator, provided that the EIM Entity shall notify the CAISO of the delegation in accordance with the timelines and procedures in the Business Practice Manual for the Energy Imbalance Market.

(2) **Notice.** The EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator shall submit notice of Outages of EIM Resources and non-participating resources approved by the EIM Entity or EIM Sub-Entity to the CAISO by the means set forth in the Business Practice Manual for the Energy Imbalance Market and at least seven Business Days prior to the planned Outage.

- (3) **Contents of Notice.** The EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator notices of approved Outages of EIM Resources and non-participating resources shall include-
- (A) the start and finish date for each Outage for maintenance purposes; and
 - (B) such information other than start and finish date as is required in Section 9.3.6 for Operators seeking approval of Generating Unit Outages.
- (d) **Actions Regarding Scheduled Outages.**
- (1) **CAISO Evaluation of Scheduled Outages.** The CAISO will implement the transmission and Generation Outages approved by the EIM Entity or EIM Sub-Entity through the Day-Ahead Market process and will inform the EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator where applicable of any anticipated overloads.
 - (2) **EIM Entity and EIM Sub-Entity Action.** Based on the information provided by the CAISO to the EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator, the EIM Entity and EIM Sub-Entity shall have the opportunity to take ~~such~~ action to adjust or cancel Outages as it determines to be necessary.
 - (3) **Notice to Reliability Coordinator.**
 - (A) **EIM Entity and EIM Sub-Entity Responsibility.** The EIM Entity and EIM Sub-Entity are responsible for informing the Reliability Coordinator of scheduled Outages.
 - (B) **CAISO Facilitation.** Upon request of an EIM Entity or EIM Sub-Entity, and without assuming any liability, the CAISO will provide the Reliability Coordinator with Outage information submitted to the CAISO by the EIM Entity or EIM Sub-Entity on behalf of the EIM Entity or EIM Sub-Entity.
- (e) **Forced Outages.** An EIM Entity Scheduling Coordinator and an EIM Sub-Entity Scheduling Coordinator shall comply with the reporting provisions of Section 9 with regard to Forced Outages of transmission facilities within the EIM Entity Balancing

Authority Area or within the EIM Sub-Entity area they represents and an EIM Participating Resource Scheduling Coordinator shall comply with the reporting provisions of Section 9 with regard to Forced Outages of Generating Units it represents as EIM Resources.

- (f) **Transmission Limits.** An EIM Entity Scheduling Coordinator must notify the CAISO by the means specified in the Business Practice Manual for the Energy Imbalance Market with respect to transmission limits on the transmission capacity made available to the Real-Time Market within the EIM Entity Balancing Authority Area that need to be enforced in the Real-Time Market, including-
- (1) physical MVA or MW limits under base case and contingencies;
 - (2) scheduling limits for EIM Intertie transactions based on E-Tags; and
 - (3) contractual limits on Transmission Interfaces where the EIM Transmission Service Provider has transmission rights.

29.10 Metering and Settlement Data.

- (a) **Telemetry Requirements.** The EIM Entity shall ensure that each EIM Resource and non-participating resource in an EIM Entity Balancing Authority Area that is not a Generating Unit or is a Generating Unit with a rated capacity of 10 MW or greater (including each aggregated resource with a total rated capacity of 10 MW or greater) and each EIM Intertie has telemetry meeting the requirements of the Business Practice Manual for the Energy Imbalance Market.
- (b) **Metering for Settlement Purposes.** The EIM Entity shall ensure that each EIM Participating Resource and non-participating resource in an EIM Entity Balancing Authority Area becomes either a CAISO Metered Entity or a Scheduling Coordinator Metered Entity and complies with the requirements of Section 10 except as provided in Section 29.10(c). The EIM Sub-Entity will include the EIM Entity on Schedule 3 or 5 of the applicable meter service agreement to give the EIM Entity access to the EIM Sub-Entity Meter Data.
- (c) **Exception to Requirements of Section 10.3.9.** In the absence of metering standards

set by a Local Regulatory Authority, EIM Participating Resources and non-participating resources in an EIM Entity Balancing Authority Area may qualify as Scheduling Coordinator Metered Entities without the need for third party certification if the CAISO determines that the applicable metering standards meet or exceed the standards for CAISO Metered Entities.

- (d) **Interchange Meter Data.** Metering for Settlement purposes is required for all EIM Interties.
- (e) **EIM Energy Imbalance with an External Balancing Authority Area.** For each EIM External Intertie Bid that clears the FMM resulting in a 15-minute EIM External Intertie schedule –
 - (1) the EIM Entity Scheduling Coordinator must submit to the CAISO the corresponding hourly transmission profile and 15-minute Energy profiles from the respective E-Tags, which must reflect the Point of Receipt and Point of Delivery that was declared in the FMM Bid submittal, at least 20 minutes before the start of the Operating Hour; and
 - (2) the EIM Entity Scheduling Coordinator must provide an updated Energy profile to the extent required by Section 30.5.7.

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.
- (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 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, ~~or~~ 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 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.
- (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 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 ~~charge~~ settle with the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the relevant EIM Entity-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 ~~charge-settle with~~ the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the EIM Entity 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 ~~paysettle with~~ the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the EIM Entity 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 ~~pay-settle with~~ the applicable EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator for all Uninstructed Imbalance Energy at the EIM Entity 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 11.5.4.1.1.
 - (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.
 - (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.

- (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.

- (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) **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.

- (4) **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. ~~Not Used~~** 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-portions of the Market Services Charge and the System Operations Charge.

- (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.** The System Operations Charge shall 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 market 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) **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 chart 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.
- (5) **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.

- (6) **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.
- (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 or EIM Transfers as follows –
- (1) EIM Entity Scheduling Coordinators will receive a payment 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 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.

- (a) **Requirements.** EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators shall comply with the credit and other requirements of Section 12.
- (b) **Credit Default.** In the event of a failure to satisfy the credit or other requirements in Section 12, the consequences specified in Section 12 shall apply to EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators.

29.13 Dispute Resolution

- (a) **Invoices.** Confirmation and validation of any dispute associated with the participation of EIM Market Participants in the Real Time Market is subject to Section 11.29.8 and shall be managed through the CAISO's customer inquiry, dispute, and information system and as provided in the Business Practice Manual for the Energy Imbalance Market.
- (b) **Other Disputes.** EIM Market Participants shall be subject to dispute resolution pursuant to Section 13.

29.14 Uncontrollable Forces, Indemnity, Liabilities, and Penalties

The provisions of Section 14 regarding Uncontrollable Forces, indemnity, liability, and penalties shall apply to the participation of EIM Market Participants in the Real-Time Market.

29.15 [Not Used]

29.16 [Not Used]

29.17 EIM Transmission System

- (a) **Information.** Each EIM Entity, and any EIM Sub-Entity authorized by the EIM Entity to perform one or more of the following tasks, shall –
 - (1) deliver EIM Transmission Service Information to the CAISO regarding the network topology information associated with transmission capacity that it owns, controls, or has a contractual entitlement to that may be used in the Real-Time Market;
 - (2) deliver EIM Transmission Service Information to the CAISO regarding the network topology information associated with transmission capacity that each

other EIM Transmission Service Provider owns, controls, or has a contractual entitlement to within the EIM Entity Balancing Authority Area that may be used in the Real-Time Market;

- (3) update the EIM Transmission Service Information no less frequently than the timelines for updates to the Full Network Model as provided in the CAISO Tariff and Business Practice Manual for the Energy Imbalance Market; and
 - (4) ensure that the EIM Transmission Service Information is accurate and complete.
- (b) **Effectiveness.** The EIM Transmission Service Information shall only be used for operation of the CAISO Markets in accordance with the procedures set forth in the Business Practice Manual for the Energy Imbalance Market.
- (c) **Availability.** Each EIM Entity and EIM Sub-Entity shall ensure that all EIM Transmission Service Providers in its Balancing Authority Area or EIM Sub-Entity area make available for use in the Real-Time Market transmission capacity that is included in the EIM Transmission Service Information and that is not otherwise encumbered, reserved, scheduled, or being used by its transmission customers or by others.
- (d) **Information on Availability.** Each EIM Entity Scheduling Coordinator and EIM Sub-Entity Scheduling Coordinator shall inform the CAISO in the manner and by the deadlines specified in the Business Practice Manual for the Energy Imbalance Market regarding the availability of the transmission capacity identified in the EIM Transmission Service Information for use in the Real-Time Market.
- (e) **EIM Transfer Limit.** A Balancing Authority that has entered into an EIM Implementation Agreement to become an EIM Entity shall establish and inform the CAISO of the maximum EIM Transfer limit at least ninety days prior to the EIM Entity Implementation Date in accordance with the Business Practice Manual for the Energy Imbalance Market.
- (f) **EIM Transfer Availability.**
- (1) **In General.** The ISO will model individual constraints for each EIM Transfer limit submitted by each EIM Entity that makes transmission available on an EIM Internal Intertie.

- (2) **Use of Interchange Transmission Rights.** The EIM Entity Scheduling Coordinator shall determine the EIM Transfer limit made available for use in the Real-Time Market through interchange transmission rights and communicate that limit to the CAISO prior to the start of the next Dispatch Interval in accordance with the procedures and timelines for submission and acceptance in the Business Practice Manual for the Energy Imbalance Market.
- (3) **Use of Available Transfer Capability.** The EIM Entity Scheduling Coordinator shall determine the EIM Transfer limit made available to the Real-Time Market through available transfer capability in accordance with its tariff and communicate that limit to the CAISO prior to the start of the next Dispatch Interval in accordance with the procedures and timelines for submission and acceptance in the Business Practice Manual for the Energy Imbalance Market.
- (4) **Multiple EIM Transfer Limits.** If there are two or more EIM Entity Balancing Authority Areas that share the same EIM Internal Intertie, the CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch will enforce the individual EIM Transfer limit for each EIM Entity Balancing Authority Area while allowing Energy to wheel through the EIM Entity Balancing Authority Areas based on the transmission made available for use in the Real-Time Market.
- (5) **EIM Transfers and CAISO Scheduling Points.** EIM Transfers shall compete for Available Transfer Capability at interties that are an EIM Internal Intertie and a CAISO Scheduling Point.
- (6) **EIM Transfer Limit Constraints.** The CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch shall enforce the EIM Transfer limit and the associated physical limit at each EIM Internal Intertie.
- (g) **EIM Transfer Schedule Cost.**

 - (1) **In General.** The CAISO's Security Constrained Economic Dispatch in the

Fifteen Minute Market and Real-Time Dispatch shall use an EIM Transfer schedule cost associated with EIM Transfers at each EIM Internal Intertie to determine the optimal scheduling path for EIM Transfers, which in all intervals shall be less than \$0.01.

- (2) **Objectives.** The CAISO shall use the lowest EIM Transfer schedule cost determined based upon the objectives of –
 - (A) maximizing the use of the transmission capacity made available for EIM Transfers in both the Fifteen-Minute Market and Real-Time Dispatch;
 - (B) minimizing the number of E-Tags required to comply with the WECC scheduling practices; and
 - (C) minimizing the impact of outages or curtailments on the E-Tags used to account for EIM Transfers based on historical outage and curtailment data for each EIM Internal Intertie.
- (3) **EIM Transfer Schedule Cost Publication.** The CAISO will publish the EIM Transfer schedule cost associated with each EIM Internal Intertie in the Business Practice Manual for the Energy Imbalance Market.
- (4) **EIM Transfer Schedule Cost Adjustment.** The CAISO may adjust the EIM Transfer schedule costs to maintain the path priorities established by the criteria in Section 29.17(g)(2) when an EIM Entity Balancing Authority Area is added or subtracted from the EIM Area, as seasonal transmission system ratings change, or the transmission system topology changes.
- (5) **Locational Marginal Price.** The CAISO will reflect the EIM Transfer schedule cost in the Marginal Cost of Congestion.

29.18 [Not Used]

29.19 [Not Used]

29.20 Confidentiality

The confidentiality provisions of Section 20 shall apply to participation of EIM Market Participants in the Real-Time Market.

29.21 [Not Used]

29.22 Miscellaneous Provisions in Addition to Section 22.

Section 22 and the additional miscellaneous provisions of Section 29.22 shall apply to the Energy Imbalance Market.

- (a) **Tax Liability.** To the extent that the CAISO would incur any tax liability as a result of the participation of EIM Market Participants in the Real-Time Market, as market operator or as central counterparty to Energy Imbalance Market transactions, for example, the CAISO will pass those taxes on to the EIM Entity Scheduling Coordinator for the EIM Entity area where the transactions triggered the tax liability.
- (b) **Purchasing Selling Agent.** Neither the CAISO nor the EIM Entity is a “Purchasing Selling Entity” for purposes of E-Tagging or EIM Transfers, nor shall either be listed as a “Purchasing Selling Entity” for purposes of E-Tagging or EIM Transfers.
- (c) **Title to Energy.** Title to Energy in the Real-Time Market passes directly from the entity that holds title when the Energy enters the CAISO Controlled Grid or the transmission system of an EIM Transmission Service Provider, whichever is first following Dispatch, to the entity that removes the Energy from the CAISO Controlled Grid or the transmission system of a EIM Transmission Service Provider, whichever last precedes delivery to Load.

29.23 [Not Used]

29.24 [Not Used]

29.25 [Not Used]

29.26 Transmission Rates and Charges.

- (a) **Transmission Charges for CAISO Facilities.**
 - (1) **Access Charge.** Transmission service charges for Real-Time Market transactions serving Load within the CAISO Balancing Authority Area that use the CAISO Controlled Grid are governed by Section 26.
 - (2) **Wheeling Access Charge.** EIM Transfers from the CAISO Controlled Grid to another EIM Entity Balancing Authority Area using the contractual or ownership

rights of an EIM Entity shall not constitute Wheeling Out and shall not be subject to the Wheeling Access Charge under Section 26.

- (b) **Non-CAISO Facilities.** The determination and charges for transmission service for Real-Time Market transactions on facilities that are part of the contractual or ownership rights made available to the Real-Time Market by an EIM Transmission Service Provider through an EIM Entity or EIM Sub-Entity will be the responsibility of the EIM Entity or EIM Sub-Entity that made the facilities available, except that the EIM Entity or EIM Sub-Entity shall ensure that no EIM Transmission Service Provider imposes a separate charge for EIM Transfers that use its facilities, provided that charges for transmission service in excess of contractual limits shall not be considered a separate charge.

29.27 CAISO Markets and Processes.

- (a) **In General.** Except as provided in subsection (b) of this section, the provisions of Section 27 that are applicable to the Real-Time Market shall apply to EIM Market Participants.
- (b) **Transition Period for New EIM Entities.**
- (1) **Transmission Constraint Relaxation.** For a period of six months following the Implementation Date of a new EIM Entity, the provisions of Section 27.4.3.2 and the second sentence of Section 27.4.3.4 shall not apply to constraints that are within Balancing Authority Areas of the new EIM Entity or affect EIM Transfers between the Balancing Authority Areas of the new EIM Entity and any other EIM Entity that is subject to this subsection (b). For those intervals that experience infeasibilities described in those provisions, the CAISO shall instead determine prices consistent with the provisions of Sections 27, 34, and Appendix C, that would apply in the absence of Section 27.4.3.2 and the second sentence of Section 27.4.3.4.
- (2) **Flexible Ramping Product.** For a period of six months following the EIM Entity Implementation Date of a new EIM Entity, when the transmission and/or power balance constraints as specified in Sections 27.4.3.2 and 27.4.3.4, respectively,

are relaxed, the CAISO shall set the Flexible Ramping Product parameter for pricing purposes, for the new EIM Entity Balancing Authority Area, at an amount between and including \$0 and \$0.01.

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

(A) [reserved]

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

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

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

resource in the Master File, normalized for Outages.

29.28 Inter-SC Trades

EIM Entity Scheduling Coordinators, EIM Sub-Entity Scheduling Coordinators, and EIM Participating Resource Scheduling Coordinators may not submit Inter-SC Trades.

29.29 [Not Used]

29.30 Bid and Self-Schedule Submission for CAISO Markets.

- (a) **In General.** The provisions of Section 30 that are applicable to the Real-Time Market, as supplemented by Section 29.30, shall apply to EIM Market Participants.
- (b) **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 Charge reflected in the EIM Administrative Charge.
- (c) **EIM Available Balancing Capacity Energy Bid Curve for EIM Participating Resources.** For each Trading Hour, the CAISO will apply Energy Bids submitted for EIM Participating Resources, which may be subject to mitigation pursuant to Section 29.39, towards the EIM Available Balancing Capacity as provided in Section 29.30(e).
- (d) **EIM Available Balancing Capacity Bids Used for EIM Available Balancing Capacity Served by Non-Participating Resources.** The CAISO will create an Energy Bid Curve based on the Default Energy Bid established by the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator and the CAISO pursuant to Section 29.4(c)(4)(K) for all non-participating resources that the EIM Entity Scheduling Coordinator or EIM Sub-Entity Scheduling Coordinator may identify as EIM Available Balancing Capacity, and will apply such bids to the EIM Available Balancing Capacity as provided in Section 29.30(e).
- (e) **Treatment of Energy Bid Curves for EIM Available Balancing Capacity.** For each Trading Hour the CAISO will allocate the categories of the EIM Resource Plan specified in Section 29.34(e)(3)(C) and (D) as follows.
 - (1) **Upward Capacity.** For upward capacity above the EIM Base Schedule, the CAISO will –
 - (A) allocate the Spinning and Non-Spinning Reserves down from the upper

regulating limit as registered in the Master File, taking into account any PMax rerates; and then

(B) allocate EIM Upward Available Balancing Capacity to the Energy Bid Curve starting at the highest value of the Energy Bid Curve that does not overlap with Spinning or Non-Spinning Reserves.

(2) **Downward Capacity.** For downward capacity below the EIM Base Schedule, the CAISO will allocate EIM Downward Available Balancing Capacity to the Energy Bid Curve starting at its lowest value, taking into account any PMin rerates.

(3) **Remaining Capacity.** The CAISO will use any remaining portion of the Energy Bid Curve after the allocations in Section 29.30(e)(1) and 29.30(e)(2) for Dispatch under any condition, except that for non-participating resources the CAISO will adjust the EIM Upward Available Balancing Capacity and EIM Downward Available Balancing Capacity towards the EIM Base Schedule so that there will not be any remaining capacity for Dispatch.

29.31 Day-Ahead.

EIM Entity Scheduling Coordinators, [EIM Sub-Entity Scheduling Coordinators](#) and EIM Participating Resource Scheduling Coordinators may not submit Bids in the CAISO's Day-Ahead Market on behalf of EIM Market Participants that they represent in their capacity as an EIM Entity Scheduling Coordinator, [EIM Sub-Entity Scheduling Coordinator](#), or EIM Participating Resource Scheduling Coordinator.

29.32 Greenhouse Gas Regulation and EIM Bid Adders.

(a) **EIM Bid Adders.**

(1) **In General.** EIM Participating Resources will have an opportunity to recover costs of compliance with California Air Resources Board greenhouse gas regulations, which may include the cost of allowances, uncertainty on the final resource specific emission factor, and other costs of greenhouse gas regulation compliance.

(2) **EIM Bid Adder.**

- (A) **Bid Submission.** EIM Participating Resource Scheduling Coordinators for EIM Participating Resources located in an EIM Entity Balancing Authority Area outside of California may submit an EIM Bid Adder as a separate hourly Bid component to recover costs of compliance with California Air Resources Board greenhouse gas regulations, which must include a price and quantity and the price portion of which must be equal to or less than 110% of the EIM Participating Resource's greenhouse gas maximum compliance cost as determined in accordance with section 29.32(a)(3).
 - (B) **Default Treatment.** If an EIM Participating Resource located in an EIM Entity Balancing Authority Area outside of California does not submit an EIM Bid Adder, the CAISO will assume that the EIM Participating Resource will not be selected for delivery to the CAISO Balancing Authority Area.
- (3) **Determination of EIM Greenhouse Gas Maximum Cost.** Each day the CAISO will determine the greenhouse gas maximum compliance cost for each EIM Participating Resource located in an EIM Entity Balancing Authority Area outside of California as set forth in the EIM Business Practice Manual, based on:
- (A) the EIM Resource's highest incremental heat rate; the applicable Greenhouse Gas Allowance Price; and the EIM Participating Resource's emission rate, as set forth in the applicable U.S. Environmental Protection Agency publication and registered in the Master File; or
 - (B) a price determined in accordance with the negotiated rate option procedures in section 39.7.1.3.1; or,
 - (C) with respect to, and only with respect to, Bids at EIM External Interties, the carbon dioxide equivalent emission rate of the resource with the highest such rate in the WECC region and the applicable Greenhouse Gas Allowance Price index.

- (4) **EIM Bid Adder Price.** The price included in the EIM Bid Adder shall not be less than \$0/MWh and the sum of the price component of the EIM Bid Adder and the Energy cost portion of the Bid cannot exceed \$1000/MWh.
- (b) **Consideration of EIM Bid Adders in Market Clearing.**
- (1) **Dispatch of EIM Participating Resources with Nonzero Bid Adders.** The CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch shall take into account EIM Bid Adders in selecting Energy produced by EIM Participating Resources located in an EIM Entity Balancing Authority Area outside of California for import into the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California up to the associated MW quantity included in the EIM Bid Adder, but not when selecting EIM Participating Resources to serve Load outside of the combined area of the CAISO Balancing Authority Area and other EIM Entity Balancing Authority Areas within California.
- (2) **EIM Participating Resources EIM Bid Adder MW Quantity.** The CAISO's Real-Time Unit Commitment and Real-Time Dispatch will limit the maximum EIM Bid Adder MW quantity of an EIM Participating Resource to a value equal to the EIM Participating Resource's dispatchable Bid range between the EIM Participating Resource's Base Schedule and the EIM Participating Resource's effective upper economic Bid, considering any applicable derates and ancillary services capacity reservations, for the relevant Operating Hour.
- (3) **Dispatch of EIM Participating Resources Bid Adders of Zero.** The CAISO's Security Constrained Economic Dispatch in the Real-Time Unit Commitment and Real-Time Dispatch shall not dispatch EIM Participating Resources outside the CAISO Balancing Authority Area for delivery into the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California if the MW quantity included in the EIM Bid Adder is zero.
- (c) **Effect on Locational Marginal Price.** Using the methodology described in Appendix C,

the CAISO will include the Marginal Greenhouse Gas Cost as a negative component in the Locational Marginal Prices for EIM Entity Balancing Authority Areas not subject to a greenhouse compliance obligation under the regulations administered by the California Air Resources Board in addition to those specified in Appendix C and Section 27.

- (d) **Notice to EIM Participating Resource.** The CAISO will notify the EIM Participating Resource Scheduling Coordinator through the Dispatch Instruction of the megawatt quantity of any Energy of an EIM Participating Resource located in an EIM Entity Balancing Authority Area outside of California that is deemed to have been imported into the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California as a result of the Market Clearing of the Real-Time Market.
- (e) **Compensation.** The CAISO will allocate the Net Imbalance Energy Export optimally to EIM Participating Resource Scheduling Coordinators and will distribute Greenhouse Gas Emission Cost Revenues to EIM Participating Resources pursuant to that allocation.
- (f) **Reporting Requirements.** The CAISO will report to each EIM Participating Resource Scheduling Coordinator the portion of the FMM Energy Schedule and the portion of RTD Energy Dispatch that is associated with Energy deemed to have been imported to the CAISO Balancing Authority Area or other EIM Entity Balancing Authority Areas in California from all EIM Resources as part of the Real-Time Market results publication from each of its EIM Resources.

29.33 [Not Used]

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.
- (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.
- (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, for EIM Entities, and 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 Forecasts_s 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.** The CAISO Markets systems will validate the initial EIM Resource Plan by 1:00 p.m. on the day before the Operating Day, and within 15 minutes of the submission of EIM Base Schedules or adjustments to EIM Base Schedules, the CAISO will validate the EIM Resource Plan and notify the EIM Entity Scheduling Coordinator-
 - (1) if the EIM Resource Plan is not balanced;
 - (2) if the EIM Resource Plan provides insufficient Flexible Ramping Product capacity

to meet requirements determined pursuant to Section 29.34(m); and

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

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

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

(1) **Requirement.** The EIM Base Schedules for resources included in the EIM Resource Plan must balance the Demand Forecast for each EIM Entity Balancing Authority Area and the Uncertainty Requirement determined in accordance with Section 44.2.4, and for the CAISO Balancing Authority Area the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules, as applicable and as detailed in Business Practice Manuals, must balance the Demand Forecast and the Uncertainty Requirement determined in accordance with Section 44.2.4.

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

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

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

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

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

for the capacity test component of the resource sufficiency evaluation.

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

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

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

(m) **Flexible Ramping Sufficiency Determination.**

(1) **Review.**

- (A) **EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements, as adjusted pursuant to Sections 29.34(m)(2), (3), and (5).
- (B) **CAISO Balancing Authority Area.** The CAISO will review the Day-Ahead Schedules in the CAISO Balancing Authority Area and verify that it has sufficient Bids for Ramping capability to meet the CAISO Balancing Authority Area upward and downward Ramping requirements, as adjusted pursuant to Sections 29.34(m)(2), (3), (5), and (6).

(2) **Determination of EIM Diversity Benefit.** The CAISO will calculate separately

the upward and downward EIM diversity benefit as the difference between the sum of the upward and downward Uncertainty Requirements for all Balancing Authority Areas in the EIM Area, and the Uncertainty Requirement for the EIM Area.

- (3) **Effects of EIM Diversity Benefit.** For each Balancing Authority Area in the EIM Area, the CAISO will reduce the upward and downward Uncertainty Requirements by the Balancing Authority Area's pro rata share of the upward and downward EIM diversity benefit in the EIM Area as may be limited by –
 - (A) the available net import EIM Transfer capability into that Balancing Authority Area in the case of an upward Uncertainty Requirement; and
 - (B) the available net export EIM Transfer capability from that Balancing Authority Area in the case of a downward Uncertainty Requirement.
- (4) **Determination of Flexible Ramping Sufficiency Credit.** The CAISO will calculate for each Balancing Authority Area in the EIM Area, the upward flexible Ramping sufficiency credit as the outgoing EIM Transfer from that area and the downward flexible Ramping sufficiency credit as the incoming EIM transfer into that area.
- (5) **Effect of Flexible Ramping Sufficiency Credit.** The CAISO will reduce the upward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its upward flexible Ramping sufficiency credit, and will reduce the downward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its downward flexible Ramping sufficiency credit.
- (6) **Incremental Requirements.**
 - (i) **In General.** If the CAISO determines under the procedures set forth in the Business Practice Manual for the Energy Imbalance Market that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has historically high import or export schedule changes between T-40 and T-20, the CAISO will add to the EIM Entity's or the CAISO's

flexible capacity requirement an additional incremental requirement.

- (ii) **Additional Incremental Requirement.** On a monthly basis, according to procedures set forth in the Business Practice Manual for the Energy Imbalance Market, the CAISO will calculate for each EIM Entity Balancing Authority Area and the CAISO Balancing Authority Area histograms of the percentage of the difference between imports and exports scheduled at T-40 and the final imports at T-20 based on the E-Tags submitted at T-40 and T-20 and calculate additional incremental and decremental requirements for the capacity test component of the resource sufficiency evaluation.

- (n) **Effect of Resource Plan Insufficiency.**
 - (1) **Resource Plan Balance.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules as provided in Section 29.34(f)(1)(c), the EIM Resource Plan or the CAISO equivalent has insufficient supply as determined according to Section 29.34(l)-
 - (A) the CAISO will not include the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area in the Uncertainty Requirement of the EIM Area;
 - (B) the CAISO will hold the EIM Transfer limit into or from the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area, as specified in Section 29.34(n)(2), at the value for the last 15-minute interval.

 - (2) **Flexible Ramping Insufficiency.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules or the CAISO equivalent as provided in Section 29.34(f)(1)(c), the CAISO determines-
 - (i) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient upward Ramping capacity according to Section 29.34(m), the CAISO will take the actions described in Section

29.34(n)(1)(A) and (B) in the upward and into the EIM Entity BAA or CAISO BAA direction; and

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

- (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) **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 ~~load~~Demand ~~f~~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.

29.35 Market Validation and Price Correction

Market validation and price correction for the Energy Imbalance Market shall be governed by Section 35, except that, for a period not to exceed 90 days after an EIM Entity Implementation Date, the time allowed for the CAISO's correction of Real-Time Market prices shall be 10 Business Days.

29.36 [Not Used]

29.37 Rules of Conduct

All EIM Market Participants shall be subject to the provisions of Section 37 except for Section 37.2.

29.38 Market Monitoring

The CAISO Department of Market Monitoring shall provide market monitoring services for the participation of EIM Market Participants in the Real-Time Market, including –

- (a) monitoring markets administered by the CAISO for actual or potential ineffective market rules, market abuses, market power, violations of FERC or CAISO Market rules prohibiting provision of false information, or market manipulation;
- (b) coordinating with CAISO business units that review and monitor the performance and quality of the CAISO Markets;
- (c) providing recommendations about potential market design flaws or ineffective market rules to the CAISO and FERC; and
- (d) referring a matter to FERC if the Department of Market Monitoring determines there is sufficient credible evidence that a violation of FERC or CAISO Market rules has occurred.

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.

- (b) **Competitive Path Assessment.** The CAISO shall conduct the competitive path assessment to determine for each EIM Entity Balancing Authority Area whether a path is competitive or non-competitive, consistent with Section 39.7.2, except that –
- (1) 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 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 ~~for~~within each 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 EIM Participating Resources, except that the CAISO will use the Market Services Charge and System Operations Charge reflected in the EIM Administrative Charge.

29.40 [Not Used]

29.41 [Not Used]

29.42 [Not Used]

29.43 [Not Used]

29.44 Flexible Ramping Product

The CAISO will procure Flexible Ramping Product for the Energy Imbalance Market as set forth in Section 44, except that the CAISO will consider the EIM Base Schedules of non-participating resources as Self-Schedules for the calculation of Flexible Ramping Product requirements.

Appendix A

Master Definition Supplement

* * * * *

- EIM Base Schedule

An hourly forward Energy Schedule that does not take into account Dispatches from the Real-Time Market and is submitted by an EIM Entity Scheduling Coordinator, EIM Sub-Entity Scheduling Coordinator, or EIM Participating Resource Scheduling Coordinator for use in the Real-Time Market.

- EIM Downward Available Balancing Capacity

Any downward 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 constraint violations in the EIM Balancing Authority Area.

- EIM Manual Dispatch

A Dispatch by an EIM Entity or EIM Sub-Entity to an EIM Participating Resource or a non-participating resource for which ~~in it is~~ responsible ~~Balancing Authority Area~~, outside of Market Clearing of the Real-Time Market.

- EIM Market Participant

An EIM Entity, EIM Entity Scheduling Coordinator, EIM Sub-Entity, EIM Sub-Entity Scheduling Coordinator, EIM Participating Resource, or EIM Participating Resource Scheduling Coordinator.

- EIM Transmission Service Information

Information provided by an EIM Entity or EIM Sub-Entity to the CAISO about transmission capacity available for use in the Real-Time Market through the Energy Imbalance Market.

- EIM Transmission Service Provider

An EIM Entity, EIM Sub-Entity or third party that owns transmission or has transmission service rights on an EIM Intertie that makes transmission service available for use in the Real-Time Market through an EIM Entity.

- EIM Upward Availability 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.

* * * * *

- EIM Sub-Entity

An electric utility that meets the criteria in Section 29.2(c)(1) and that enters into an EIM Sub-Entity Agreement with the CAISO to enable the operation of the Real-Time Market in its service territory.

- EIM Sub-Entity Agreement

An agreement between an EIM Sub-Entity and the CAISO, a pro forma version of which is set forth in Appendix B.

- EIM Sub-Entity Implementation Agreement

An agreement between an electric utility seeking to become an EIM Sub-Entity and the CAISO, a pro forma version of which is set forth in Appendix B.

- EIM Sub-Entity Implementation Date

The first Trading Day when an electric utility becomes an EIM Sub-Entity.

- EIM Sub-Entity Scheduling Coordinator

The EIM Sub-Entity, or a third party designated by the EIM Sub-Entity, that is certified by the CAISO and that enters into an EIM Sub-Entity Scheduling Coordinator Agreement under which it is a Scheduling Coordinator and a Market Participant and is responsible for meeting the requirements in Section 29 on behalf of the EIM Sub-Entity.

- EIM Sub-Entity Scheduling Coordinator Agreement

An agreement between an EIM Sub-Entity Scheduling Coordinator and the CAISO, a pro forma version of which is set forth in Appendix B.

Appendix B.24

ENERGY IMBALANCE MARKET SUB-ENTITY
IMPLEMENTATION AGREEMENT

THIS ENERGY IMBALANCE MARKET SUB-ENTITY IMPLEMENTATION AGREEMENT ("Agreement") is established this _____ day of _____, and is accepted by and between:

(1) [Full legal name] having its registered and principal executive office at [address] ("Short Legal Name" or "Prospective EIM Sub-Entity"),

and

(2) California Independent System Operator Corporation, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, ("CAISO").

[Short Legal Name] and the CAISO each are hereinafter referred to as a "Party," or collectively as the "Parties."

RECITALS

- A. WHEREAS, [Short Legal Name], has requested to participate in the CAISO's Real-Time Market as an EIM Sub-Entity.
- B. WHEREAS, the Parties acknowledge that the rules and procedures governing participation in the CAISO's Real-Time Market as an EIM Sub-Entity are set forth in the provisions of the CAISO Tariff as filed with the Federal Energy Regulatory Commission ("FERC") and that implementation as an EIM Sub-Entity requires corresponding revisions to [Short Legal Name's] Open Access Transmission Tariff/retail distribution tariff and the execution of associated service agreements;
- C. WHEREAS, [Short Legal Name] meets the CAISO Tariff requirements for participation as an EIM Sub-Entity, including any EIM Entity Balancing Authority requirements necessary for the [Short Legal Name] to separately participate in the CAISO's Real-Time Market.
- D. WHEREAS, implementation of participation by [Short Legal Name] in the CAISO's Real-Time Market as an EIM Sub-Entity requires the CAISO to

incur costs to set up its business and software systems on behalf of [Short Legal Name].

E. **WHEREAS**, [Short Legal Name] has requested the CAISO to conduct or cause to be performed work to implement [Short Legal Name] as an EIM Sub-Entity into the CAISO systems and [Short Legal Name] will reimburse the CAISO for the actual costs incurred.

F. **WHEREAS**, the Parties are entering into this Agreement to set forth the terms upon which the CAISO will timely configure its systems to incorporate [Short Legal Name] as an EIM Sub-Entity on or before [date] ("EIM Sub-Entity Implementation Date").

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the Parties agree as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATION

1.1 Master Definitions Supplement. All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.

1.2 Rules of Interpretation. The following rules of interpretation and conventions shall apply to this Agreement:

- (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;
- (b) the singular shall include the plural and vice versa;
- (c) the masculine shall include the feminine and neutral and vice versa;
- (d) "includes" or "including" shall mean "including without limitation";
- (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
- (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;

- (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
- (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
- (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
- (j) any reference to a day, week, month or year is to a calendar day, week, month or year;
- (k) unless the context requires otherwise, “or” is used in the conjunctive sense; and
- (l) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

ARTICLE II

RESPONSIBILITIES OF EIM SUB-ENTITY AND CAISO

2.1 Scope of Responsibilities. The CAISO shall conduct or cause to be performed changes to the CAISO business and software systems, in accordance with the CAISO Tariff, to allow [Short Legal Name] to participate in the CAISO Real-Time Market as an EIM Sub-Entity. The scope of the implementation will include, but is not limited to, planning and project management; full network modeling of resources; system integration and testing; metering and settlements; and operations readiness and training. The CAISO shall also provide [Short Legal Name] a project plan of implementation activities, including a schedule by which information and data will be required to be sent to the CAISO; testing to be performed by [Short Legal Name]; and training to meet the EIM Sub-Entity Implementation Date.

2.2 Implementation Deposit and Cost Allocation. Consistent with Section 29.11(g) of the CAISO tariff, [Short Legal Name] will provide a deposit and pay the actual costs of the implementation, including any actual amounts in excess of the initial deposit. The CAISO will provide invoices and refunds on a timely

basis. Any difference between the deposit(s) made toward the implementation of [Short Legal Name] and associated administrative costs, and the actual cost of the implementation of [Short Legal Name] shall be paid by or refunded to [Short Legal Name], in accordance with Article V of this Agreement.

2.3 Technical Data. [Short Legal Name] will provide the CAISO technical data to facilitate the implementation in the Real-Time Market as an EIM Sub-Entity and assumptions used for the data, such as system conditions, existing and planned generation, and unit modeling. The CAISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by [Short Legal Name] as a result of implementation in the Real-Time Market as an EIM Sub-Entity.

2.4 Compliance with CAISO Tariff Requirements for an EIM Sub-Entity. Prior to the EIM Sub-Entity Implementation Date, [Short Legal Name] will satisfy all requirements of the CAISO Tariff applicable to an EIM Sub-Entity, including: (1) demonstrating that [Short Legal Name] satisfies all qualifications for participation as an EIM Sub-Entity; (2) showing that [Short Legal Name] has been authorized by the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located to participate as an EIM Sub-Entity; (3) entering into an EIM Sub-Entity Agreement with the CAISO governing [Short Legal Name's] participation in the Real-Time Market; and (4) securing representation by an EIM Sub-Entity Scheduling Coordinator.

ARTICLE III

TERM AND TERMINATION

3.1 Effective Date. This Agreement shall be effective as of the later of the date it is executed by the Parties or the date it is accepted for filing and made effective by FERC (if applicable) and shall remain in full force and effect until terminated pursuant to Section 3.2 of this Agreement.

3.2 Termination

3.2.1 Termination by CAISO. The CAISO may terminate this Agreement by giving written notice of termination pursuant to Section 29.1(d) of the CAISO Tariff or in the event that (i) [Short Legal Name] commits any material default under this Agreement or Section 29 of the CAISO Tariff that, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given [Short Legal Name] written notice of the default, unless the default is excused by reason of Uncontrollable Forces in accordance with Article IX of this Agreement, or (ii) the EIM Entity for the Balancing Authority Area in which [Short Legal Name] is located terminates participation in the EIM. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within sixty (60) days after issuance of the notice of default; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or thirty (30) days after the date of the CAISO's notice of default, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

3.2.2 Termination by [Short Legal Name]. In the event that [Short Legal Name] no longer wishes to participate in the CAISO's Real-Time Market as an EIM Sub-Entity pursuant to the CAISO Tariff, it may terminate this Agreement on giving the CAISO not less than (30) days written notice. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the request to file a notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within thirty (30) days of receipt of such request; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or upon the next production date of the Full-Network Model release following the thirty (30) days after the CAISO's receipt of [Short Legal Name]'s notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

3.3 No Termination Charge. With the exception of the implementation costs, the CAISO shall not levy an exit fee or other charge associated with CAISO systems, procedures, or other changes required by the termination of [Short Legal Name]'s participation in the Energy Imbalance Market as of the effective date of such notice, provided that [Short Legal Name] obligations incurred under this Agreement shall survive termination until satisfied.

ARTICLE IV

CAISO TARIFF

4.1 Agreement Subject to CAISO Tariff. This Agreement shall be subject to Section 29 of the CAISO Tariff and all other provisions of the CAISO Tariff applicable to an EIM Sub-Entity, which shall be deemed to be incorporated herein. [Short Legal Name] shall abide by, and shall perform, all of the obligations of EIM Sub-Entities under the CAISO Tariff.

ARTICLE V

COSTS AND ACCOUNTING

5.1 Costs. The CAISO shall maintain records and accounts of all costs incurred in performing the implementation of the EIM Sub-Entity in sufficient detail to allow verification of all costs incurred, including associated overheads.

5.2 Settlement of Deposit(s). The deposit provided in accordance with Section 2.2 of this Agreement shall be applied to the prudent costs of the CAISO in implementing [Short Legal Name] as an EIM Sub-Entity in the Real-Time Market. If the actual costs of the implementation of [Short Legal Name] are greater than the initial deposit provided by [Short Legal Name], the CAISO will invoice [Short Legal Name] for an additional deposit amount to cover expenses. Payment of 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.

At the end of the implementation, the CAISO will provide a report that details

deposit(s) received, actual costs incurred, and applicable interest earnings (on deposit balance) for each implementation project. Interest will be calculated at the end of the implementation project, from the time the deposit(s) was received until the implementation is completed. The calculation will be based on the average earning of the bank account, in which the deposit is held, on the remaining amount of the deposit. Any unused deposit remaining after the implementation is completed plus interest on the remaining deposit will be returned to [Short Legal Name] within ninety (90) calendar days after the implementation is completed; the CAISO and [Short Legal Name] approve the completion; and all required documents for the refund are received by the CAISO. All refunds will be processed following the CAISO's generally accepted accounting practices. Any deadline for CAISO action will be tolled to the extent [Short Legal Name] has not provided the CAISO with the appropriate documents to facilitate an eligible refund.

In the event this agreement is terminated by either party or both parties after [Short Legal Name]'s implementation has begun then the CAISO will make every attempt to halt work and related costs on the implementation as soon as practical and begin the refund process for any payments provided by [Short Legal Name] in excess of costs incurred by the CAISO, if applicable.

5.3 Audit. [Short Legal Name] shall have the right, upon reasonable notice, within a reasonable time at the CAISO's offices and at its own expense, to audit the CAISO's records as necessary and as appropriate in order to verify costs incurred by the CAISO. Any audit requested by [Short Legal Name] shall be completed, and written notice of any audit dispute provided to the CAISO representative, within one hundred eighty (180) calendar days following receipt by [Short Legal Name] of the CAISO's notification of the final costs of the implementation of [Short Legal Name].

ARTICLE VI

DISPUTE RESOLUTION

6.1 Dispute Resolution. The Parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the Parties shall adhere to the CAISO ADR Procedures set forth in Section 13 of the CAISO Tariff, which is incorporated by reference,

except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE VII

REPRESENTATIONS AND WARRANTIES

7.1 Representation and Warranties. Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.

7.2 Necessary Approvals. [Short Legal Name] represents that all necessary rights, leases, approvals, permits, licenses, easements, access to operate in compliance with this Agreement have been or will be obtained by [Short Legal Name] prior to the effective date of this Agreement, including any arrangement with the EIM Entity for the Balancing Authority Area in which [Short Legal Name] is located and any third party Balancing Authorities.

ARTICLE VIII

LIABILITY

8.1 Liability. The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE IX

UNCONTROLLABLE FORCES

9.1 Uncontrollable Forces Tariff Provisions. Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE X

MISCELLANEOUS

10.1 Assignments. Either Party may assign or transfer any or all of its rights or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights or obligations under this Agreement as if said successor in interest were an original Party to this Agreement.

10.2 Notices. Any notice, demand or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to [Short Legal Name] and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.

10.3 Waivers. Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver

with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

10.4 Governing Law and Forum. This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.

10.5 Consistency with Federal Laws and Regulations. This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.

10.6 Merger. This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.

10.7 Severability. If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

10.8 Amendments. This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing.

Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing contained herein shall be construed as affecting in any way the right of the CAISO to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the Federal Power Act ("FPA") and pursuant to FERC's rules and regulations promulgated thereunder, and [Short Legal Name] shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

10.9 Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date hereinabove written.

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

[NAME OF PROSPECTIVE EIM SUB-ENTITY]

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

NOTICES

[Section 10.2]

[Short Legal Name]

Name of Primary

Representative: _____

Title: _____

Company: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

Name of Alternative

Representative: _____

Title: _____

Company: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

CAISO

Name of Primary

Representative: Regulatory Contracts

Title: N/A

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: RegulatoryContracts@caiso.com

Phone: (916) 351-4400

Fax: (916) 608-5063

Name of Alternative

Representative: Christopher J. Sibley

Title: Manager, Regulatory Contracts

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: csibley@caiso.com

Phone: (916) 608-7030

Fax: (916) 608-5063

Appendix B.25

EIM SUB-ENTITY AGREEMENT

THIS ENERGY IMBALANCE MARKET SUB-ENTITY AGREEMENT (“AGREEMENT”) is established this _____ day of _____, _____, and is accepted by and between:

- (1) [Full legal name] (“EIM Sub-Entity”), having its registered and principal executive office at [address],
and
- (2) California Independent System Operator Corporation (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate.

The EIM Sub-Entity and the CAISO are hereinafter referred to as the “Parties.”

Whereas:

- A. The EIM Sub-Entity is an electric utility located in an EIM Entity Balancing Authority Area that has been authorized by the EIM Entity for the Balancing Authority Area in which it is located to participate in the CAISO’s Real-Time Market as an EIM Sub-Entity.
- B. The CAISO operates the Real-Time Market pursuant to the CAISO Tariff.
- C. The Parties are entering into this Agreement to enable the EIM Sub-Entity to participate in the CAISO’s Real-Time Market.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, THE PARTIES AGREE as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATION

- 1.1 Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.
- 1.2 Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Agreement:
- (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;
 - (b) the singular shall include the plural and vice versa;
 - (c) the masculine shall include the feminine and neutral and vice versa;
 - (d) “includes” or “including” shall mean “including without limitation”;
 - (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
 - (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
 - (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
 - (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
 - (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
 - (j) any reference to a day, week, month or year is to a calendar day, week, month or year;
 - (k) unless the context requires otherwise, “or” is used in the conjunctive sense; and

(l) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

ARTICLE II

RESPONSIBILITIES OF EIM SUB-ENTITY AND CAISO

- 2.1 Scope of Responsibilities.** The Parties are individually responsible for compliance with the Reliability Standards established by the Western Electricity Coordinating Council (“WECC”) and the North American Electric Reliability Corporation (“NERC”), and in accordance with their respective tariffs on file with the Federal Energy Regulatory Commission (“FERC”), if applicable. Nothing in this Agreement is intended to change, supersede, or alter either Party's obligations to abide by NERC and WECC Reliability Standards or to provide open and non-discriminatory transmission access in accordance with the terms of their respective FERC tariffs, if applicable.
- 2.2 Tariff Provisions.** The CAISO shall provide open access to the Real-Time Market in accordance with the terms of the CAISO Tariff. The EIM Sub-Entity shall have in effect provisions in its OATT to enable operation of the Real-Time Market in accordance with the CAISO Tariff, if applicable.
- 2.3 EIM Sub-Entity Scheduling Coordinator.** The EIM Sub-Entity shall be represented by an EIM Sub-Entity Scheduling Coordinator, which may be the EIM Sub-Entity or another entity certified by the CAISO to perform the functions of an EIM Sub-Entity Scheduling Coordinator.
- 2.4 EIM Transmission Service and Resource Information.** The EIM Sub-Entity may, if authorized by the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located, provide information to the CAISO for Energy Imbalance Market purposes regarding the network topology of its facilities within the EIM Entity Balancing Authority Area, non-participating resources, and loads in accordance with the CAISO Tariff and the Business Practice Manual for the Energy Imbalance Market. The EIM Sub-Entity will be responsible for the accuracy and completeness of this information.
- 2.5 EIM Transmission Availability.** The EIM Sub-Entity shall make available for use in the Real-Time Market transmission capacity on its system that is not otherwise encumbered, reserved, scheduled, or being used by its transmission customers or by others. The EIM Sub-Entity shall provide the CAISO with real time information regarding the availability of transmission capacity for use in the Energy Imbalance Market as authorized by the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located and provided in the CAISO Tariff and Business Practice Manual for the Energy Imbalance Market.

ARTICLE III

TERM AND TERMINATION

3.1 Effective Date. This Agreement shall be effective as of the later of the date it is executed by the Parties or the date it is accepted for filing and made effective by FERC and shall remain in full force and effect until terminated pursuant to Section 3.2 of this Agreement.

3.2 Termination

3.2.1 Termination by CAISO. The CAISO may terminate this Agreement by giving written notice of termination pursuant to Section 29.1(d) of the CAISO Tariff or in the event that (i) the EIM Sub-Entity commits any material default under this Agreement or Section 29 of the CAISO Tariff that, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given the EIM Sub-Entity written notice of the default, unless the default is excused by reason of Uncontrollable Forces in accordance with Article IX of this Agreement, or (ii) the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located terminates participation in the EIM. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within sixty (60) days after issuance of the notice of default; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or thirty (30) days after the date of the CAISO's notice of default, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

3.2.2 Termination by EIM Sub-Entity. In the event that the EIM Sub-Entity no longer wishes to separately account for its non-participating resources and loads pursuant to the CAISO Tariff, it may terminate this Agreement on giving the CAISO not less than one-hundred and eighty (180) days written notice. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if (1) the request to file a notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within thirty (30) days of receipt of such request; or (2) the CAISO files the notice of termination in accordance with the requirements of

FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination or upon the next production date of the Full-Network Model release following the one-hundred and eighty (180) days after the CAISO's receipt of the EIM Sub-Entity's notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

3.3 No Termination Charge. The CAISO shall not levy an exit fee or other charge associated with CAISO systems, procedures, or other changes required by the termination of the EIM Sub-Entity's participation in the Energy Imbalance Market as of the effective date of such notice, provided that EIM Sub-Entity obligations incurred under this Agreement prior to the effective date of such notice shall survive termination until satisfied.

ARTICLE IV

CAISO TARIFF

4.1 Agreement Subject to CAISO Tariff. This Agreement shall be subject to Section 29 of the CAISO Tariff, which shall be deemed to be incorporated herein. The EIM Sub-Entity shall abide by, and shall perform, all of the obligations of EIM Sub-Entities under the CAISO Tariff.

ARTICLE V

COSTS

5.1 Operating and Maintenance Costs. The EIM Sub-Entity shall be responsible for all its costs incurred in connection with meeting its obligations under this Agreement.

ARTICLE VI

DISPUTE RESOLUTION

6.1 Dispute Resolution. The Parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the Parties shall adhere to the CAISO ADR Procedures set forth in Section 13 of the CAISO Tariff, which is incorporated by reference, except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE VII

REPRESENTATIONS AND WARRANTIES

7.1 Representation and Warranties. Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.

7.2 Necessary Approvals. The EIM Sub-Entity represents that all necessary rights, leases, approvals, permits, licenses, easements, access to operate in compliance with this Agreement have been or will be obtained by the EIM Sub-Entity prior to the effective date of this Agreement, including any arrangement with the EIM Entity for the Balancing Authority Area in which the EIM Sub-Entity is located and any third party Balancing Authorities.

ARTICLE VIII

LIABILITY

8.1 Liability. The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE IX

UNCONTROLLABLE FORCES

9.1 Uncontrollable Forces Tariff Provisions. Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE X

MISCELLANEOUS

10.1 Assignments. Either Party may assign or transfer any or all of its rights or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights or obligations under this Agreement as if said successor in interest were an original Party to this Agreement.

10.2 Notices. Any notice, demand or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.

10.3 Waivers. Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

10.4 Governing Law and Forum. This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.

10.5 Consistency with Federal Laws and Regulations. This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.

10.6 Merger. This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.

10.7 Severability. If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination

unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

10.8 Amendments. This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing contained herein shall be construed as affecting in any way the right of the CAISO to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the FPA and pursuant to FERC's rules and regulations promulgated thereunder, and the EIM Sub-Entity shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

10.9 Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date hereinabove written.

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

[NAME OF EIM SUB-ENTITY]

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

NOTICES

[Section 10.2]

EIM Sub-Entity

Name of Primary

Representative: _____

Title: _____

Company: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

Name of Alternative

Representative: _____

Title: _____

Company: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

CAISO

Name of Primary

Representative: Regulatory Contracts

Title: N/A

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: RegulatoryContracts@caiso.com

Phone: (916) 351-4400

Fax: (916) 608-5063

Name of Alternative

Representative: Christopher J. Sibley

Title: Manager, Regulatory Contracts

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: csibley@caiso.com

Phone: (916) 608-7030

Fax: (916) 608-5063

Appendix B.26

ENERGY IMBALANCE MARKET SUB-ENTITY
SCHEDULING COORDINATOR AGREEMENT

THIS ENERGY IMBALANCE MARKET SUB-ENTITY SCHEDULING COORDINATOR AGREEMENT (“AGREEMENT”) is established this _____ day of _____, _____, and is accepted by and between:

- (1) [Full legal name] having its registered and principal executive office at [address] (“EIM Sub-Entity Scheduling Coordinator”),
and
- (2) CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate (the “CAISO”).

The EIM Sub-Entity Scheduling Coordinator and the CAISO are hereinafter referred to as the “Parties.”

Whereas:

- A. The EIM Sub-Entity Scheduling Coordinator has applied for certification or has been certified by the CAISO under the certification procedure referred to in Section 29 of the CAISO Tariff.
- B. The EIM Sub-Entity Scheduling Coordinator wishes to represent an EIM Sub-Entity under the terms and conditions set forth in Section 29 of the CAISO Tariff.

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretation.

- 1.1 Master Definitions Supplement. All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.
- 1.2 Rules of Interpretation. The following rules of interpretation and conventions shall apply to this Agreement:
- (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;

- (b) the singular shall include the plural and vice versa;
- (c) the masculine shall include the feminine and neutral and vice versa;
- (d) “includes” or “including” shall mean “including without limitation”;
- (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
- (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
- (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
- (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
- (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
- (j) any reference to a day, week, month or year is to a calendar day, week, month or year;
- (k) unless the context requires otherwise, “or” is used in the conjunctive sense; and
- (l) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

2. Covenant of the EIM Sub-Entity Scheduling Coordinator.

2.1 The EIM Sub-Entity Scheduling Coordinator agrees that:

2.1.1 CAISO Tariff Section 29 governs all aspects of Energy Imbalance Market information submission, including the financial and technical criteria for EIM Sub-Entity Scheduling Coordinator EIM Base Schedule submissions, Settlement, information reporting requirements, and confidentiality restrictions;

2.1.2 It will abide by and will perform all of the obligations under Section 29 of the CAISO Tariff placed on EIM Sub-Entity Scheduling Coordinators in respect of all matters set forth therein, including ongoing obligations in respect of scheduling, Settlement, system security policy and procedures to be developed by the CAISO from time to time, billing and payments, confidentiality and dispute resolution;

2.1.3 It shall ensure that each EIM Sub-Entity that it represents enters into an EIM Sub-Entity Agreement in accordance with Section 29 of the CAISO Tariff;

2.1.4 It shall have the primary responsibility to the CAISO, as principal, for all EIM Sub-Entity Scheduling Coordinator payment obligations under Section 29 of the CAISO Tariff; and

2.1.5 Its status as an EIM Sub-Entity Scheduling Coordinator is at all times subject to Section 29 of the CAISO Tariff.

3. Term and Termination.

3.1 This Agreement shall commence on the later of (a) the date of execution of this Agreement or (b) the date the EIM Sub-Entity Scheduling Coordinator is certified by the CAISO as an EIM Sub-Entity Scheduling Coordinator.

3.2 This Agreement may be terminated in accordance with the provisions of Section 4.5.4.4 and 4.5.4.5 of the CAISO Tariff; provided, however, that any outstanding financial right or obligation or any other right or obligation under the CAISO Tariff of the EIM Sub-Entity Scheduling Coordinator that may have arisen under this Agreement, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive such termination until satisfied. The CAISO shall timely file any notice of termination with FERC, if this Agreement has been filed with FERC, or must otherwise comply with the requirements of FERC rules regarding termination.

4. Settlement Account.

4.1 The EIM Sub-Entity Scheduling Coordinator shall maintain at all times an account with a bank capable of Fedwire transfer and, at its option, may also maintain an account capable of ACH transfers, to which credits or debits that arise under Section 29 of the CAISO Tariff shall be made in accordance with the billing and Settlement provisions of Section 11 of the CAISO Tariff. Such account shall be the account as notified by the EIM Sub-Entity Scheduling Coordinator to the CAISO from time to time by giving at least 20 days written notice before the new account becomes operational, together with all information necessary for the CAISO's processing of a change in that account.

5. Agreement to be bound by CAISO Tariff.

5.1 Section 29 of the CAISO Tariff is incorporated herein and made a part hereof. In the event of a conflict between the terms and conditions of this Agreement and any other terms and conditions set forth in the CAISO Tariff that may apply to EIM Sub-Entity Scheduling Coordinators, the terms and conditions of the CAISO Tariff shall prevail.

6. Electronic Contracting.

6.1 All submitted information, applications, schedules, Bids, confirmations, changes to information on file with the CAISO and other communications conducted via electronic transfer (e.g. direct computer link, FTP file transfer, bulletin board, e-mail, facsimile or any other means established by the CAISO) shall have the same legal rights, responsibilities, obligations and other implications as set forth in the terms and conditions of Section 29 of the CAISO Tariff as if executed in written format.

7. Penalties and Sanctions.

7.1 The EIM Sub-Entity Scheduling Coordinator shall be subject to all penalties made applicable to EIM Sub-Entity Scheduling Coordinators set forth in Section 29 of the CAISO Tariff.

8. Costs.

8.1 The EIM Sub-Entity Scheduling Coordinator shall be responsible for all its costs incurred for the purpose of meeting its obligations under this Agreement.

9. Dispute Resolution.

9.1 The Parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the Parties shall adhere to the CAISO ADR Procedures set forth in Section 13 of the CAISO Tariff, which is incorporated by reference, except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement.

10. Representation and Warranties.

10.1 Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.

11. Liability.

11.1 The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement.

12. Uncontrollable Forces.

12.1 Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement.

13. Miscellaneous.

13.1 Assignments. Either Party may assign or transfer any or all of its rights and/or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights and/or obligations under this Agreement as if said successor in interest was an original Party to this Agreement.

13.2 Notices. Any notice, demand or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to the EIM Sub-Entity Scheduling Coordinator and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.

13.3 Waivers. Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

13.4 Governing Law and Forum. This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply, shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.

13.5 Consistency with Federal Laws and Regulations. This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.

13.6 Merger. This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.

13.7 Severability. If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

13.8 Amendments. This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing contained herein shall be construed as affecting in any way the right of the CAISO to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the FPA and pursuant to FERC's rules and regulations promulgated thereunder, and the EIM Sub-Entity Scheduling Coordinator shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the

FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

13.9 Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

[NAME OF EIM SUB-ENTITY SCHEDULING COORDINATOR]

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

NOTICES

[Section 13.2]

EIM Sub-Entity Scheduling Coordinator

Name of Primary

Representative: _____

Title: _____

Company: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

Name of Alternative

Representative: _____

Title: _____

Company: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

CAISO

Name of Primary

Representative: Regulatory Contracts

Title: N/A

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: RegulatoryContracts@caiso.com

Phone: (916) 351-4400

Fax: (916) 608-5063

Name of Alternative

Representative: Christopher J. Sibley

Title: Manager, Regulatory Contracts

Address: 250 Outcropping Way

City/State/Zip Code: Folsom, CA 95630

Email address: csibley@caiso.com

Phone: (916) 608-7030

Fax: (916) 608-5063

Attachment C – Western EIM Governing Board and Board of Governors Memo
EIM Sub-Entity and Sub-Entity Scheduling Coordinator Roles
California Independent System Operator Corporation
January 21, 2022

Memorandum

To: Energy Imbalance Market Governing Body

From: Anna McKenna, Vice President, Market Policy and Performance

Date: September 1, 2021

Re: Decision on Western EIM Sub-Entity Scheduling Coordinator Role

This memorandum requires EIM Governing Body action.

EXECUTIVE SUMMARY

Management proposes a new category of western energy imbalance market (EIM) market participant, the “EIM sub-entity.” The proposal allows utilities located within a balancing authority area controlled by a separate EIM entity to financially settle load and non-participating resource imbalance energy directly with the ISO instead of with the EIM entity. EIM sub-entities will also submit base schedules directly to the ISO, and subject to each EIM entity’s rules, potentially submit forecast, outage, and network model information directly to the ISO. Management’s proposal establishes a new EIM sub-entity scheduling coordinator relationship through contractual and tariff provisions that separate the EIM sub-entity functions from the EIM entity functions.

In addition to being applicable throughout the EIM, the EIM sub-entity category is an important provision for implementing the Public Service of Colorado (PSCo) balancing authority area into the EIM. The proposal allows PSCo to preserve the existing commercial arrangements that most of the various utilities in its balancing authority area operate under.

Management’s proposed changes fall under the EIM Governing Body’s primary approval authority. The new EIM sub-entity participation category will only be available to entities operating in balancing authority areas outside of the ISO.

Management proposes the following motion:

Moved, that the EIM Governing Body approves the proposal to create the EIM sub-entity market participation category as described in the memorandum dated September 1, 2021

Moved, that the EIM Governing Body authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal described in the memorandum, including any filings that implement the overarching initiative policy but

contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.

BACKGROUND

Under the current EIM rules, the ISO financially settles load imbalance energy at the balancing authority area level. This settlement is with the EIM entity, which operates the balancing authority area participating in the EIM. Utility loads in the balancing authority area are settled with the EIM entity under its open access transmission tariff.

As part of the EIM implementation agreement with PSCo, the ISO committed to a stakeholder process to develop a new category of EIM market participant to enable utilities within a balancing authority area operated by another entity to directly settle load and non-participating supply resource energy imbalances with the ISO. The intent was to develop an EIM load imbalance settlement mechanism through a stakeholder process consistent with the settlement arrangements that exist for utilities in the PSCo balancing authority area under existing agreements. This proposal is the result of that stakeholder process.

PROPOSAL

Management proposes to establish a new category of EIM market participant, the EIM sub-entity that will financially settle load and non-participating resource imbalances directly with the ISO. Current market rules allow market participants that are not EIM entities to directly settle participating resources' imbalances with the ISO. Subject to each EIM entity's rules, Management also proposes that EIM sub-entities be allowed to elect to submit forecast, outage, and network model information directly to the ISO.

Load Settlement

To settle load imbalances directly with the ISO, Management proposes to define a load zone for each EIM sub-entity. The EIM sub-entities would then submit base schedules for this load directly to the ISO. Base schedules are the load and supply schedules that reflect EIM participants' planned operation and are used as the baseline against which imbalance energy is settled in the EIM.

The ISO will model each sub entity's load in the market as a customized distributed load aggregation point. This will enable the ISO to use existing practices to settle directly with the sub-entity. The direct imbalance energy settlement will enable EIM sub-entities to settle load imbalance energy at ISO real-time market prices reflective of conditions in the area in which the load is served. Under the current EIM rules, third party utilities' load imbalances are settled at prices specified in the open access transmission tariff for the balancing authority area in which the third party is located. These prices are generally different than and less granular than ISO real-time market prices.

Settling imbalance energy at ISO real-time market prices rather than at the prices specified in an EIM entity's open access transmission tariff is intended to provide consistent treatment for load serving utilities located in balancing authority areas that operate under existing commercial arrangements outside of an open access transmission tariff. These utilities currently purchase energy in the bilateral energy market and usually do not purchase it from the EIM entity.

Management proposes that other financial settlement categories besides imbalance energy that are currently calculated and settled at an EIM entity level will generally continue to be allocated to EIM entities. These generally include cost and revenue allocations such as bid cost recovery costs and neutrality allocations. EIM entities will continue to allocate these amounts pursuant to their open access transmission tariffs or other existing agreements.

Other EIM Sub-Entity Responsibilities

In addition to direct imbalance energy settlement and base schedule submission, Management proposes that an EIM sub-entity will be eligible to fulfill certain other roles. However, because these roles may affect balancing authority area operation, which remains the responsibility of the applicable EIM entity, Management proposes that an EIM sub-entity can only take on these roles if doing so is approved by the EIM entity operating the balancing authority area in which the sub-entity is located. This EIM entity approval is appropriate so that EIM entities can consider their balancing authority area's specific operational circumstances. These potential additional roles for an EIM sub-entity include:

- Selection of the variable energy resource and load forecast provider that will develop the EIM sub-entity's forecasts used by the ISO market (the load forecaster provider can be either the ISO or another entity);
- Development of the network model for the EIM sub-entity's system used by the ISO market;
- Submission of generation and transmission outages to the ISO; and
- Manual dispatch instructions issued to the EIM entity's resources.

Management proposes that the EIM resource sufficiency evaluation capacity and flexible ramping tests, which ensures balancing authority areas participating in the EIM participate with sufficient resources, will continue to be conducted at the balancing authority area level. However, Management proposes to allocate any penalties at the EIM sub-entity level if the test is failed at the balancing authority area level. The balancing test is intended to penalize intentional over or under scheduling load and resources to profit from imbalance energy settlement at different locational prices.

Functions and responsibilities that are part of balancing authority area operation remain under the purview of the EIM entity that operates each balancing authority area. Consequently, Management proposes EIM entities will have the ability to modify base

schedules submitted by EIM sub-entities located in their balancing authority area to ensure they accurately reflect the balancing authority area's operational plans and forecasts. This will enable EIM entities to continue to perform their supply and demand balancing function. This is also appropriate as these schedules affect the results of the resource sufficiency evaluation capacity and flexible ramping tests. Failure of these tests results in the ISO real-time market limiting energy transfers into or out of an entire EIM balancing authority area.

Management proposes to charge EIM sub-entities the costs associated with establishing them as a sub-entity. The charge would be the actual costs the ISO incurs to establish and configure each sub-entity based on an established rate. However, because the PSCo EIM implementation agreement contemplated establishing EIM sub-entities, which the ISO is completing as part of onboarding the PSCo balancing authority area into the EIM, parties within the PSCo balancing authority area will not be charged separately for being set-up as an EIM sub-entity as part of the PSCo onboarding effort.

Finally, Management proposes that an EIM sub-entity qualify as or secure representation of a scheduling coordinator and enter into the associated service agreements to facilitate market interaction.

Eligibility for sub-entity participation

Management proposes eligibility criteria for EIM sub-entities to limit it to larger utilities that operate a distribution system or transmission system and serve load. The criteria ensure that sub-entities have resources to serve their load and a well-defined service territory bounded by distribution-transmission interfaces. A well-defined distribution-transmission interface is required to accurately define an EIM sub-entity's load which facilitates accurate forecasting, modeling, and scheduling.

The criteria are also intended to tend to limit the number of sub-entities. An excessive number of sub-entities has the potential to impose a large administrative burden on the ISO to implement without corresponding benefits. The criteria narrow eligibility for the EIM sub-entity role to electric utilities embedded within an EIM entity's balancing authority area that, due to their relationship with their EIM entity, would be likely to utilize the EIM for the procurement of imbalance energy.

Specifically, Management proposes that the EIM sub-entity role will be limited to entities that meet the following criteria:

- Are an electric utility embedded within an EIM entity balancing authority area that do not receive long-term wholesale full requirements services from the EIM Entity;
- Own a distribution system or transmission facilities directly connected to the transmission system of the EIM entity for the purpose of (a) providing regulated

- electric service to eligible retail or wholesale customers, or (b) serving eligible customers in its capacity as a local publicly owned electric utility; and
- Own or control one or more resources for the primary purpose of serving its eligible customers.

In addition to these criteria, establishment as an EIM sub-entity is subject to the approval of the EIM entity that operates the balancing authority area in which the potential sub-entity is located. Such approval may be based on existing and accepted contractual or tariff-based practices for imbalance energy accounting within its balancing authority area that distinguishes among its transmission service customers in a manner that includes sub-entity like characteristics. An example of such an agreement could be a utility operating within a balancing authority area with grandfathered transmission service agreements that differ from standard transmission service offered under an EIM entity's open access transmission tariff. It is appropriate for an EIM entity to possess the authority to determine EIM sub-entity eligibility as it needs to ensure sub-entity participation is consistent with its balancing authority area's operational and business practices.

STAKEHOLDER POSITIONS

In general, stakeholders strongly support Management's proposals. The policy reflects stakeholder input received during the policy development process in a number of areas. The proposal clearly defines the eligibility to become an EIM sub-entity based on suggestions offered by stakeholders to address concerns about a proliferation of the new EIM sub-entity role, and its potential to create significant operational and financial burdens for EIM entities.

Management also proposed new functionality to ensure EIM entities' ability to function as a balancing authority is not compromised. An example of this is the proposal to allow EIM entities to review and modify an EIM sub-entity's base schedules to enable them to continue to perform their supply and demand balancing function.

Some stakeholders expressed concern regarding the proposal's omission of rules governing how intra-balancing authority area transfers will be accounted for and settled. After careful consideration, Management intentionally did not address intra-balancing authority area transfers as it is outside of the scope of this initiative; the ISO as a practice does not model intra-balancing authority area transfers.

CONCLUSION

Management requests the EIM Governing Body approve the proposed EIM sub-entity market participant role described in this memorandum. The proposal provides a new EIM participation category that will help to maintain the commercial arrangements of utilities embedded within a balancing authority area operated by another entity.

Attachment D – Final Proposal

EIM Sub-Entity and Sub-Entity Scheduling Coordinator Roles

California Independent System Operator Corporation

January 21, 2022



California ISO

Western EIM Sub-Entity Scheduling
Coordinator Role
Final Proposal

May 18, 2021

Prepared by: Danny Johnson and James Lynn

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Executive Summary

The CAISO is proposing to create a new EIM sub-entity scheduling coordinator (SESC) role that would allow for multiple scheduling coordinators within a single EIM entity balancing authority area (BAA) to schedule and financially settle non-participating loads and resources directly in the EIM. The current EIM rules require these non-participating loads and resources to be scheduled and settled through the EIM entity representing the BAA. This initiative seeks to create a direct relationship between these scheduling coordinators and the CAISO, allowing for more diverse and expanded participation within the EIM.

There are several entities embedded within a future EIM entity BAA that expressed interest in representing their own loads and non-participating resources within the EIM. This necessitates the creation of a new role within the EIM that allows for a relationship between these EIM sub-entities and the EIM entity responsible for the balancing authority area in which they reside within, as well as with the CAISO.

The EIM sub-entity scheduling coordinator would be responsible for scheduling and settling supply and load that would otherwise be the responsibility of their EIM entity scheduling coordinator. The EIM sub-entity scheduling coordinator would be responsible for submitting base schedules to the CAISO. Settlements and invoicing associated with loads and resources would be performed at the EIM entity and the EIM sub-entity scheduling coordinator level, depending on the scheduling coordinator responsible.

Stakeholder Comments and changes to the proposal

The CAISO appreciates the comments received from stakeholders on this initiative.

A number of stakeholders requested additional clarification on how intra-balancing authority area transfers would be accounted for, specifically how they would be settled with regard to potential over/under scheduling charges. The CAISO reiterates that it is not addressing this topic as it is outside the scope of this initiative. As a practice, CAISO only models intertie transfers between balancing authority areas. All settlement implications for intra-balancing authority area transactions should be resolved as part of the decision by an EIM entity to enable sub-entity participation, and the eligible entity's pursuit of EIM sub-entity participation. The CAISO does not propose enhancements that specifically account for intra-balancing authority area transfers beyond the functionality currently available to EIM market participants, or functionality that may otherwise be useful and made available as part of the sub-entity proposal.

Stakeholders expressed concern regarding the proposed ability for an EIM sub-entity to retain operational control and manually dispatch a resource for which it serves as the scheduling coordinator. The CAISO acknowledges that manual dispatch by an EIM sub-entity has the potential to impact the balancing function being performed by the EIM

entity and should be utilized for operational purposes. Given this potential impact, the CAISO is proposing to make revisions to only allow manual dispatch of a resource by an EIM sub-entity following prior agreement from the EIM entity. This agreement between the EIM entity and EIM sub-entity should be reached during the discussions for a potential sub-entity to pursue this functionality. The CAISO expects the primary reason this type of functionality would be pursued is participation by an EIM sub-entity in a reserve sharing group or similar operational obligation.

A stakeholder raised a concern that an EIM sub-entity submitting their own network model could lead to coordination and reliability issues. The CAISO would like to reiterate that this functionality is only permitted at the discretion of the EIM entity. Additionally, the CAISO would like to highlight that network model submission performed by an EIM sub-entity has to be coordinated with the CAISO as well as the EIM entity. In this way, the CAISO believes management of the network model may be improved through a more accurate and timely representation of the network topology.

Multiple stakeholders brought up a concern regarding how load would be settled should a potential EIM sub-entity have load spread within the service territories of other sub-entities. To avoid this condition, the CAISO in its eligibility criteria notes that a sub-entity “own a distribution system or transmission facilities directly connected to the transmission system of the EIM entity.” This criteria is designed to ensure the CAISO is able to accurately model an EIM sub-entity. To the extent that the model submitted by a potential EIM sub-entity allows the CAISO to accurately model the sub-entity’s load, settlement will be able to be performed directly with that sub-entity. Should this load be unable to be modeled, then the EIM sub-entity role may not be an appropriate means of participation in the CAISO real-time market for the entity in question. Alternatively, specific load serving obligations could be accounted for between the EIM entity and EIM sub-entity or among sub-entities outside of the EIM. It is unreasonable to expect that the EIM account for load serving obligations among entities unless they can be included in the network model and accounted for accordingly.

Stakeholders offered differing feedback on the granularity of settlement as well as the application of the resource sufficiency test. A stakeholder requested the CAISO consider continuing to assess the over/under scheduling test at the balancing authority level, but allocate costs related to a test failure to the EIM entity for sub-allocation per the EIM entity’s OATT. During the EIM foundational initiative work, metered demand was determined as the most appropriate variable for appropriating over/under scheduling funds. Under the EIM sub-entity paradigm, these funds will still be determined based on metered demand but will use the CLAP price native to each sub-entity. Summing these charges back to an EIM entity level for re-distribution per the entity’s OATT is inconsistent with cost causation principles and the foundational EIM design. Another stakeholder requested all elements of the resource sufficiency evaluation be performed at the EIM sub-entity level. On this point, the CAISO reiterates that the purpose of the resource sufficiency evaluation is to ensure each EIM entity balancing authority area can adequately balance their own net supply and demand prior

to engaging in transfers with other balancing authority areas; the EIM sub-entity functionality does not change this purpose.

The proposal is being updated to reflect that the submission of transmission outages can be performed by either the EIM entity, an EIM sub-entity that is also a transmission operator, or a transmission operator who resides within the EIM entity's control area. This optionality will be at the discretion of the EIM entity.

The CAISO clarifies in its final proposal that when EIM sub-entities are granted permission by the EIM entity, and are registered as transmission operators, they will have the ability to utilize the real-time market to preform congestion management.

The CAISO clarifies in its final proposal that an EIM sub-entity possesses the ability to include available balancing capacity (ABC) within the supply base schedules they submit. The ability for an EIM sub-entity to include ABC reduces the potential for price volatility due to the submission of infeasible base schedules within a balancing authority area. This will also help ensure accurate settlement of ancillary services and regulation energy within the base schedule. The CAISO expects the primary reason this functionality would be utilized would be to account for EIM sub-entity operational obligations within the EIM entity balancing authority area.

Scope of this proposal

This initiative is in response to the EIM implementation agreement between CAISO and PSCo.¹ In that agreement, the CAISO committed to pursuing in a stakeholder process, a new EIM role that will allow separate scheduling and settlement for entities within an EIM entity balancing authority area. The proposal details the delegation of authority and responsibilities between EIM entity scheduling coordinators and this new role.

Background

EIM Entity Responsibilities

Currently, EIM entities are responsible for the scheduling, bidding and settling of all loads, interchange transactions and non-participating resources within their balancing authority area. Each EIM entity, through its EIM scheduling coordinator, is responsible for all EIM area generation via the submission of generation base schedules for non-participating resources as well base schedules for participating resources. Each EIM entity is responsible for its area demand forecast should it choose not to use the

¹ Letter Order dated July 29, 2020 in FERC Docket No. ER20-1937 (accepting the EIM Implementation Agreement with the Public Service Company of Colorado, including principles for replacement of the Joint Dispatch Agreement).

forecast provided by the CAISO. The EIM entity scheduling coordinator is also responsible for the submission of base schedules for the base scheduling energy transfer system resource (ETSR). The resource sufficiency evaluation (RSE), which is used to validate that an EIM entity balancing authority area is able to meet its own capacity and flexible ramping requirements are also performed at a balancing authority area level. The ability to access EIM transfers is predicated on the EIM entity's ability to pass the RSE².

Under the current market paradigm, the CAISO market settles the energy differences between resource meter and the resource base schedule of participating resources, flexible ramp movement, bid cost recovery payments, flexible ramp uncertainty award and allocation, and relevant grid management charges with the participating resource scheduling coordinator(s) (PRSC). The participating resource scheduling coordinator receives daily/monthly statements as well as weekly invoices associated with the participating resources' charges and payments.

For non-participating resources, the ISO settles the energy difference between the resource meter and the resource base schedule with the EIM entity scheduling coordinator. In addition, the EIM entity scheduling coordinator is responsible for balancing area costs such as over-scheduling/under-scheduling charges and payments, real time market offsets, bid cost recovery allocations, flexible ramp movement allocation, flexible ramp uncertainty allocation, and non-participating grid management charges. The EIM entity scheduling coordinator receives daily/monthly statements as well as weekly invoices associated with the non-participating resources' charges and payments, as well as balancing authority areas costs.

The EIM entity then sub-allocates the payments and charges associated with the non-participating resources as well as BAA costs to its customers based upon its BAA's OATT.

Outage coordination is also performed at the EIM entity level. CAISO provides an outage management system that allows EIM entity scheduling coordinators to submit approved transmission and generation outages for the EIM entity BAA.

Proposal – EIM Sub-Entity Scheduling Coordinators

The CAISO proposes to create a new scheduling coordinator type for EIM participation by sub-entities within an EIM entity balancing authority area. In addition to the EIM entity scheduling coordinator role that is currently specified in the EIM design, the CAISO proposes that an EIM entity balancing authority area will have the ability to

² [EIM BPM Section 11.3.2.](#)

enable “sub-entity scheduling coordinators” within its EIM balancing authority area.³ These EIM sub-entity scheduling coordinators will interact both with the CAISO directly, as well as with the EIM entity scheduling coordinator representing the balancing authority area within which they have loads and resources. The registration as an EIM sub-entity scheduling coordinator must be supported by the EIM entity and agreed to by the sub-entity; an entity can neither unilaterally decide to become a sub-entity nor be compelled to become a sub-entity.

An EIM sub-entity scheduling coordinator must:

- be an electric utility embedded within an EIM entity balancing authority area and not receive long-term wholesale full requirements services from the EIM Entity;
- own a distribution system or transmission facilities directly connected to the transmission system of the EIM entity for the purpose of providing (a) regulated electric service to eligible retail or wholesale customers, or (b) serve eligible customers in its capacity as a local publicly owned electric utility; and
- own or control one or more resources for the primary purpose of serving its eligible customers.

The EIM sub-entity proposal is limited to electric utilities located in an EIM entity balancing authority area that own a distribution or transmission system and serve eligible customers from resources they own.⁴ These entities, at least in part, depend upon transmission service from the host EIM entity to meet their regulatory obligations; i.e., they may be transmission dependent utilities. This in turn means that they are more likely to have a well-defined service territory bounded by distribution-transmission interfaces, which will allow for more accurate forecasting, modeling, scheduling, and accounting for their associated loads and non-participating resources in the EIM. The CAISO will work through an implementation process with the EIM entity and each EIM sub-entity to implement all of the associated technical requirements for participation prior to participation by the EIM sub-entity scheduling coordinator.

Limiting the scope of the EIM sub-entity proposal to electric utilities with these characteristics is critical because disaggregation of the load within an EIM entity balancing authority area has financial and operational consequences. Having separate load forecasts within a balancing authority area may reduce the accuracy of the aggregated EIM entity load forecast, which is the baseline for the resource sufficiency evaluation. This occurs because the aggregation of individual sub-entity forecasts can diverge from a forecast at the balancing authority area level that the EIM entity is ultimately responsible for financially and operationally. The potential for differences between the forecasted load and the measured demand can in turn lead to cost shifting among the transmission customers within an EIM entity balancing authority area.

³ An EIM sub-entity may be an EIM sub-entity scheduling coordinator or may appoint a third party EIM sub-entity scheduling coordinator to represent its CAISO market participation as a sub-entity. See, *infra.*, discussion of the CAISO required agreements for EIM sub-entity participation.

⁴ The sub-entity may either be a distribution or transmission owner, or both, and provide wholesale or retail service to eligible customers, or both.

Should a mismatch arise between the load base schedule and the measured demand it could lead to generation schedules from one sub-entity serving another, higher uninstructed imbalance energy (UIE) and flexible uncertainty allocation, as well as inappropriate penalty charges following a failure of the balancing test. Moreover, the EIM entity is responsible for reliability within its balancing authority area and must have some level of assurance that the sub-entity will meet its obligations without leaning on other entities within the balancing authority area. This can occur because the resource sufficiency evaluation is performed at the balancing authority area level and the sub-entities will be focused on serving their own forecasted load. Further, any penalties associated with failure of the balancing test will be assessed to metered demand which may not correlate to the entity whose inaccurate forecast may have resulted in failure.

In addition to the criteria outlined above, EIM sub-entity participation must be available within the EIM entity balancing authority area; i.e., an EIM entity must first authorize sub-entity participation within its balancing authority area. Authorization of participation by sub-entities within an EIM entity balancing authority area should be developed through the regulatory process applicable to each EIM entity, most likely by amendment of the EIM entity OATT, prior to such services being implemented by the CAISO. This would likely also require some form of written agreement between the EIM entity and sub-entity to govern matters specific to sub-entity participation within the EIM entity balancing authority area. If EIM sub-entity scheduling coordinator participation is authorized within an EIM entity balancing authority area, the sub-entity must agree to participate and meet all applicable EIM entity and CAISO requirements.

From the CAISO perspective, an EIM entity may choose one of three possible alternatives with respect to enabling participation by EIM sub-entity scheduling coordinators within its balancing authority area. Each EIM entity must determine whether to allow any, some, or allow no electric utilities within its balancing authority area that otherwise meet the CAISO definition of an EIM sub-entity scheduling coordinator to participate. This determination should be made through the associated EIM entity regulatory process for consideration of changes to its provision of imbalance energy services, much as it must do prior to its participation in the EIM.

The EIM entity may elect not to facilitate EIM sub-entity scheduling coordinator participation by electric utilities within its balancing authority area that otherwise meet the CAISO definition of an EIM sub-entity scheduling coordinator. There are legitimate reasons why an EIM entity may need to forgo entirely the financial and operational complexities associated with implementation of sub-entity participation within its balancing authority area—an EIM entity should not be compelled by the CAISO to do so. On the one hand, it may be that the EIM entity does not have the financial or operational capabilities to support participation by even a limited number of sub-entities within its balancing authority area. On the other hand, it may be that the number of eligible sub-entities within its balancing authority area is so numerous as to present unreasonable operational or financial risks to the EIM entity. The question of whether to enable sub-entity participation in the first instance concerns matters best decided by an

EIM entity as the balancing authority for electric utilities within its balancing authority area that otherwise meet the definition of an EIM sub-entity scheduling coordinator.

If an EIM entity determines that sub-entity participation should be permitted within its balancing authority area, the EIM entity will have two options with respect to participation by qualified electric utilities within its balancing authority area. First, the EIM entity may enable participation by any electric utilities within its balancing authority area that meet the CAISO definition of a sub-entity. This option would allow each qualified sub-entity to determine whether it was in its interest to participate as an EIM sub-entity scheduling coordinator. The sub-entity would then need to meet the obligations of the EIM entity and the CAISO with respect to such participation.

Alternatively, an EIM entity may limit participation by electric utilities within its balancing authority area that otherwise meet the CAISO definition of an EIM sub-entity scheduling coordinator. An EIM entity may limit sub-entity participation only if there is an existing and accepted contractual or tariff based practice for imbalance energy accounting within its balancing authority area that distinguishes among its transmission service customers in a manner that includes sub-entity like characteristics. This option would allow an EIM entity to participate in the EIM while preserving an existing and accepted practice among otherwise qualified sub-entities within its balancing authority area.

Implementation of the EIM changes the nature of imbalance energy services provided by the EIM entity. Today the EIM entity schedules and settles all load and non-participating resources with the CAISO. In some cases, the CAISO has recognized existing and accepted practices of imbalance energy accounting within an EIM entity balancing authority area that must be accommodated for the EIM entity to participate. To date these existing and accepted practices have been honored through the exclusion of some entities within the EIM entity balancing authority area with existing and accepted practices for imbalance energy accounting different from the EIM.⁵ Now it is necessary for the CAISO to honor an existing and accepted EIM entity practice that distinguishes how imbalance energy is accounted within its balancing authority area other than by exclusion. EIM entities with a contractual or tariff based practice of distinguishing among transmission customers should be permitted to participate in the EIM while continuing to honor their existing and accepted practices. At a minimum, any EIM entity with an existing and accepted contractual or tariff based practice documented in its EIM implementation agreement should be honored, but there may be other such practices that justify such a distinction.⁶ Ultimately, each EIM entity should have the

⁵ For example, the phase 1 implementation of the Balancing Authority of Northern California (BANC) and more recently the Los Angeles Department of Water and Power (LADWP) implementation agreements contemplated exclusion of certain entities within their balancing authority areas.

⁶ The CAISO recognizes that EIM sub-entity participation is a significant change that may take some time to implement. Therefore, implementation of any sub-entity within an EIM entity balancing authority area based on an existing and historic practice need not occur immediately upon implementation of the EIM entity. However, the sub-entity must be implemented within a reasonable period of time following implementation of the EIM entity. During this period, the CAISO and the EIM entity should confirm the intention of the EIM sub-entity, and may take appropriate steps towards

opportunity to determine whether to enable sub-entity participation for any, some or none of the electric utilities within its balancing authority area that otherwise meet the CAISO definition of an EIM sub-entity.

The following sections outline the CAISO's proposal.

Roles and Responsibilities

Each EIM sub-entity scheduling coordinator shall function as its own load serving entity (LSE) within its EIM sub-entity area. To facilitate this, each EIM sub-entity scheduling coordinator will have its own load aggregation point (LAP) and will be responsible for the submission of demand forecasts to both the CAISO and the EIM entity within whose balancing authority area it resides.

Each EIM sub-entity scheduling coordinator will also be responsible for the submission of base schedules through the CAISO base schedule aggregation portal (BSAP) for resources within its area for which it serves as the scheduling coordinator. **These base schedules can include available balancing capacity.** For supply resources within an EIM BAA to be settled directly with the CAISO, the resources will need to have either the EIM sub-entity scheduling coordinator or a participating resource scheduling coordinator as their registered scheduling coordinator. The scheduling coordinator will submit bids, or schedules where appropriate, to the CAISO using the scheduling infrastructure business rules (SIBR) application.

To the extent that EIM sub-entities are registered as transmission operators, and are granted permission by the EIM entity, they will have the ability to utilize the real-time market to perform congestion management. This authority involves the activation and deactivation of transmission contingences, as well as the conformance of transmission equipment they serve as the transmission operator for.

Resource Sufficiency Evaluation

The RSE will continue to be performed at the EIM entity level. This approach is consistent with the responsibility of the balancing authority to ensure supply and load balance for their area. While there is a potential for a EIM sub-entity to submit inaccurate or deficient base schedules while the EIM entity as a whole passes the test, the CAISO reiterates that the test is intended to ensure the balancing authority area as a whole remains balanced.

Within the proposed resource sufficiency evaluation design, base schedules can be submitted by participating resource scheduling coordinators and sub-entity scheduling coordinators prior to the T-55 RSE, with the exact timing being specified by the EIM

implementation including network model configurations and information sharing to facilitate the process should the sub-entity desire to move forward.

entity. Following the T-55 RSE, schedules can only be modified by the EIM entity scheduling coordinator; any modification should be communicated to the EIM sub-entity. The modifications can be viewed by the sub-entity within the CAISO BSAP applications. Any financial impact resulting from these modifications should be resolved between the EIM entity and sub-entity based on the EIM entities OATT or previously established bilateral contractual arrangements. This design allows for EIM sub-entity scheduling coordinators to maintain flexibility and control of their resources by updating their base schedules prior to the T-55 RSE, while also allowing the EIM entity scheduling coordinator to retain reliability control. EIM entities are ultimately responsible for the capacity and flexible ramping tests which are performed as part of the RSE at the EIM entity level and are generally associated with their balancing authority function.

Model Submission

CAISO maintains the full network model (FNM) for all EIM entities. The CAISO proposes to require EIM entities to submit full network model updates on behalf of their entire balancing authority area, or with the EIM entities' permission for EIM sub-entities to submit their own network model and network model updates. Should an EIM sub-entity submit their own model they will be responsible for updating the EIM entity of the changes as well as the CAISO. All model updates, performed by either an EIM entity or by a sub-entity will be subject to the already established CAISO FNM updating process. Any resource that the sub-entity is acting as the scheduling coordinator for is required to be modeled in the CAISO FNM. Additional details can be found in the BPM for Managing Full Network model⁷.

Dispatch Options

Automatic Dispatch System

Automatic Dispatch System (ADS) data is pulled on a resource specific level. The CAISO proposes to provide access for ADS resource data within the sub-entity to be pulled by both the sub-entity and the EIM entity. The CAISO will settle the resulting metered resource output. Any financial impact resulting from this action should be resolved between the EIM entity and EIM sub-entity.

Manual Dispatch

The CAISO proposes an EIM sub-entity will have the ability to perform manual dispatch on resources they are registered as the scheduling coordinator for, **with prior agreement from the EIM entity**. This **action** will be accomplished through an application programming interface that accesses BAAOP. Any manual dispatches performed by an EIM sub-entity will be settled as imbalance energy. **Given that a manual dispatch performed by an EIM sub-entity has the potential to impact the balancing function of the EIM entity, the CAISO expects the use of this functionality to be for reliability related**

⁷ [CAISO BPM for Full Network Model](#)

actions in accordance with previously agreed upon circumstances and conditions, such as participation within a reserve sharing group or similar operational purpose.

The CAISO also proposes EIM entities will also possess the ability issues manual dispatch instructions for resources within their balancing authority area as they retain ultimate responsibility for balancing. Financial impact resulting from a manual dispatch by the EIM entity should be resolved between the EIM entity and sub-entity based on the EIM entities OATT or previously established bilateral contractual arrangements.

Forecasting

Supply Forecast

The CAISO proposes that an EIM entity retain the ability to require an EIM sub-entity to use the CAISO provided forecast, or to allow the sub-entity to use its own forecast. Should an EIM sub-entity scheduling coordinator elect to use its own forecasting services for variable energy resources' supply output, the CAISO will treat the forecast similar to an EIM entity scheduling coordinator electing to use their own forecast⁸. The preference of the forecast used by the EIM sub-entity will be specified to the CAISO and the EIM entity. To enable this functionality, each resource within a EIM sub-entity scheduling coordinator will need its own unique resource ID, as well as telemetry. To ensure that the EIM entity is still able to perform its balancing function and pass the RSE, the CAISO proposes to provide the ability for the EIM entity to view, in a summed format, the forecast of all of the variable energy resources within its balancing authority area. Forecasts for variable energy resources submitted by third party services, or provided by the CAISO that are used in the RSE will be fixed after T-55 as is currently done within the EIM design, this serves to reduce the variability between RSE iterations.

Load Forecast

The CAISO proposal allows EIM entities to determine if they will be responsible for the load forecast for their entire area, or if they will allow the EIM sub-entities to determine their own load forecast. In addition, the EIM entity will retain the authority to allow an EIM sub-entity to use its own load forecast, or to require the sub-entity to use the CAISO provided forecast. If any EIM sub-entity within a balancing authority area elects to submit its own load forecast, the entire balancing authority area will automatically be subject to over/under scheduling charges. An example illustrating how an EIM sub-entity load forecast can impact the settlement of the entire balancing authority area can be seen in the example provided in Table 1 of the Meter Data, Settlements and Invoicing section of the proposal.

⁸ [CAISO Tariff Appendix Q – Eligible Intermittent Resource Protocol](#)

Meter Data, Settlements and Invoicing

The EIM sub-entity scheduling coordinator will submit meter data to the CAISO for the non-participating resources within its area. Additionally, each EIM sub-entity scheduling coordinator will be required to submit load meter data for its associated load serving entity in the same manner as the EIM entity scheduling coordinator.

The CAISO settlements process will create statements and invoices at the EIM sub-entity scheduling coordinator level for all charges and allocations associated with the EIM sub-entity's resources. CAISO settlements shall continue to create statements and invoices at the EIM entity level. The CAISO is proposing to continue allocating BCR charges and real time offset charges at the EIM entity level with sub-allocations to EIM sub-entity scheduling coordinators performed according to the EIM entity's OATT. The EIM entity shall have the ability to access the EIM entity statements and invoices as well as all EIM sub-entity statements and invoices for sub-entities within their balancing authority area. This approach will allow for flexibility between EIM entities and their potential sub-entity scheduling coordinators.

As described in the RSE section, the CAISO shall perform the RSE at balancing authority area level. Since the Balancing Test of the RSE is performed at the BAA level, the CAISO is proposing to continue to perform the over-scheduling and under-scheduling assessment at the balancing authority area level. The over/under scheduling assessment is determined based on the net balancing authority area load deviation. If the net balancing authority area load deviation exceeds any of the penalty thresholds, the CAISO settlement shall calculate the over-scheduling and under-scheduling charges at the EIM sub-entity level based on the sub-entity deviations at the associated over/under scheduling LAP penalty price. If the balancing authority area passes the balancing test or is within the threshold, the EIM sub-entity level will be allocated a portion of the over-scheduling and under-scheduling total costs based on the metered demand within the sub-entity and the sub-entity's submitted base schedule.

Table 1: Example of Over/under scheduling settlement allocation

Area	T-40 Forecast (MW)	Net Supply (MW)	Hourly Base Schedule (MW)	Meter Demand (MW)	UIE Quantity (MW)	CLAP Price (\$/MW)	Penalty Price (\$)	Charge (\$)
EIM SC 1	118	120	117.6	128.75	11.15	20	5	55.75
EIM SESC 1	154	158	154.80	159.50	4.70	19	4.75	22.33
EIM SESC 2	79	78	76.44	78.50	2.06	21	5.25	10.81

ELAP	351	356 ⁹	348.84	366.75	17.91 ¹⁰	NA	NA	NA
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Flexible Ramp Movement shall be settled with the EIM sub-entity for all resources the sub-entity is serving as the scheduling coordinator for. Flexible ramp movement allocation and flexible ramp uncertainty allocation will also be settled at the EIM sub-entity level for resources the sub-entity is serving as the scheduling coordinator for, as they are calculated at a resource specific level.

Each EIM sub-entity scheduling coordinator will be responsible for ensuring all generation and load within its area is metered in accordance with Section 29.10¹¹ of the CAISO tariff. Each sub-entity scheduling coordinator will also submit settlement quality meter data (SQMD) as described in Section 8 of the CAISO BPM for the Energy Imbalance Market.

System Access

The proposed EIM sub-entity scheduling coordinator role will have access to the following CAISO systems:

Automatic Dispatch System (ADS)

- EIM entity and EIM sub-entity scheduling coordinators will both have access to ADS for resources within their respective areas.

Balancing Authority Area Operations Portal (BAAOP)

- **If permissioned by the EIM entity and acting as a transmission operator, the EIM sub-entity scheduling coordinator will have access to BAAOP for the purposes of viewing market solutions and performing transmission conformance as part of their responsibilities as a transmission operator.**
- **If permissioned by the EIM entity,** the EIM sub-entity scheduling coordinator will have the ability to submit manual dispatch instructions via an API (automated programming interface) for resources they are the registered scheduling coordinator for.

Base Aggregation Scheduling Portal (BSAP)

- EIM sub-entity scheduling coordinators will have access to BSAP to submit base schedules at for the T-75 and T-55 RSE.

⁹ The over/under scheduling requirement of 1% of forecast is exceed. 5MW > 3.51MW

¹⁰ The metered UIE exceeded the 5% test applied to the hourly base schedule. 17.91 MW > 17.44 MW

¹¹ [CAISO TARIFF. Section 29 - Energy Imbalance Market](#)

Customer Market Results Interface (CMRI)

- EIM sub-entity scheduling coordinators will have access to CMRI for the purposes of viewing submitted load, generation, as well as the results of the T-75 resource sufficiency evaluation.

Market Results Interface for Settlements (MRI-S)

- EIM sub-entity scheduling coordinators will have access to invoices of load, generation and interties that are associated with the EIM sub-entity scheduling coordinator. An invoice reflecting these values will also be available at the balancing authority area level for review by the EIM entity scheduling coordinator.
- EIM sub-entity scheduling coordinators will have access to MRI-S for the purposes of submitting required meter data for the non-participating resources within its area and for its associated load serving entity.

CAISO webOMS

- EIM sub-entity scheduling coordinators will have access to webOMS where appropriate. This will be determined based on their agreement with an EIM entity to submit generation outages for resources they are the scheduling coordinator for as well as transmission outages for equipment they serve as the transmission operator for. EIM sub-entities who are RC West participants will continue to submit transmission outages via CAISO webOMS.

Energy Transfers

The EIM entity scheduling coordinator will be responsible for the submission of all intertie transfers used by EIM sub-entity scheduling coordinators as part of their base schedule. The EIM entity is responsible for ensuring balanced schedules, net interchange, and tagging within its balancing authority area. The EIM entity will retain responsibility for the scheduling of base ETSTRs representing interchange from the balancing authority area as a whole. Allowing EIM sub-entities to represent an intertie transaction on their base schedule creates the potential for conflict with another sub-entity or the EIM entity should the submitted schedules exceed the intertie limit. This initiative does not seek to standardize solutions to resolve a potential exceedance; instead, it proposes this conflict be resolved **according to previous** agreements between the EIM entity schedule coordinators and EIM sub-entities within their control area. **These intertie schedules should be reflected on the base schedule submitted by the EIM entity.**

The CAISO is not proposing to specify how intra-EIM area transfers are conducted, rather the CAISO leaves that to agreement between the EIM and EIM sub-entities. The CAISO will settle the base schedules submitted against metered demand as described above.

Outage Management

All outages submitted to the CAISO will be through the webOMS application. EIM entities that are RC West members will submit outages in accordance with the Reliability Coordinator Services BPM and the Outage Coordination RC0320 and RC0630 operating procedures.¹² Outage data submitted by the EIM sub-entity scheduling coordinator will be available within the CAISO webOMS system for review by the EIM entity.

For EIM entities that are that are not members of RC West, the EIM entity scheduling coordinator will be responsible for the submission of all generation outages for their area. The CAISO will provide the option for an EIM entity scheduling coordinator to delegate authority to EIM sub-entities to submit generation outages for resources they are acting as the scheduling coordinator for; these outages will be viewable by the EIM entity scheduling coordinator.

The responsibility for transmission outage submission will remain with the EIM entity, however with their approval an EIM sub-entity, or a transmission operator within the EIM entity's control area will be able to submit outages; these outages will be viewable to the EIM entity scheduling coordinator. The outage submission process does not replace the balancing authority area and transmission operator coordination required by neighboring Reliability Coordinator (RC) areas.¹³ The CAISO will block all outages submitted by the neighboring RC for EIM entities, and the EIM entity scheduling coordinator will be responsible for ensuring outages submitted to the CAISO are consistent with outages submitted to their respective RC.

Onboarding of EIM Sub-Entities

Should an entity elect to pursue sub-entity functionality they must notify the CAISO that the entity:

- (a) has been authorized by the EIM entity to participate as an EIM sub-entity Scheduling Coordinator,
- (b) meets the CAISO qualifications for participation as an EIM sub-entity, and

¹² [RC WEST Outage Coordination Process](#)

¹³ [NERC IRO-017-1 – Outage Coordination](#)

(c) has executed the applicable *pro forma* service agreement.

The CAISO proposes that it shall then, at its discretion, determine the EIM sub-entity implementation date based on the complexity and compatibility of the associated transmission and technology systems; the date must be not less than twelve months and not more than twenty-four months after the date that the CAISO receives the sub-entity notice.

The CAISO proposes to charge new EIM sub-entities for their implementations at cost of service¹⁴. For projection purposes, an hourly rate of \$200 was used for all tracks; this fully burdened rate was calculated based on the recent cost of service study. However, for billing purposes, hourly bill rates per track will be determined on an annual basis; the CAISO does not project the hourly rates will exceed \$200 per hour for any track. The preliminary projections to onboard an EIM sub-entity is between \$216,000 and \$304,000 and is based on the implementation tracks detailed within this section. The actual implementation costs per EIM sub-entity will vary depending on factors such as, but not limited to, if the BAA is already an EIM participant and the level of independence that the EIM entity gives the sub-entity in relation to FNM submission/maintenance, forecasting and outage submission. A \$260,000 deposit is required to initiate implementation. The CAISO proposes each EIM sub-entity's implementation project deposit(s), actual costs incurred, and applicable interest earnings will be tracked and managed independently from other implementations. The EIM sub-entity will be responsible for actual costs incurred by the CAISO in conducting the sub-entity's implementation. The CAISO proposes to draw from the implementation deposit to cover actual costs incurred during implementation. Whenever the implementation costs exceed the deposit, the CAISO proposes for additional deposits in \$25,000 increments; the EIM sub-entity would be expected to pay the invoice 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.

At the end of the implementation, the CAISO proposes to provide a report that details deposit(s) received, actual costs incurred, and applicable interest earnings (on deposit balance) for each implementation project. Interest will be calculated at the end of the implementation project, from the time the deposit(s) was received. The calculation will be based on the average earning of the bank account, in which the deposit is held, on the remaining amount of the deposit. Any unused deposit remaining after the implementation is completed plus interest on the remaining deposit will be returned to the EIM sub-entity within ninety (90) calendar days after implementation is completed and approved by both the CAISO and EIM sub-entity.

¹⁴ These costs are separate from the EIM entity implementation costs unless the EIM Implementation Agreement already contemplates sub-entity participation within the EIM entity balancing authority area, in which case the sub-entities previously identified in the EIM Implementation Agreement will not be assessed these additional costs. These costs are also separate from the EIM administrative charge, which the CAISO will monitor for the additional burden to support the sub-entity functionality.

In the event an agreement is terminated by either party or both parties after the EIM sub-entity's implementation has begun then the CAISO will make every attempt to halt work and related costs on the implementation as soon as practical. Any costs incurred related to the implementation will be drawn against the deposit provided. Any unused deposit will be returned to the EIM sub-entity within ninety (90) calendar days after the implementation costs are reconciled.

The CAISO then proposes to implement the EIM sub-entity scheduling coordinator agreement according to the general outline of the following steps. The implementation process takes approximately 18 months and includes several activities, which often run in parallel. **The CAISO expects the prospective EIM sub-entity to keep informed and coordinate where necessary with the EIM entity regarding the status of the sub-entity's implementation.** These efforts are typically managed as six distinct work streams, or tracks. The six tracks are described below:

Track 1: Planning and Program Management

CAISO staff will assist the EIM sub-entity's project management team to plan and track all implementation tasks, issues and risks through regular meetings and status reports. The ISO will help the EIM sub-entity to define a detailed project schedule outlining all the steps leading to the market simulation, parallel operations and full participation. The EIM sub-entity is encouraged to determine their staffing and project roles to manage EIM preparations as part of this track.

Track 2: Policy, Legal, and Contracts

CAISO staff will support the EIM sub-entity's policy and legal staff to conduct any formal or informal outreach to stakeholders, make any applicable tariff or OATT changes, and enter into the required agreements for participation. As an EIM sub-entity, your organization must enter into contracts with the ISO. Likewise, all resources that plan to participate and provide bids must become an EIM participating resource by entering into standard contracts. Both your organization and participating resources will need to select scheduling coordinators, who will directly bid or self-schedule into EIM and handle the settlement process. Through this track, the EIM sub-entity will determine their participating resource strategy to determine which resources will participate in EIM through individual bids.

Track 3: Full Network Model and Resources

CAISO staff will work with the EIM sub-entity's energy management team to integrate the sub-entity's network model data with the CAISO's full network model for market purposes. This joint team will work together to accurately integrate the sub-entity's network model into the ISO full network model, which is essential for economic resource dispatching. The sub-entity will have an opportunity to test connectivity and see the market model prior to market simulation testing.

Track 4: System Integration and Testing

CAISO staff will provide the EIM sub-entity's implementation team with information and access to non-production environments to prepare for and execute integration and testing between CAISO systems and the sub-entity's systems for market data exchange. EIM sub-entities may be required to modify impacted system and you may want to whether or not to engage a third party to assist with systems development and integration. EIM sub-entities will need to modify their operating and bid-to-bill systems associated with EIM participation to enable reliable ISO control and accurate settlements. Affected systems include, but are not limited to, the energy management system, forecasting, scheduling, dispatch, outage management and settlements.

The integration and testing team will perform system integration, security and functional testing of all impacted systems and processes. During market simulations, the team will test both the system and market interplay between the ISO and your participating resources under simulated market conditions. The ISO will publish a market simulation test plan outlining scenarios, a timeline and expected actions prior to testing.

Track 5: Metering and Settlements

The ISO metering team assist you in implementing the various metering requirements and processes based on your selected participation role as either a CAISO Metered Entity (CAISOME) or a Scheduling Coordinator Metered Entity (SCME). Most EIM sub-entities will likely choose to be a Scheduling Coordinator Metered Entity (SCME) to meet metering requirements. Likewise, the ISO Settlement team will participate in regular Track 5 meetings designed to allow the EIM sub-entities an opportunity to discuss the Settlement process, Settlement calculations, and Settlements timelines.

Track 6: Operations Readiness and Training

Track 6 provides a series of training events throughout the EIM market timeline. The events include computer based training modules for various roles and responsibilities, train-the-trainer courses which include hands-on scenario trainings with application tools, and optional participation in modeling workshops other tracks. The CAISO will work in partnership with the EIM sub-entity project leads and their designated trainers to prepare the designated trainers to facilitate needed EIM training to sub-entity staff. Training support is provided for go-live initiation as needed.

Finally, this track will certify readiness and transition to binding EIM production. The ISO will work with you to develop an activation readiness plan that includes a "go-live" schedule, system activation steps, communication protocols and a robust support plan. This team will jointly track progress and report preliminary results during market simulation. The market simulation have demonstrated that systems and operations personnel are ready to operate as anticipated.

New Pro Forma EIM Sub-Entity Agreement and EIM Sub-Entity Scheduling Coordinator Agreement

Establishing the EIM sub-entity scheduling coordinator relationship will require two new *pro forma* agreements; one to define the sub-entity and another to represent the sub-entity.¹⁵ These agreements will conform to CAISO standards for *pro forma* service agreements and their companion scheduling coordinator agreements. As such, these agreements will be similar to the *pro forma* EIM entity agreement and EIM entity scheduling coordinator agreement with modifications to account for the different roles and responsibilities associated with a sub-entity and representation of a sub-entity. As with other CAISO *pro forma* agreements, the EIM sub-entity agreement and companion EIM sub-entity scheduling coordinator agreement will reference the CAISO tariff provisions that support the roles and responsibilities outlined in this proposal. **In addition, the CAISO will require execution of a *pro forma* implementation agreement that establishes the commitment of a sub-entity within an existing EIM entity balancing authority area to compensate the CAISO for its implementation costs.** The details of these new *pro forma* agreements will be developed as part of the tariff stakeholder process associated with this initiative.

Stakeholder engagement and next steps

Energy Imbalance Market Governing Body

The CAISO believes the EIM Governing Body should have primary authority in the approval of the proposed changes.

The rules that govern decisional classification were amended in 2019 when the Board adopted changes to the Charter for EIM Governance and the Guidance Document. An initiative proposing to change rules of the real-time market now falls within the primary authority of the EIM Governing Body either if the proposed new rule is EIM-specific in the sense that it applies uniquely or differently in the balancing authority areas of EIM entities, as opposed to a generally applicable rule, or for proposed market rules that are generally applicable, if “an issue that is specific to the EIM balancing authority areas is the primary driver for the proposed change.”

This initiative satisfies both tests. The tariff rules to create a new type of scheduling coordinator role would be EIM-specific, because it would be available only to represent market participants within the balancing authority areas of EIM entities and not across the entire market footprint. In addition, the primary driver for addressing this topic is to

¹⁵ The EIM sub-entity agreement must be executed by the EIM sub-entity, while the EIM sub-entity may also execute the EIM sub-entity scheduling coordinator agreement or designate a third party scheduling coordinator to represent its participation in the CAISO markets as an EIM sub-entity. This approach is consistent with scheduling coordinator representation in CAISO markets generally.

resolve an issue that was initiated by one EIM balancing authority area. Accordingly, this initiative would fall within the primary authority of the EIM Governing Body.

Based on stakeholder comments to both the straw and revised straw proposal, and the nature of the changes included in the draft final proposal the CAISO will proceed under the assumption that this initiative resides within the EIM Governing body's primary approval authority. Stakeholders are encouraged to submit written comments should they disagree or have questions.

Schedule

The schedule for stakeholder engagement is provided below. The CAISO targets the June 30, 2021 EIM Governing Body and July 14-15, 2021 CAISO Board of Governors' meeting.

Date	Event
May 18, 2021	Post final proposal
May 26, 2021	Comments due on final proposal
June 2, 2021	Post revised draft tariff language
June 11, 2021	Comments due on revised draft tariff language
June 16, 2021	Stakeholder call on revised draft tariff language
June 30, 2021	EIM Governing Body Meeting
July 14-15, 2021	CAISO Board Meeting (Consent Agenda)