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July 21, 2008

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

**Re: California Independent System Operator Corporation
Compliance Filing
Docket Nos. ER06-615-___ and ER07-1257-___**

Dear Secretary Bose:

The California Independent System Operator ("CAISO")¹ hereby submits an original and five copies of the instant filing in compliance with the Commission's "Order Conditionally Accepting, Subject to Modification, MRTU Compliance Filings," 123 FERC ¶ 61,285, issued on June 20, 2008 ("June 20 Order"). Two additional copies of this filing are enclosed to be date-stamped and returned to our messenger.

I. Background

On February 9, 2006, the CAISO filed a proposed MRTU Tariff that included modifications to the then-current ISO Tariff reflecting the numerous changes to the CAISO's market structure included in the MRTU proposal. On September 21, 2006, the Commission issued an order conditionally accepting the MRTU Tariff for filing, subject to modifications.²

¹ Capitalized terms not otherwise defined herein have the meanings set forth in the Master Definitions Supplement, Appendix A to the CAISO Tariff (also known as the Market Redesign and Technology Upgrade or MRTU Tariff). Except where otherwise noted herein, references to sections are references to sections of the MRTU Tariff.

² *California Independent System Operator Corp.*, 116 FERC ¶ 61,274 (2006) ("September 21 Order").

The CAISO submitted filings to comply with the September 21, 2006, Order on November 20 and December 20, 2006. Among the conditions in the September 21, 2006 Order was that the CAISO modify the MRTU Tariff concerning the use of Ancillary Service Sub-Regions and of Reliability Must-Run ("RMR") resources and market resources in the CAISO's procurement of Ancillary Services.³ The CAISO submitted a filing to comply with those Commission directives on March 20, 2007 ("March 20 Filing").

On April 20, 2007, the Commission issued an order granting in part and denying in part requests for clarification and rehearing of the September 21 Order.⁴ Therein, the Commission upheld most of the findings contained in the September 21 Order, and emphasized that it continued to find the MRTU Tariff to be just and reasonable. However, the Commission also found that a number of suggested changes would improve the MRTU Tariff and directed that those changes be made under several timeframes.

The Commission issued an order on June 25, 2007 that accepted the CAISO's November 20 and December 20, 2006, compliance filings, subject to modifications.⁵

On August 3, 2007, as supplemented on August 10, 2007, the CAISO submitted a filing ("August 3 Filing") that contained revisions to the MRTU Tariff to comply with directives in the September 21 Order, the April 20 Order, and the June 25 Order. The August 3 Filing also included proposed revisions, submitted pursuant to Section 205 of the Federal Power Act ("FPA"), to enhance the overall MRTU structure already approved by the Commission. On October 5, 2007, the CAISO filed a reply to comments and protests regarding the August 3 Filing ("October 5 Filing").

On January 9 and March 24, 2008, the Commission issued orders that addressed the proposals in the August 3 Filing pertaining to resource adequacy and the Business Practice Manuals ("BPMs").⁶ In the June 20, 2008 Order, the Commission conditionally accepted, subject to modifications, the March 20 Filing and the proposals in the August 3 Filing it had not previously addressed. It

³ *Id.* at PP 380-81.

⁴ *California Independent System Operator Corp.*, 119 FERC ¶ 61,076 (2007) ("April 20 Order").

⁵ *California Independent System Operator Corp.*, 119 FERC ¶ 61,313 (2007) ("June 25 Order").

⁶ *California Independent System Operator Corp.*, 122 FERC ¶ 61,017 (2008); *California Independent System Operator Corp.*, 122 FERC ¶ 61,271 (2008) ("March 24 Order").

directed that many of its modifications be included in a compliance filing within 30 days of the order.

The CAISO submits the instant filing to comply with the directives in the June 20 Order. The compliance discussion is divided into three sections. The first discusses tariff changes explicitly directed by the Commission. The second addresses commitments that the CAISO made in the October 5 Filing that the Commission did not directly discuss in the June 20 Order, but with which the Commission directed the CAISO to comply in Paragraph 237 of that Order. The third section responds to matters discussed in the June 20 Order that the Commission did not direct be included in a 30-day compliance filing.

II. Tariff Revisions Directed in the June 20 Order.

A. Market Power Mitigation.

1. Section 39.7.1.5.

In the August 3 Filing, the CAISO modified Section 39.7.1.5 to provide: "If [a] Scheduling Coordinator does not elect to use any of the other new options available pursuant to Section 39.7.1, or if sufficient data do not exist to calculate a Default Energy Bid using any of the available options," the CAISO would first seek to obtain from the Scheduling Coordinator any additional data required for calculating the Default Energy Bid options available pursuant to Section 39.7.1. In response to the concern expressed by Pacific Gas and Electric Company ("PG&E") that the language "other new options" was confusing, the Commission directed the CAISO to delete the words "other new."⁷ The CAISO has removed that language from Section 39.7.1.5 in this compliance filing.

2. Section 39.3.1 – Categories of Conduct that May Warrant Mitigation.

In response to the Commission's directive that the CAISO provide further detail regarding the types of bidding practices that may distort prices or uplift charges away from those expected in a competitive market,⁸ the CAISO proposed to amend Section 39.3.1(4) to set forth in two subsections the types of practices that can result in prices inconsistent with competitive market outcomes: (i) submitting demand bids at prices that are unjustifiably low relative to the expected marginal cost of meeting total expected demand resulting in Day-Ahead Market prices that are significantly below competitive levels and Day-Ahead Market clearing demand that is significantly below total expected demand;

⁷ June 20 Order at P 56.

⁸ June 25 Order at P 418.

and (ii) registering Start-Up Cost and Minimum Load Cost data or submitting bid costs on behalf of an electric facility that are unjustifiably high (relative to known operational characteristics and/or the known operating cost of the resource) or misrepresenting the physical operating capabilities of an electric facility in uplift payments or prices significantly in excess of actual costs.

PG&E and Southern California Edison Company ("SCE") objected to subsection (i) as imprecise and unnecessary. SCE also noted that a word was missing from subsection (ii). In compliance with the Commission's finding in the June 20 Order that it agreed with these arguments,⁹ this compliance filing deletes subsection (i) of section 39.3.1(4) and adds the word "resulting" between "Facility" and "in" in subsection (ii).

B. Residual Unit Commitment ("RUC") Process.

1. Designations of RUC Zones.

As explained in the June 20 Order, the Commission disagreed with the argument of the Western Power Trading Forum ("WPTF") that the CAISO should delete the word "static" from Section 31.5.3.7.2. In response to WPTF's argument, however, the CAISO had proposed adding clarifying language to the section: "*Once the CAISO has established RUC Zones, the mapping of RUC zones to Nodes shall be static data and shall be maintained in the Master File.*" The Commission supported that proposal¹⁰ and the clarifying language is included in this compliance filing.

The CAISO has also proposed to delete the words "or posted on the CAISO Website" from the last sentence of Section 31.5.3.7.2, regarding the listing of RUC Zones, because this posting allows for transparency of the procurement process that the CAISO will use to reliably maintain its grid.¹¹ This compliance filing restores that language.

2. Allocation of RUC Compensation Cost.

In response to the Commission directive that it work with the California Department of Water Resources State Water Project ("SWP") regarding the allocation of RUC costs of Participating Load, the CAISO had proposed to modify Section 11.8.6.5.3 in order to clarify that Participating Load would not be subject to Tier 1 allocation of RUC compensation costs. SCE protested that such an exemption would be unjust because Participating Load might underschedule in

⁹ June 20 Order at PP 65-66.

¹⁰ *Id.* at P 85.

¹¹ *Id.* at P 86.

the Day-Ahead Market because it failed to bid or follow CAISO instructions. The Commission directed the CAISO to modify this section such that Participating Load will only be exempt to the extent that Participating Load does not underschedule in the Day-Ahead Market.¹²

In other words, the Commission has directed that if a Participating Load's actual Demand is more than its scheduled Demand, and the difference does not result from CAISO's instructions, the Participating Load is subject to a Tier 1 allocation of RUC compensation cost. This compliance filing thus modifies Section 11.8.6.5.3 to provide that the CAISO will allocate RUC compensation costs to Participating Loads to the extent of any Net Negative CAISO Demand Deviation that is not the result of a CAISO instruction to increase Demand.

In response to SWP's desire for clarification that Aggregated Participating Load will receive the same exemption, the Commission also instructed the CAISO to include Aggregated Participating Load in the definition of Participating Load.¹³ The CAISO has made this revision in its November 15, 2007, compliance filing regarding BPMs and the Commission has accepted the revision,¹⁴ so no further revision is proposed in this compliance filing.

3. Section 31.5.3.7.1 – Use of RUC Zones.

In the June 20 Order, the Commission accepted certain CAISO corrections and clarifying proposals made in response to concerns expressed by WPTF.¹⁵ Accordingly, this compliance filing modifies the last sentence of Section 31.5.3.7.1 to identify Section 11.8.6.1 as the settlement provision for RUC compensation costs and adds the phrase "in the CAISO Control Area" to Section 11.8.6.1.

4. Section 11.8.3.1.3 – RUC Availability Bid Cost.

WPTF pointed out that Section 11.8.3.1.3 in the August 3 Filing contained an incomplete sentence and the Commission directed the CAISO to correct the sentence.¹⁶ This compliance filing revises the first sentence of the section with the following italicized language to read, "*The RUC Availability Bid Cost is*

¹² *Id.* at P 92.

¹³ *Id.* at P 93.

¹⁴ March 24 Order at P 18.

¹⁵ June 20 Order at P 98.

¹⁶ *Id.* at P 104. The Commission also ordered that this sentence be completed in Paragraph 159 of the June 20 Order.

calculated as the product of the RUC Award with the relevant RUC Availability Bid price, divided by the number of Settlement Intervals in a Trading Hour."

C. Full Network Model: Section 6.5.1.4 – Requirements to Obtain Full Network Model.

The California Public Utility Commission ("CPUC") expressed concern that the tariff provisions proposed in the August 3 Filing that allowed access to the Full Network Model for legitimate business reasons did not appropriately accommodate governmental entities. The Commission approved the CAISO proposal, made in response to the CPUC's concern, to revise Section 6.5.1.4(d) to provide access for a "legitimate business or governmental interest."¹⁷ The CAISO has already made this revision in its December 21, 2007, "clean-up" filing in these proceedings ("December 21 Filing"), so no further revision of the MRTU Tariff is required. The CAISO has not yet made this revision to the currently effective CAISO Tariff and, therefore, adds the revised version of Section 6.5.1.4(d) to Appendix BB of the currently effective CAISO Tariff in this compliance filing.

D. Congestion Revenue Rights ("CRRs"): Section 36 – CRR Provisions.

WPTF protested that the requirement of Section 36.5.2 that CRR Holders and Candidate CRR Holders must have in their employ a person who has attended CRR training. WPTF argued that Market Participants should be able to rely on consultants and third parties. The Commission agreed and directed the CAISO to revise the tariff accordingly.¹⁸

The Commission also agreed with the argument of the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California ("Six Cities") that Sections 36.8.2 and 36.8.3.4.1 should require that the list of allowable CRR Sources and Sinks be posted no fewer than 30 days prior to the date Load Serving Entities ("LSEs") submit their nominations, and therefore it directed the CAISO to modify the tariff accordingly.¹⁹ In response to concerns expressed by PG&E, the Commission directed the CAISO to add language to Sections 36.8.2 and 36.8.3.4.1 to ensure that the CRR Sources and CRR Sinks are consistent with the Full Network Model.²⁰

¹⁷ *Id.* at P 114.

¹⁸ *Id.* at P 136.

¹⁹ *Id.* at P 137.

²⁰ *Id.* at P 138.

In accordance with the Commission's directives, this compliance filing revises Section 36.5.2 such that Market Participants can comply by obtaining the services of a third party or consultant who has undergone the necessary training. It also modifies Sections 36.8.2 and 36.8.3.4.1 to add the 30-day posting requirement for the annual CRR Allocation and to require that the CRR Sources and CRR Sinks be consistent with the Full Network Model. In addition, this compliance filing revises Sections 36.5.2, 36.8.2, and 36.8.3.4.1 of Appendix BB of the currently effective CAISO Tariff to include these same changes.

E. Metered Subsystems.

1. Allocation of Bid Cost Recovery ("BCR") to Metered Subsystem ("MSS") Entities.

The Northern California Power Agency ("NCPA") objected to the CAISO's proposal for allocating BCR costs to MSS entities that have elected the load-following options. The Commission accepted the CAISO's responsive commitment to modify Section 11.8.6.6 to allocate the Real-Time Market uplift to load-following MSSs on the basis of Net Negative Uninstructed Deviation with load-following energy included in the netting.²¹ It further rejected the CAISO's proposal to allocate tier 2 Integrated Forward Market ("IFM") BCR Uplift costs to load-following MSS entities that elected not to be eligible for recovery of certain costs in return for being required to pay imbalance charges only to the extent that they "lean" on the CAISO grid and directed the CAISO to modify the tariff in accordance with the terms and conditions of the MSS Agreement.²²

This compliance filing revises Section 11.8.6.6 to allocate Real-Time BCR Uplift to load-following MSS entities according to MSS Net Negative Uninstructed Deviation, calculated to include the MSS Load Following Energy. The CAISO is, however, unable to comply with the Commission's directive on tier 2 IFM BCR uplift costs for the reasons discussed in its request for clarification or rehearing filed simultaneously with this filing.

2. Other MSS Bid Cost Recovery Issues.

This compliance filing revises Sections 11.8.2.1.2, 11.8.3.1.2, and 11.8.6.6 as directed by the Commission²³ to include clarifying language proposed by WPTF.

²¹ *Id.* at P 152.

²² *Id.* at P 153.

²³ *Id.* at P 159.

The Commission also directed the CAISO to add definitions of the terms "Bid Cost Shortfall" and "Surplus" as used in Section 11.8.5.²⁴ The terms "IFM Bid Cost Surplus," "RUC Bid Cost Surplus," "RTM Bid Cost Surplus," "IFM Bid Cost Shortfall," "RUC Bid Cost Shortfall," and "RTM Bid Cost Shortfall" are already defined, however. Therefore, rather than define "Bid Cost Shortfall" and "Surplus," this compliance filing accomplishes the same result by revising Section 11.8.5 to use the existing defined terms more precisely.²⁵

F. Locational Marginal Pricing ("LMP").

In accordance with the Commission's approval of the CAISO's commitment, in response to the comments of Powerex Corp. ("Powerex"), this compliance filing modifies Appendix C to the MRTU Tariff to reflect the following changes: (1) removal of the word "one" from the last paragraph of Section F; (2) revision of the phrase "whose physical location is unknown" to read "whose physical location may be unknown" under Section G; and (3) clarification of Section A by replacing the phrase "and specified in the Day-Ahead Schedule" with "as specified in the Day-Ahead Schedule."²⁶ The CAISO notes, however, that other revisions to Section G are currently pending before the Commission and the instant compliance filing conforms the revised Section G to be consistent with the intent of the modification.²⁷ In response to Powerex's comments, the CAISO also stated that Appendix C, Section A should be clarified further to indicate that the marginal prices are limited by resources that are not eligible to set the price or have constraints such that they cannot be marginal and, therefore, it is not the case that the highest price resource bid in at a particular node would set the price. The Commission approved that recommendation²⁸ and it is included in the compliance filing.

G. Transmission Ownership Rights ("TORs").

1. Bilateral Agreements Addressing TORs.

In response to a Commission directive regarding Section 17, the CAISO revised the section to extend the preservation of TOR provisions to existing agreements between a TOR holder and a Participating Transmission Owner

²⁴ *Id.*

²⁵ In the same discussion, the Commission also directed the CAISO to finish the incomplete sentence in Section 11.8.3.1.3. This CAISO has already addressed this revision *supra*.

²⁶ June 20 Order at P 173.

²⁷ See Amendment to the MRTU Tariff, Docket No. ER08-1113-000 (June 17, 2008).

²⁸ June 20 Order at P 176.

("TO") that had been accepted by the Commission. In the June 20 Order, the Commission determined that the revision could inappropriately require a non-jurisdictional contract to be filed with the Commission as a precondition for being honored under MRTU, and it directed the CAISO to delete the phrase "which agreement has been accepted by FERC" from Section 17.²⁹ The compliance filing makes this revision and the associated deletion of the phrase "FERC-accepted" in Section 17.

2. Transmission Losses

Pursuant to the June 25 Order, the August 3 Filing modified Section 17.3.3 to honor loss provisions in bilateral agreements between the CAISO and a TOR holder. The Metropolitan Water District of Southern California ("Metropolitan") contended that the Commission's directive was not limited to bilateral agreements to which the CAISO was a party. In the June 20 Order, the Commission agreed that the scope of Section 17.3.3(2) is unduly restrictive. It noted that it had directed the CAISO to preserve existing agreements between the CAISO and Non-Participating TOs and between Participating TOs and TOR holders, and found that Sections 17.3.3(2), 11.2.1.7, and 11.5.7.2 fail to reflect the preservation of agreements between Participating TOs and TOR holders. The Commission directed the CAISO to further modify those tariff sections to provide that, in the event of a conflict between the MRTU tariff and a bilateral agreement between the CAISO and a Non-Participating TO regarding its TORs or between a Participating TO and a Non-Participating TO regarding its TORs, the agreement prevails.³⁰ This compliance filing modifies each of those sections accordingly, with the inclusion of provisions similar to those already incorporated into the introductory provisions of Section 17 regarding this same matter, and including references to the "TOR holder" as the relevant party to the subject agreements to be consistent with the existing provisions of the revised sections.

H. TORs and Existing Transmission Contracts ("ETCs") – Common Issues.

1. Schedule Changes Under ETCs and TORs and the Application of the Perfect Hedge.

In the August 3 Filing, in order to provide clarity regarding equal treatment of TORs, the CAISO proposed new Section 17.2(5), which provided that the submission of a TOR Self-Schedule change pursuant to an agreement between the CAISO and the TOR holder would not affect the application of the various provisions regarding the perfect hedge. Metropolitan argued that the new section

²⁹ *Id.* at P 181.

³⁰ *Id.* at P 191.

inappropriately limited the application of the perfect hedge to TOR Self-Schedules that are the subject of an existing agreement to which the CAISO is a party. In the June 20 Order, the Commission agreed and directed the CAISO to remove the terms, "between the CAISO and the TOR holder."³¹ This compliance filing so revises Section 17.2(5).

2. TRTC Instructions.

The City and County of San Francisco ("San Francisco") protested that Section 17.1.4(5)(c), as revised in the August 3 Filing, would inappropriately require Transmission Rights and Transmission Curtailment ("TRTC") Instructions to include maximum capacity for each source and sink based on the relevant Existing Contract, and that the capacity could be instead established by the maximum physical capacity. Metropolitan also argued that the revised definition of TRTC Instructions conflicted with Section 17.1.1 and allowed a person with no interest in a TOR to participate in the development of TRTC Instructions. The CAISO agreed with these concerns. In response, the Commission directed that Section 17.1.4(5)(c) be modified to remove the phrase "under the Existing Contract" and that the CAISO clarify the definition of TRTC Instructions to address Metropolitan's concerns.³² This compliance filing makes the deletion in Section 17.1.4(5). The CAISO has already made revisions to the definition of TRTC Instructions to address the primary substance of Metropolitan's concerns in its December 21 Filing. However, on further review of the revisions to this definition in the December 21 Filing, it appears that those revisions were not entirely complete in clarifying the intent of the definition. To make the definition of TRTC Instructions more clear and consistent, the CAISO proposes to revise the definition further, as follows:

Operational directives developed (i) between Existing Rights holders and holders of Converted Rights and the Participating TO, submitted to the CAISO by the Participating TO, unless otherwise agreed to by the Participating TO and the Existing Rights or Converted Rights holder, and (ii) by TOR holders, to facilitate the accommodation of Existing Rights, Converted Rights, and TORs in the CAISO Markets.

I. Miscellaneous and General Tariff Issues.

In the June 20 Order, the Commission noted that there were a number of concerns and requested modifications that it was not specifically addressing. With the exceptions discussed in this Section I, it approved the CAISO

³¹ *Id.* at P 206.

³² *Id.* at P 217.

compliance provisions on those matters. It also approved commitments that the CAISO made in the October 5 Filing to incorporate certain changes into the MRTU Tariff or definitions in a further compliance filing or deferred maintenance initiative. The Commission directed the CAISO to incorporate those commitments in this compliance filing.³³ These commitments are discussed in Section III below.

1. Participating Load

SWP identified a number of provisions in the August 3 Filing that it asked to be clarified to accommodate Aggregated Participating Load and to more clearly specify the obligations of Participating Load. The CAISO agreed with some of these proposed changes, and the Commission directed them.³⁴

In its November 15, 2007, filing regarding BPMs, the CAISO proposed similar changes to the MRTU Tariff that accomplish the same purposes as the clarifications and definitional modifications sought by SWP. The Commission accepted those modifications in its March 24 Order.³⁵ It is the CAISO's understanding that SWP is satisfied with those modifications. The CAISO therefore has not included additional changes in this compliance filing.

2. Section 11.14 - Neutrality Charges.

In its October 5 Filing, the CAISO explained certain changes that the August 3 Filing made to Section 11.14. In order to clarify the nature of neutrality adjustments made to reach an accounting trial balance of zero, the CAISO proposed to add a clause, "which includes any amounts required to round up any invoice amount expressed in dollars and cents to the nearest whole dollar amount." The Commission directed this change to Section 11.14(a),³⁶ and it is included in this compliance filing.

3. Section 31.3.1.1 – Market Clearing and Price Determination.

In the August 3 Filing, the CAISO's proposed revisions to Section 31.3.1.1, concerning market clearing and price determination in the IFM, including the following new sentence: "In addition, in Real-Time, resources are required to follow Real-Time Dispatch Instructions." WPTF asked that the

³³ *Id.* at P 237.

³⁴ *Id.* at P 250.

³⁵ See March 24 Order at P 18.

³⁶ June 20 Order at P 261.

sentence be moved to another section because it is unrelated to IFM clearing and price and price determination, and the Commission so ordered.³⁷ This compliance filing deletes the sentence from Section 31.3.1.1 and adds the same obligation in the introduction part of Section 34 (“Real-Time Market”).

4. Metered Subsystem Definitions.

In the June 20 Order, the Commission directed the CAISO to create a new definition for “MSS Net Negative Uninstructed Deviation” and to modify two other definitions related to MSSs to include references to “gross” Demand as proposed by NCPA.³⁸ This compliance filing includes the new defined term “MSS Net Negative Uninstructed Deviation” and modifies the definitions of the terms “MSS Aggregation Net Measured Demand” and “MSS Deviation Band” to include the term “gross” as directed.

III. Fulfillment of Commitments Made in the October 5 Filing.

As discussed above, in Paragraph 237 of the June 20 Order, the Commission directed the CAISO to include in its compliance filing tariff revisions to fulfill commitments that were made in its October 5 Filing but were not discussed in the June 20 Order. The following describes the complying tariff revisions with references to the pages of the October 5 Filing in which the commitments were made. In some instances, the revision has already been made in a previous filing, in which case the previous filing is noted.

A. Settlements

- In Section 11.2.4.2.2, the term “pro-ration” is replaced by the term “pro rated.” (p. 3)
- Section 11.8.2.1.2 is revised to read: “For the purposes of determining IFM Minimum Load Cost, a Bid Cost Recovery Eligible Resource is assumed to be On if its metered Energy in a Settlement Interval is equal to or greater than the difference between its Minimum Load Energy and the Tolerance Band. Otherwise, it is determined to be Off.” (p. 3)
- Section 11.8.3.1.2 is revised as follows: “For the purposes of determining RUC Minimum Load Cost, a Bid Cost Recovery Eligible Resource is assumed to be On if its metered Energy in a Settlement Interval is equal to or greater than the difference between its Minimum Load Energy and the Tolerance Band. Otherwise, it is determined to be Off.” A similar change is made to Section 11.8.2.1.2 concerning the use of “On.” (p. 3)

³⁷ *Id.* at P 275.

³⁸ *Id.* at P 294.

- Section 11.10.1.3.1 is revised to read: “For each Settlement Period, the Congestion Charge for Suppliers of Real-Time Ancillary Services Awards at Scheduling Points for Dynamic System Resources shall be equal to the simple average of the 15 minute Shadow Prices at the applicable Scheduling Point multiplied by the quantity of the Ancillary Service award for the Settlement Period.” (p. 3)
- The last sentence of Section 11.10.2.1.3, which was added in the August 3 Filing, is revised as follows: “Each Scheduling Coordinator’s Ancillary Services Obligation percentage for Regulation Down in an hour is equal to the total requirement for Regulation Down in that hour divided by the hourly metered CAISO Demand for that hour.” Similar changes are made to Section 11.10.2.2.2 for Regulation Up. (pp. 3-4)
- References to Candidate CRR Holders are deleted from Section 11.29.9.6.2. (p. 4)
- The third sentence of Section 11.8.6.6 is revised to read: “...MSS Operators that have elected a) not to follow their load, and b) Gross Settlement, in proportion...” (p. 4)
- The phrase “System Resources that receives...” in Section 31.5.7.1 has previously been revised to read “System Resources that receive....” (p. 4) This change was made in the December 21 Filing.

B. Resource Adequacy

- Although the CAISO supported recommendations that Section 40.3.4.2 be revised, that section was deleted in the CAISO’s February 8, 2008, tariff amendment filing regarding the Interim Capacity Procurement Mechanism (“ICPM”) in Docket Nos. ER08-556 and ER06-615 (“February 8 ICPM Filing”). (p. 14)
- Section 40.4.2 was revised to require that the CAISO notify affected Scheduling Coordinators (“SCs”) of changes in a resource’s Net Qualifying Capacity and provide any supporting analyses within 10 days of the CAISO’s determination that such changes are appropriate, but in any event not later than 15 days prior to the posting of the Net Qualifying Capacity annual report. (p. 14) The CAISO made that revision in its February 8, 2008 compliance filing in Docket Nos. ER06-615 and ER07-1257 (“February 8 Compliance Filing”).
- Sections 40.3.1.1 and 40.3.1.2 were modified to replace the reference to the “NERC/WECC Planning Standard I.A” with a reference to NERC Reliability Standards TPL-001-0, TPL-002-0, TPL-003-0 and TPL-004-0

(applicable to Transmission Planners and Planning Authorities) in the February 8 Compliance Filing. (p. 14)

- The current tariff language identifying CAISO backstop procurement based only on annual procurements pursuant to Resource Adequacy ("RA") Plans was modified to include more frequent evaluations of the need for CAISO non-market purchases, based on both monthly RA Plan updates and intra-monthly use-limited plans in the February 8 ICPM Filing. (p. 14)
- The CAISO modified Sections 40.3.1.1 and 40.3.2.2 by deleting the notes to the tables and modified Section 40.3.1.1 in a manner which accomplishes the purpose of the CAISO's commitment in the February 8 Compliance Filing. (pp. 25-26)
- Although the CAISO agreed that it is appropriate to require that the CAISO issue a report within 30 days of any procurement that lists the Local Capacity Area Resources procured under Section 40.3.4, the megawatts of capacity procured, and the duration of the procurement, that section was deleted in the February 8 ICPM Filing. (p. 28)

C. Locational Marginal Price ("LMP")

- The first sentence of Section A of Appendix C to the MRTU Tariff is clarified by replacing "and specified in the Day-Ahead Schedule" with "as specified in the Day-Ahead Schedule." The CAISO is also clarifying that section to indicate that the marginal prices are limited by resources that are not eligible to set the price or have constraints such that they cannot be marginal and therefore it is not the case that the highest price resource bid in at a particular node would set the price. (p. 61)

D. Tariff and Terms

- The CAISO replaced the undefined term "HASP Intertie Pre-Dispatch LMP" in Section 11.4.1 with the defined term "HASP Intertie LMP" in its December 21 Filing. (p. 101)
- The term "Approved Credit Rating" was deleted entirely from the MRTU Tariff as part of the incorporation into the MRTU Tariff of the new credit policy provisions that the Commission has accepted as revisions to the currently effective CAISO Tariff in the December 21 Filing. (p. 101)
- In the December 21 Filing, the CAISO added a definition of the acronym "OTC" as used in Section 36.4 and elsewhere in the MRTU Tariff to refer to the defined term "Operating Transfer Capability," which term the CAISO also revised in the December 21 Filing to make it more clear. (p. 102)

- In the December 21 Filing, the CAISO revised the definition for Alert, Warning or Emergency (AWE) Notice to make it clearer. (p. 102)
- In the December 21 Filing, the CAISO revised and clarified the defined term and definition for “Available Transfer Capacity” to rename the term “Available Transfer Capability” and to refer to the additional detail regarding that term incorporated into Appendix L in compliance with Commission Order No. 890. (p. 102)
- The December 21 Filing clarified the definitions of “Generated Bid” and “Undispatchable Capacity” to use other defined terms more accurately in those definitions. (p. 104)

E. Miscellaneous.

- The second and third sentences of Section 30.5.2.2 are revised to read: “A SC for a Physical Scheduling Plant or a System Unit may include Generation Distribution Factors as part of its Supply Bid. If the Scheduling Coordinator does not submit the Generation Distribution Factors applicable for the Bid, the CAISO will use default Generation Distribution Factors stored in the Master File.” (p. 111)

IV. Other Compliance Matters

The June 20 Order included a number of directives and discussions that the Commission did not direct be addressed in a 30-day compliance filing. The following discusses those matters.

A. Non-Disclosure Agreement

The CAISO made a commitment to post on the CAISO Website a revised non-disclosure agreement within two weeks of the posting of the version of the Full Network Model schedule for October 2007.³⁹ The revised non-disclosure agreement has been posted, and the currently posted agreement permits a consultant’s access to the model on-site or at the premises of the Market Participant or non-Market Participant, expressly allows use of the model and related studies in pleadings before the Commission (subject to confidentiality protection), and permits the CAISO to recover litigation costs if it prevails against a breaching party.

³⁹

June 20 Order at P 114.

B. MRTU Start-Up Contingency Plan

In the June 20 Order, the Commission directed the CAISO to include a description of its MRTU start-up contingency plan in its MRTU readiness certification, in order to address concerns expressed by the CPUC regarding stakeholder input on the contingency plan.⁴⁰ Although the Commission did not direct any actions in this compliance filing, the CAISO would take this opportunity to note that it has activities underway regarding a cut-over and reversion plan that will be discussed in its 60-day readiness certification filing, which the Commission has directed.⁴¹ The CAISO posted a high level cut-over reversion plan on February 27, 2008 and will post a detailed plan prior to submitting the 60-day readiness certification filing. In addition, the CAISO will conduct a "Table Top" exercise with Market Participants to walk everyone through the plan. The CAISO's contingency planning efforts are not limited to start-up (*i.e.*, cut over), but also include post-implementation contingency planning, including the establishment of an internal Rapid Response Team.

C. Attachment K

The Commission stated that it agreed with SCE that the Commission does not have enough information at this time to determine whether convergence bids should be allocated Real-Time Load Distribution Factor uplift charges as discussed in Attachment K to the August 3 Filing. Therefore, the Commission deferred ruling on this proposal until such time that the CAISO submits its convergence bidding design.⁴² In the August 3 Filing, the CAISO proposed a change to the Real-Time Load Aggregation Point ("LAP") settlement methodology contained in Section 11.5.2. The CAISO also provided, as Attachment K to the August 3 Filing, a February 14, 2007, White Paper that included discussion of the allocation of certain charges to convergence bids. The CAISO did not intend to seek Commission approval of any matter discussed in Attachment K other than the specific tariff proposal included in the August 3 Filing. The CAISO understands that when it files tariff provisions regarding convergence bidding, the Commission will address all relevant issues in response to that filing.

D. Hunter's Point

The Commission accepted the CAISO's commitment to include, as part of its deferred maintenance initiative, revised tariff sheets to reflect the error noted by PG&E that Section 41.1 and the *pro forma* RMR Contract incorrectly

⁴⁰ *Id.* at P 268.

⁴¹ See September 21 Order at P 1414.

⁴² June 20 Order at P 270.

reference the Hunter's Point power plant as meeting operating criteria associated with the San Francisco local reliability area.⁴³ The CAISO corrected this error in the compliance filing it submitted in Docket No. ER06-615 on October 26, 2007, which is pending before the Commission.

E. Scheduling Infrastructure Business Rule

The Commission found that NCPA had raised a legitimate concern with respect to the disclosure of Information received by Market Participants when utilizing the Scheduling Infrastructure Business Rule ("SIBR") system. It noted that, since the bids are financially binding at the close of the Day-Ahead Market, the CAISO has the responsibility to adequately inform the Market Participant of any changes and directed the CAISO to notify Market Participants of any bid changes with an explanation as to why the CAISO modified the bids and trades.⁴⁴

Currently, SIBR informs users that submit a bid of the bid status: "REJECTED", "INVALID", "CONDITIONALLY MODIFIED", "CONDITIONALLY VALID", or "VALID". SIBR also includes a text message describing any error or condition that affected that status and the relevant SIBR rule number. In the 10 months since NCPA raised this issue, Market Participants have had time to gain experience, through testing and market simulation, in using and understanding the messages generated by SIBR. The provision of this SIBR data adequately informs the Market Participant of any changes and of the reasons for any modification of bids and trades, consistent with the CAISO's responsibility as described by the Commission and, therefore, the CAISO believes that it is in compliance.

Nonetheless, the CAISO has, even prior to the June 20 Order, taken the initiative to increase SIBR's ability to provide additional information to Market Participants. This enhancement, however, will not be in place for day one MRTU. Specifically, the CAISO is adding an enhancement to SIBR that will provide a new bid status to the users, "MFINSERT," in the case where SIBR is performing a standard insert or overwrite of data into a bid from the Master File. Currently these types of actions would result in a "MODIFIED" or "CONDITIONALLY MODIFIED" bid status. This new "MFINSERT" status will allow users to differentiate the standard types of modifications from other modifications that the SIBR system has made to their bids that require the user review. The "MFINSERT" status will be triggered by the following:

⁴³ *Id.* at P 273.

⁴⁴ *Id.* at P 281.

- 1) All rules that insert the registered Start-Up and Minimum Load for Registered Cost units or insert the calculated Start-Up Cost and Minimum Load for Proxy Cost units. This occurs for all generation bids.
- 2) All rules that copy clean bids. This is the automatic process where the daily components from Day-Ahead bids are copied into the Real-Time bids. These rules are 41101, 41201, 41601, 41611, 41701.
- 3) The rule associated with fast/slow, rule 41613.

F. Definitions

In Paragraph 309 of the June 20 Order, the Commission accepted the CAISO's commitment to address the request of the Alliance for Retail Energy Markets ("AREM") for a comprehensive review of the defined terms of the MRTU Tariff as part of the "deferred maintenance" process. In its December 21 Filing, the CAISO, following a comprehensive review, corrected all identified inaccurate use of defined terms.

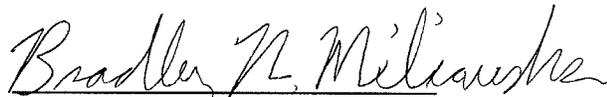
V. Materials Provided in the Instant Compliance Filing

In addition to this transmittal letter, the instant compliance filing includes Attachments A through D. Attachment A contains clean MRTU Tariff sheets reflecting the tariff modifications described in Section II, above. Attachment B shows these modifications in red-line format. Attachment C contains clean sheets under the currently effective CAISO Tariff that reflect the tariff modifications described in Section II, above, and Attachment D shows these modifications in black-line format.

VI. Conclusion

For the foregoing reasons, the CAISO respectfully requests that the Commission accept the instant filing as complying with the directives of the June 20, 2008 Order. Please contact the undersigned with any questions concerning this filing.

Respectfully submitted,



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Attachment A – Clean Sheets

July 21, 2008 MRTU Compliance Filing (Docket No. ER06-615-011)

4th Replacement MRTU Tariff

11.2.1.7 IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules.

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedule submitted pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or make any payment to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable losses charges as specified in the existing agreement between the TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.2.1.7. Where the provisions of this Section 11.2.1.7 do not conflict with the provisions of the agreement, the provisions of this Section 11.2.1.7 shall apply to the subject TORs. For each Scheduling Coordinator, the CAISO shall determine the applicable IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules, which can be positive or negative, as the sum of the products of the quantity scheduled in the Day-Ahead Schedule and the MCL at each eligible Point of Receipt and Point of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules.

11.2.2 Calculation of Hourly RUC Compensation.

For each Settlement Period and resource, Scheduling Coordinators shall receive RUC Compensation, which is the sum of the RUC Availability Payment as determined pursuant to Section 11.2.2.1 and the RUC Bid Cost Recovery amount as determined in Section 11.8.3.

11.2.2.1 Settlement of RUC Availability Payment.

Scheduling Coordinators shall receive RUC Availability Payments for all eligible capacity awarded in the RUC process. Resource Adequacy Capacity and capacity from RMR Units dispatched under its RMR Contract in the DAM are not eligible for RUC Availability Payments. The RUC Availability Payment shall be calculated for each resource based on the product of the RUC Price and the RUC Availability Quantity for the relevant Settlement Period. The RUC Availability Payment amounts are allocated through the RUC Compensation Costs allocation in Section 11.8.6.5.

11.2.4.2 Settlement Calculation for the Different CRR Types.

For the purposes of determining the CRR Payments and CRR Charges based on the various CRR Types, the CAISO shall calculate the Settlement of CRRs as described in this Section 11.2.4.2. When CRR Source or CRR Sink is a LAP, the Load Distribution Factors used in the IFM will be used to calculate the LAP Price at which CRR Payments or CRR Charges will be settled. When CRR Source or CRR Sink is a Trading Hub the weighting factors used in the IFM and the CRR Allocation and CRR Auction processes will also be used to settle CRR Payments and CRR Charges.

11.2.4.2.1 Point-to-Point CRR Options.

For each CRR Holder, the CAISO shall calculate a CRR Payment for each Point-to-Point CRR Option held by the CRR Holder equal to the product of: 1) the MCC at the CRR Sink minus the MCC at the CRR Source; and 2) the MW quantity of the CRR; if that amount is positive. If the resulting amount is negative, the CAISO shall not assess a charge for the relevant CRR Holder for the negative amount. The full CRR Payment calculated pursuant to this process shall be subject to pro-ration as described in 11.2.4.4.

11.2.4.2.2 Point-to-Point CRR Obligations.

For each CRR Holder, the CAISO shall calculate a CRR Payment for each CRR Obligation for a Point-to-Point CRR held by the CRR Holder, equal to the product of: 1) the MCC at the CRR Sink minus the MCC at the CRR Source; and 2) the MW quantity of the CRR; if that amount is positive. If the resulting amount is negative, the CAISO shall calculate a CRR Charge for the relevant CRR Holder equal to that negative amount. The full CRR Payment or CRR Charges calculated pursuant to this process shall be pro-rated as described in 11.2.4.4.

applicable HASP and RTM Congestion Credit for Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the MCC at each Point of Receipt and Point of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's ETC or TOR Self-Schedules. For all exports and imports settled in the HASP, the CAISO shall use the MWh quantity specified in the HASP Intertie Schedule. For all Demand settled in the Real-Time Market the CAISO shall use the metered CAISO Demand associated with the applicable ETC or TOR. For all Supply settled in the Real-Time Market the CAISO shall use the quantity specified in the Dispatch Instructions.

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

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedule submitted to the HASP or RTM pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or make any payment to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable charges for losses as specified in the existing agreement between the TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.7.2. Where the provisions of this Section 11.5.7.2 do not conflict with the provisions of the agreement, the provisions of this Section 11.5.7.2 shall apply to the subject TORs. The balanced portion of the TOR Self-Schedule will be based on the difference between: (1) minimum of the metered CAISO Demand or TOR Self-Schedule submitted in the HASP, or the TOR maximum capacity as specified in the TRTC Instructions; and (2) the Day-Ahead Schedule. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for Imbalance Energy, which can be positive or negative, as the sum of the product

of the relevant MWh quantity and the MCL at each eligible Points of Receipt and Points of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules. For all exports and imports settled in the HASP, the CAISO shall use the MWh quantity specified in the HASP Intertie Schedule. For all Demand settled in the Real-Time Market the CAISO shall use the metered CAISO Demand associated with the applicable TOR. For all Supply settled in the Real-Time Market the CAISO shall use the quantity specified in the Dispatch Instructions.

- (g) The IFM Start-Up Cost will be qualified if an actual Start-Up occurs earlier than the start of the IFM Commitment Period if the advance Start-Up is as a result of a Start-Up instruction issued in a RUC or Real-Time Market process subsequent to the IFM, or the advance Start-Up is uninstructed but is still within the same Trading Day and the Bid Cost Recovery Eligible Resource actually stays on until the targeted IFM Start-Up.

11.8.2.1.2 IFM Minimum Load Cost.

The Minimum Load Cost for the applicable Settlement Interval shall be the Minimum Load Cost submitted to the CAISO in the IFM divided by the number of Settlement Intervals in a Trading Hour. For each Settlement Interval, only the IFM Minimum Load Cost in a CAISO IFM Commitment Period is eligible for Bid Cost Recovery. The IFM Minimum Load Cost for any Settlement Interval is zero if: (1) the Settlement Interval is in an IFM Self Commitment Period for the Bid Cost Recovery Eligible Resource; (2) the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract prior to the Day-Ahead Market or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule for the applicable Settlement Interval; or (3) the Bid Cost Recovery Eligible Resource is determined not actually On during the applicable Settlement Interval. For the purposes of determining IFM Minimum Load Cost, a Bid Cost Recovery Eligible Resource is assumed to be On if its metered Energy in a Settlement Interval is equal to or greater than the difference between its Minimum Load Energy and the Tolerance Band. Otherwise, it is determined to be Off.

11.8.2.1.3 IFM Pump Shut-Down Cost.

For Pumped-Storage Hydro Units and Participating Load only, the IFM Pump Shut-Down Costs for each Settlement Interval shall be equal to the relevant Pump Shut-Down Cost submitted to CAISO in the IFM divided by the number of Settlement Intervals in a Trading Hour in which shut down is to occur if the unit is committed by the IFM not to pump and actually does not operate in pumping mode in that Settlement Interval (as detected by Meter Data).

Commitment Period is eligible for Bid Cost Recovery. The RUC Minimum Load Cost for any Settlement Interval is zero if: (1) the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule in that Settlement Interval; (2) the Bid Cost Recovery Eligible Resource is not actually On in the applicable Settlement Interval; or (3) the applicable Settlement Interval is included in an IFM Commitment Period. For the purposes of determining RUC Minimum Load Cost, a Bid Cost Recovery Eligible Resource is assumed to be On if its metered Energy in a Settlement Interval is equal to or greater than the difference between its Minimum Load Energy and the Tolerance Band. Otherwise, it is determined to be Off.

11.8.3.1.3 RUC Availability Bid Cost.

The RUC Availability Bid Cost is calculated as the product of the RUC Award with the relevant RUC Availability Bid price, divided by the number of Settlement Intervals in a Trading Hour. The RUC Availability Bid Cost for a Bid Cost Recovery Eligible Resource for a Settlement Interval is zero if the Bid Cost Recovery Eligible Resource is operating below its RUC Schedule, and also has a negative Uninstructed Imbalance Energy (UIE) magnitude in that Settlement Interval in excess of: (1) five (5) MWh divided by the number of Settlement Intervals in the Trading Hour; or (2) three percent (3%) of its maximum capacity divided by the number of Settlement Intervals in a Trading Hour.

11.8.3.2 RUC Market Revenues.

For any Settlement Interval, the RUC Market Revenue for a Bid Cost Recovery Eligible Resource is the RUC Availability Payment as specified in Section 11.2.2.1 divided by the number of Settlement Intervals in a Trading Hour. If the RUC Availability Bid Cost of a BCR Eligible Resource is reduced to zero (0) in a Settlement Interval because of Uninstructed Deviation as stated in Section 11.8.3.1.3, then the RUC Market Revenue for that resource for that Settlement Interval shall also be set to zero (0) since the resource is subject to rescission of RUC Availability Payments as specified in Section 31.5.7.

11.8.5 Unrecovered Bid Cost Uplift Payment.

Scheduling Coordinators shall receive an Unrecovered Bid Cost Uplift Payment for a Bid Cost Recovery Eligible Resource, including resources for MSS Operators that have elected gross Settlement, if the net of all IFM Bid Cost Shortfalls and IFM Bid Cost Surpluses calculated pursuant to Section 11.8.2, RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses calculated pursuant to Section 11.8.3, and the RTM Bid Cost Shortfalls and RTM Bid Cost Surpluses calculated pursuant to Section 11.8.4 for that Bid Cost Recovery Eligible Resource over a Trading Day is positive. For MSS Operators that have elected net Settlement, the Unrecovered Bid Cost Uplift Payment is at the MSS level. The MSS IFM, RUC, and RTM Bid Cost Shortfall or IFM, RUC, and RTM Bid Cost Surplus for each market for each Trading Hour is the sum of the IFM, RUC, and RTM Bid Cost Shortfalls and IFM, RUC, and RTM Bid Cost Surpluses for all resources in the MSS. Scheduling Coordinators for MSS Operators that have elected net Settlement will receive an Unrecovered Bid Cost Uplift Payment if the net of all IFM, RUC, and RTM Bid Cost Shortfalls and IFM, RUC, and RTM Bid Cost Surpluses for that MSS over a Trading Day is positive.

11.8.6 System-wide IFM, RUC and RTM Bid Cost Uplift Allocation.

11.8.6.1 Determination of IFM, RUC and RTM Bid Cost Uplift.

For each Settlement Interval, the CAISO shall determine the IFM, RUC and RTM Bid Cost Uplift for purposes of allocating the IFM, RUC and RTM Bid Cost Uplift as described below. In determining the IFM, RUC and RTM Bid Cost Uplifts below, the Unrecovered Bid Cost Uplift Payments for MSS BCR Eligible Resources in Metered Subsystems where the MSS Operator has elected net Settlement will be included on an MSS basis and not on an individual resource basis.

- (i) The IFM Bid Cost Uplift shall be the net of the IFM Bid Cost Shortfalls and IFM Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources with Unrecovered Bid Cost Uplift Payments.

- (ii) The RUC Bid Cost Uplift shall be the net of the RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources in the CAISO Control Area with Unrecovered Bid Cost Uplift Payments.
- (iii) The RTM Bid Cost Uplift shall be the net of the RTM Bid Cost Shortfalls and RTM Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources with Unrecovered Bid Cost Uplift Payments.

11.8.6.2 Sequential Netting of IFM, RUC and RTM Bid Cost Uplift.

For each Settlement Interval, the Net IFM, RUC or Real-Time Market Bid Cost Uplift is determined for the purposes of allocating Net IFM, RUC or Real-Time Market Bid Cost Uplift by the following netting rules applied sequentially:

- (i) The Net IFM Bid Cost Uplift, if positive, is reduced to the greater of zero or any positive IFM Bid Cost Uplift offset by negative Real-Time Market Bid Cost Uplift first and offset by any negative RUC Bid Cost Uplift.
- (ii) The Net RUC Bid Cost Uplift is equal to the greater of zero or any positive RUC Bid Cost Uplift offset by any remaining negative Real-Time Market Bid Cost Uplift after netting negative Real-Time Market Bid Cost Uplift in (i) and offset by any negative IFM Bid Cost Uplift.
- (iii) The Net Real-Time Market Bid Cost Uplift is equal to the greater of zero or any positive Real-Time Market Bid Cost Uplift offset by any remaining negative RUC Bid Cost Uplift after netting negative RUC Bid Cost Uplift in (i) above and any remaining negative IFM Bid Cost Uplift after netting negative IFM Bid Cost Uplift in (ii).

11.8.6.5 Allocation of RUC Compensation Costs.

11.8.6.5.1 Calculation of RUC Compensation Costs.

For each Trading Hour of the RUC, the CAISO shall calculate the RUC Compensation Costs as the sum of the RUC Availability Payment and the hourly Net RUC Bid Cost Uplift.

11.8.6.5.2 Calculation of the Hourly Net RUC Bid Cost Uplift.

For each Trading Hour of the RUC, the hourly Net RUC Bid Cost Uplift is determined as the sum over the Settlement Intervals in that Trading Hour of the product of any positive Net RUC Bid Cost Uplift remaining in the Settlement Interval after the sequential netting in Section 11.8.6.2 and the application of the uplift ratio as determined in 11.8.6.3. Consistent with Section 31.5.2.2, Scheduling Coordinators for MSS Operators that have opted out of RUC participation, or opt-out of RUC by default as a result of having elected to Load follow, will not be subject to any RUC Bid Cost Uplift allocation. Scheduling Coordinators for MSS Operators that have opted-into RUC, and consequently also are non-Load following and under gross Settlement, will receive the allocation of hourly Net RUC Bid Cost Uplift like all other Scheduling Coordinators.

11.8.6.5.3 Allocation of the RUC Compensation Costs.

- (i) In the first tier, the RUC Compensation Costs are allocated to Scheduling Coordinators, based on their Net Negative CAISO Demand Deviation in that Trading Hour. The Scheduling Coordinator shall be charged at a rate which is the lower of (1) the RUC Compensation Costs divided by the Net Negative CAISO Demand Deviation for all Scheduling Coordinators in that Trading Hour; or (2) the RUC Compensation Costs divided by the RUC Capacity, for all Scheduling Coordinators in that Trading Hour. Participating Load shall not be subject to the first tier allocation of RUC Compensation Costs to the extent that the Participating Load's Net Negative CAISO Demand Deviation in that Trading Hour is incurred pursuant to a CAISO directive to consume in a Dispatch Instruction.

- (ii) In the second tier, the Scheduling Coordinator shall be charged an amount equal to any remaining RUC Compensation Costs in proportion to the Scheduling Coordinator's metered CAISO Demand in any Trading Hour.

11.8.6.6 Allocation of Net RTM Bid Cost Uplift.

The hourly Net RTM Bid Cost Uplift is computed for the Trading Hour as the product of the uplift ratio in 11.8.6.3 and the sum over all Settlement Intervals of the Trading Hour of any positive Net RTM Bid Cost Uplift after the sequential netting in Section 11.8.6.2. The hourly RTM Bid Cost Uplift is allocated to Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected to not follow their Load and gross Settlement, in proportion to their Measured Demand for the Trading Hour. For Scheduling Coordinators for MSS Operators that have elected (a) not to follow their Load, and (b) gross Settlement, the hourly RTM Bid Cost Uplift is allocated in proportion to their MSS Aggregation Net Measured Demand. For Scheduling Coordinators of MSS Operators that have elected to follow their Load, the RTM Bid Cost Uplift shall be allocated in proportion to their MSS Net Negative Uninstructed Deviation. Accordingly, each Scheduling Coordinator shall be charged an amount equal to its Measured Demand times the RTM Bid Cost Uplift rate, where the RTM Bid Cost Uplift rate is computed as the Net RTM Bid Cost Uplift amount divided by the sum of Measured Demand across all Scheduling Coordinators for the Trading Hour.

11.9 Inter-SC Trades.

11.9.1 Physical Trades.

Inter-SC Trades of Energy in the Day-Ahead Market will be settled separately from Inter-SC Trades of Energy in the HASP. Both the Day-Ahead and HASP Inter-SC Trades of Energy will be settled on an hourly basis and the two respective Settlement amounts between the two parties for each market shall net to zero. All MWh quantities of Physical Trades submitted to the CAISO for Settlement in the Day-Ahead Market that are confirmed through the Physical Trade post market confirmation as provided in Section 28.1.6.3 shall be settled at the Day-Ahead LMP at the relevant PNode. All MWh quantities of

11.10.1.2.1 Congestion Charges for HASP Intertie Ancillary Service Awards.

Suppliers of HASP Ancillary Services Awards at Scheduling Points are also charged for Congestion if the Ancillary Service Award is at a congested Scheduling Point. The charge shall be equal to the simple average of the 15 minute Shadow Price of the applicable congested Scheduling Point multiplied by the quantity of the Ancillary Service Award for the Settlement Period.

11.10.1.3 Ancillary Services Provided in Real-Time.

For Ancillary Services provided from resources internal to the CAISO Balancing Authority Area in the Real-Time Market, the RTUC process that is performed every fifteen (15) minutes establishes fifteen (15) minute Ancillary Service Schedules, awards, and prices for the upcoming quarter of the Operating Hour. Suppliers of Ancillary Services from resources internal to the CAISO Balancing Authority Area are paid a price equal to $\frac{1}{4}$ of the fifteen (15) minute ASMP (in \$/MW/h) in each fifteen (15) minute interval for the each Ancillary Service times the amount of the capacity awarded (MW) for the Ancillary Service in the relevant Ancillary Services Region. Suppliers with Ancillary Service Awards receive the ASMP at the resource's location. Suppliers that self-provide Ancillary Services in the Real-Time Market are not eligible to receive ASMP; rather to the extent the self-provision is qualified it will be valued at the user rate for the relevant service (*i.e.*, will either reduce the Ancillary Services Obligation or receive the user rate if it exceeds the Scheduling Coordinator's Ancillary Service Obligation).

11.10.1.3.1 Congestion Charges for Real-Time Intertie Ancillary Service Awards from Dynamic System Resources.

For each Settlement Period, the Congestion Charge for Suppliers of Real-Time Ancillary Services Awards at Scheduling Points for Dynamic System Resources shall be equal to the simple average of the fifteen (15) minute Shadow Prices at the applicable Scheduling Point multiplied by the quantity of the Ancillary Service Award for the Settlement Period.

11.10.2.1.3 Hourly Net Obligation for Regulation Down Reserve.

Each Scheduling Coordinator's hourly net obligation for Regulation Down is determined as follows: the Scheduling Coordinator's metered CAISO Demand multiplied by the Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Down, reduced by accepted Self-Provided Ancillary Services specified as Regulation Down, plus or minus any Regulation Down Reserve obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. Each Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Down in that hour is divided by the hourly metered CAISO Demand for that hour.

11.10.2.1.4 Regulation Down Neutrality Adjustment.

For each Settlement Period, the difference between the Regulation Down Reserve Cost determined in Section 11.10.2.1.2 and the total revenue collected from all Scheduling Coordinators in the Regulation Down charge pursuant to Section 11.10.2.1.3 shall be allocated to all Scheduling Coordinators in proportion to their Regulation Down obligation quantity.

11.10.2.2 Regulation Up.

The charges a Scheduling Coordinator must pay for Regulation Up for each Settlement Period of the Trading Day are based upon the product of the Scheduling Coordinator's hourly obligation for Regulation Up (MW) and the hourly user rate for Regulation Up (\$/MW).

11.10.2.2.1 Hourly User Rate for Regulation Up.

The hourly user rate for Regulation Up is the total Regulation Up cost (\$) for each Settlement Period divided by the total Net Procurement of Regulation Up by the CAISO (MW) for each Settlement Period.

The CAISO's Regulation Up cost is equal to: (i) the revenues paid to the suppliers of the total awarded Regulation Up capacity in the Day-Ahead Market, HASP, and Real-Time Market for the Settlement Period, minus, (ii) the payments rescinded in the Settlement Period due to the unavailability of the Regulation Up under any of the provisions of Section 8.10.8. The Net Procurement of Regulation Up is equal to: (i) the amount (MWs) of total awarded Regulation Up capacity in the Day-Ahead Market, HASP, and Real-Time Market for the Settlement Period, minus, (ii) the Regulation Up capacity associated with payments rescinded for the Settlement Period, pursuant to any of the provisions of Section 8.10.8.

11.10.2.2 Hourly Net Obligation for Regulation Up.

Each Scheduling Coordinator's hourly net obligation for Regulation Up is determined as follows: (a) the Scheduling Coordinator's metered CAISO Demand multiplied by the Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up, reduced by accepted Self-Provided Ancillary Services specified as Regulation Up, plus or minus any Regulation Up Reserve Obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. Each Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up in that hour is divided by the hourly metered CAISO Demand for that hour.

11.10.2.3 Regulation Up Neutrality Adjustment.

For each Settlement Period, the difference between the Regulation Up net requirement at the hourly Regulation Up user rate determined in Section 11.10.2.2.2 and the total revenue collected from all Scheduling Coordinators in the Regulation Up charge pursuant to Section 11.10.2.2.1 shall be allocated to all Scheduling Coordinators in proportion to their Regulation Up Reserve Obligation quantity. The Regulation Up net requirement is the Real-Time Regulation Up requirement net of the sum of effective qualified Regulation Up self-provision over all resources.

11.13.9.2.2 Emergency Affecting the RMR Owner.

In the event of an emergency or a failure of any of the RMR Owner's systems, the RMR Owner may use Estimated RMR Invoices as provided in the applicable section of the RMR Contract or may implement any temporary variation of the timing requirements relating to the settlement and billing process contained in this Section 11.13 and its RMR Contract. Details of the variation will be published on the CAISO Website. Communications of an emergency nature on a due date or a Payment Date relating to payments shall be made by the fastest practical means including by telephone.

11.13.10 Confidentiality.

The provisions of Sections 11.29.10.1 and 20.5 shall apply to this Section 11.13 between and among the RMR Owners, the CAISO and Responsible Utilities. Except as may otherwise be required by applicable law, all confidential information and data provided by RMR Owner or the CAISO to the Responsible Utility pursuant to the RMR Contract, Section 41.6 or this Section 11.13 shall be treated as confidential and proprietary to the providing party to the extent required by Section 12.5 and Schedule N of the RMR Contract and will be used by the receiving party only as permitted by such Section 12.5 and Schedule N.

11.14 Neutrality Adjustments.

The CAISO shall be authorized to levy additional charges or make additional payments as special adjustments in regard to:

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

If the CAISO Reserve Account is drawn upon, the CAISO shall as soon as possible thereafter take any necessary steps against the defaulting Scheduling Coordinator or CRR Holder, including making any calculations or taking any other appropriate action, to replenish the CAISO Reserve Account including drawing on any credit support or other Financial Security provided by the defaulting Scheduling Coordinator or CRR Holder pursuant to Section 12 or serving demands on any defaulting Scheduling Coordinator or CRR Holder if Financial Security has been exhausted or if no Financial Security is available due to establishment of an Unsecured Credit Limit.

The proceeds of drawings under any line of credit, other credit facility, or other Financial Security of the CAISO Reserve Account shall be held on trust for CAISO Creditors. If the CAISO Reserve Account is replenished as provided for in this Section 11.29.9.6.2, any credits shall be held on trust for all CAISO Creditors.

11.29.9.6.2.1 Replenishing the CAISO Reserve Account Following Payment Default.

If the CAISO has debited the CAISO Reserve Account then:

- (a) If, after the CAISO has debited the CAISO Reserve Account on a Payment Date, the CAISO Bank receives a remittance from a CAISO Debtor which has not been (but should have been, if it had been received on a timely basis) credited to the CAISO Clearing Account by 10:00 am on the Payment Date and which required the debiting of the CAISO Reserve Account, such remittance shall be credited to the CAISO Reserve Account.
- (b) The proceeds of any enforcement of Financial Security and/or amounts recovered under proceedings shall be credited to the CAISO Reserve Account.

17 Transmission Ownership Rights (TORs).

Transmission Ownership Rights represent transmission capacity on facilities that are located within the CAISO Balancing Authority Area that are either wholly or partially owned by an entity that is not a Participating TO. This Section 17 shall apply to the TORs of Non-Participating TOs. In any case in which (i) the CAISO has entered into a bilateral agreement with a Non-Participating TO regarding its TORs or (ii) a Participating TO has entered into a bilateral agreement with a Non-Participating TO regarding its TORs, the provisions of the agreement shall prevail over any conflicting provisions of this Section 17. Where the provisions of this Section 17 do not conflict with the provisions of the agreement, the provisions of this Section 17 shall apply to the subject TORs.

17.1 Transmission Rights and Transmission Curtailment Instructions.

17.1.1 Responsibility to Create TRTC Instructions.

To enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, each Non-Participating TO holding a TOR must work with the CAISO to develop the TRTC Instructions that allow the TOR to be accommodated in a way that: (i) maintains the existing scheduling and curtailment priorities of the TOR holder; (ii) is minimally burdensome to the CAISO (i.e., creates the least impact on the CAISO's preferred operational policies and procedures); (iii) to the extent possible, imposes no additional financial burden on the TOR holder (beyond that set forth in an applicable Existing Contract or any other contract pertaining to the TOR); (iv) is minimally burdensome to the TOR holder from an operational point of view; and (v) does not require the CAISO to interpret or underwrite the economics of any applicable Existing Contract. To enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, the parties holding joint ownership interests and Entitlements in facilities including TORs must attempt to jointly develop and agree on any TRTC Instructions that will be submitted to the CAISO, as provided in Section 17.1.6.

- (1) A unique Contract Reference Number for each source and sink combination applicable to the TOR (i.e., the CRN that will be assigned by the CAISO and communicated to the Non-Participating TO that references a single TOR or a set of interdependent TORs for each source and sink combination);
- (2) Whether the instruction can be exercised independent of the CAISO's day-to-day involvement ("Yes/No");
- (3) Name of an operational single point of contact for instructions and a 24-hour a day telephone number for the Non-Participating TO contact for TOR issues or the agreed upon party;
- (4) Name(s) and number(s) of TOR(s) that are represented by the unique CRN;
- (5) The following information, as stored in the Master File: (a) the applicable Point(s) of Receipt and Point(s) of Delivery); (b) for each Point of Receipt, the resource names for the physical resources as the eligible sources (eligible physical sources include Generating Units and System Resources), and for each Point of Delivery, the resource names for the physical resources as the eligible sinks (eligible physical sinks include Load PNodes, Custom Load Aggregation Points and System Resources); (c) for each physical source or sink, the maximum capacity (MW) that can be scheduled as a TOR; and (d) for each physical source and sink, the Scheduling Coordinator(s) and their Business Associate Identification (BAID) that is (are) eligible to submit TOR Self-Schedules utilizing these sources and sinks;
- (6) Names of the party(ies) holding the TOR(s) and the parties to any agreements applicable to the TORs;

- (4) The CAISO will allow the holder of a TOR to self-provide Ancillary Services, which will include the ability of the holder of a TOR to import Ancillary Services at Scheduling Points with the CAISO.
- (5) The submission of a TOR Self-Schedule change that is authorized pursuant to an applicable existing agreement shall not affect the application of the IFM Congestion Credit or the HASP and RTM Congestion Credit, and the IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules or the RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for a TOR Self-Schedule that satisfies the applicable requirements of Sections 17.4.1 and 17.5.

17.2.1 System Emergency Exceptions.

As set forth in Section 4.2.1, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating TOs, Participating Generators, Participating Loads, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources must comply fully and promptly with the CAISO's Dispatch Instructions and operating orders, unless such operation would impair public health or safety. The CAISO will honor the terms of TORs, provided that in a System Emergency and circumstances in which the CAISO considers that a System Emergency is imminent or threatened, to enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, holders of TORs must follow CAISO operating orders even if those operating orders directly conflict with the terms of applicable Existing Contracts or any other contracts pertaining to the TORs, unless such operating orders are inconsistent with the terms of an agreement between the CAISO and a Balancing Authority. In the event of a conflict between the CAISO Tariff and an agreement

17.3.2.3 Exceeds Capacity Limits for TORs as Reflected in TRTC Instructions.

If the TOR Self-Schedule exceeds the capacity limits of the TOR as reflected in TRTC Instructions, the TOR Self-Schedule will not be a valid TOR-Self-Schedule and the CAISO will: (i) remove any scheduling priority for the entire TOR Self-Schedule; (ii) apply the TOR Settlement treatment pursuant to Sections 11.2.1.5 and 11.5.7.1 to the valid balanced portions within the capacity limits of the TOR as reflected in the TRTC Instructions; and (iii) assess any charges and make any payments consistent with the treatment of ordinary Self-Schedules for the portions in excess of the capacity limits of the TOR as reflected in the TRTC Instructions.

17.3.3 Settlement Treatment of Valid TOR Self-Schedules.

The resulting valid TOR Self-Schedules shall have the following Settlement treatment:

- (1) The CAISO will apply the TOR Settlement treatment in Sections 11.2.1.5 and 11.5.7.
- (2) The CAISO shall base the Marginal Cost of Losses on LMP differentials at the Points of Receipt and Points of Delivery identified in the valid TOR Self-Schedule; provided, however, that if a specific loss percentage exists in an applicable agreement between the TOR holder and the CAISO or an existing agreement between the TOR holder and a Participating TO, the CAISO will apply the IFM and RTM Marginal Cost of Losses Credit as provided in Sections 11.2.1.7 and 11.5.7.2. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 17.3.3(2). Where the provisions of this Section 17.3.3(2) do not conflict with the provisions of the agreement, the provisions of this Section 17.3.3(2) shall apply to the subject TORs.

- (3) The CAISO will assess only charges applicable to Ancillary Services, Imbalance Energy, Transmission Losses, and Grid Management Charges for the use of a TOR and will not assess charges for neutrality, UFE, transmission Access Charges, Minimum Load Costs, or other charges that might otherwise be applicable to the Demand or exports served solely over the TOR. The CAISO will assess charges applicable to

- (d) Bids for Energy or capacity that are submitted to one CAISO Market, but are not accepted in that market are no longer a binding commitment and Scheduling Coordinators may submit Bids in a subsequent CAISO Market at a different price; and
- (e) The CAISO shall be entitled to take all reasonable measures to verify that Scheduling Coordinators meet the technical and financial criteria set forth in Section 4.5.1 and the accuracy of information submitted to the CAISO pursuant to this Section 30.

30.5.2 Supply Bids.

30.5.2.1 Common Elements for Supply Bids.

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

30.5.2.2 Supply Bids for Participating Generators.

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Participating Generators shall contain the following components: Start-Up Bid, Minimum Load Bid, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, Regulatory Must-Take/Must-Run Generation; Contingency Flag; and Contract Reference Number (if any). A Scheduling Coordinator for a Physical Scheduling Plant or a System

Unit may include Generation Distribution Factors as part of its Supply Bid. If the Scheduling Coordinator has not submitted the Generation Distribution Factors applicable for the Bid, the CAISO will use default Generation Distribution Factors stored in the Master File. All Generation Distribution Factors used by the CAISO will be normalized based on Outage data that is available to the automated market systems.

Combined-cycle Generating Units may only be registered under a single Resource ID.

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

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

30.5.2.4 Supply Bids for System Resources.

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for System Resources shall also contain: the relevant Ramp Rate; Start-Up Costs; and Minimum Load Costs. Resource-Specific System Resources may elect the Proxy Cost option or Registered Cost option for Start-Up Costs and Minimum Load Costs as provided in Section 30.4. Other System Resources are not eligible to recover Start-Up Costs and Minimum Load Costs. Resource-Specific System Resources are eligible to

31.3.1 Market Clearing and Price Determination.

31.3.1.1 Integrated Forward Market Output.

The IFM produces: (1) a set of hourly Day-Ahead Schedules, AS Awards, and AS Schedules for all participating Scheduling Coordinators that cover each Trading Hour of the next Trading Day; and (2) the hourly LMPs for Energy and the ASMPs for Ancillary Services to be used for settlement of the IFM. The CAISO will publish the LMPs at each PNode as calculated in the IFM. In determining Day-Ahead Schedules, AS Awards, and AS Schedules the IFM optimization will minimize total Bid Costs based on submitted and mitigated Bids while respecting the operating characteristics of resources, the operating limits of transmission facilities, and a set of scheduling priorities that are described in Section 31.4. In performing its optimization, the IFM first tries to complete its required functions utilizing Economic Bids without adjusting Self-Schedules, and adjusts Self-Schedules only if it is not possible to balance Supply and Demand and manage Congestion with available Economic Bids. The Day-Ahead Schedules are binding commitments, including the commitment to Start-Up, if necessary, to comply with the Day-Ahead Schedules. The CAISO will not issue separate Start-Up Instructions for Day-Ahead commitments. A resource's status, however, can be modified as a result of additional market processes occurring in HASP, STUC and RTUC.

Schedules may result in positive or negative adjustments. Demand adjustments to the CAISO Forecast of CAISO Demand result when there is a net forecast decrease in Real-Time Self-Schedule Supply relative to the Day-Ahead Schedule Supply. Supply adjustments to the individual resources occur when there is a net forecast increase in Real-Time Self-Schedule Supply relative to the Day-Ahead Schedule Supply of the individual resource.

31.5.3.6 Day-Ahead Ancillary Service Procurement Deficiency Adjustment.

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

31.5.3.7 RUC Zones.

31.5.3.7.1 Use of RUC Zones.

The CAISO shall adjust the CAISO Forecast of CAISO Demand by RUC Zone for the conditions described in Sections 31.5.3.2 through 31.5.3.6. If any adjustments are made throughout the affected RUC Zone, such adjustments will be made consistent with the subset of system LDFs for the Nodes that define the RUC Zone(s). The CAISO will adjust the CAISO Forecast of CAISO Demand of each affected RUC Zone, preserving the LDFs within each RUC Zone, but the relative weighting of the LDFs across the system will deviate from the original LDFs. RUC costs will be pooled together to establish the RUC Compensation Costs. As described in Section 11.8. 6.1, Settlement of RUC Compensation Costs will not be on a RUC Zone basis.

31.5.3.7.2 Designation of RUC Zones.

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

31.5.4 RUC Procurement Constraints.

In addition to the resource Constraints and network Constraints employed by SCUC as discussed in Section 27.4.1, the CAISO shall employ the following three Constraints in RUC:

- (a) To ensure that sufficient RUC Capacity is procured to meet the CAISO Forecast of CAISO Demand, the CAISO will enforce the power balance between the total Supply, which includes Day-Ahead Schedules and RUC Capacity, and the total Demand, which includes the CAISO Forecast of CAISO Demand and IFM export Schedules. The CAISO may adjust the CAISO Forecast of CAISO Demand to increase the RUC procurement target if there is AS Bid insufficiency in the IFM.
- (b) To ensure that RUC will neither commit an excessive amount of Minimum Load Energy nor procure an excessive amount of RUC Capacity from Scheduling Points the CAISO will verify that the sum of Day-Ahead Schedules, Schedules of

34. REAL-TIME MARKET.

The RTM is the market conducted by the CAISO during any given Operating Day in which Scheduling Coordinators may provide Real-Time Imbalance Energy and Ancillary Services. The Real-Time Market consists of the Real-Time Unit Commitment (RTUC), the Short-Term Unit Commitment (STUC) and the Real-Time Dispatch (RTD) processes. The Short-Term Unit Commitment (STUC) runs once per hour at the top of the hour and utilizes the SCUC optimization to commit Medium Start, Short Start and Fast Start Units to meet the CAISO Demand Forecast. The CAISO shall dispatch all resources, including Participating Load pursuant to submitted Bids or pursuant to the provisions below on Exceptional Dispatch. In Real-Time, resources are required to follow Real-Time Dispatch Instructions. The Time Horizon of the STUC is approximately 255 minutes, starting with the fourth fifteen-minute interval of the next Trading Hour and extending for the next four Trading Hours. The RTUC runs every fifteen (15) minutes and utilizes the SCUC optimization to commit Fast Start and some Short Start resources and to procure any needed AS on a fifteen-minute basis. Any given run of the RTUC will have a Time Horizon of approximately sixty (60) to 105 minutes (four to seven fifteen-minute intervals) depending on when during the hour the run occurs. Not all resources committed in a given STUC or RTUC run will necessarily receive CAISO commitment instructions immediately, because during the Trading Day the CAISO may issue a commitment instruction to a resource only at the latest possible time that allows the resource to be ready to provide Energy when it is expected to be needed. The RTD uses a Security Constrained Economic Dispatch (SCED) algorithm every five minutes throughout the Trading Hour to determine optimal Dispatch Instructions to balance Supply and Demand and maintain required Ancillary Services quantities for the next binding target interval. The RTD optimization utilizes up to a sixty-five-minute Time Horizon (thirteen (13) five-minute intervals), but the CAISO issues Dispatch Instructions only for the next target five-minute Interval. The RTUC, STUC and RTD processes of the RTM use the same FNM used in the DAM and the HASP, subject to any necessary updates of the FNM pursuant to changes in grid conditions after the DAM has run.

36.5.1 Creditworthiness Requirements.

All CRR Holders and Candidate CRR Holders must comply fully with all creditworthiness requirements as provided in Section 12 and Section 12.6 and as further developed in the applicable Business Practice Manuals. The amount of available credit for participating in a CRR Auction cannot exceed the entity's Aggregate Credit Limit as provided in Section 12.

36.5.2 Required Training.

CRR Holders and Candidate CRR Holders must attend a training class at least once prior to participating in the CRR Allocations or CRR Auctions. The CAISO may update training requirements annually or on an as-needed basis. Unless granted a waiver by the CAISO, Candidate CRR Holders and CRR Holders shall at all times have in their employment a person, or have obtained the services of a third party or consultant, that has attended the CAISO's CRR training class and shall notify the CAISO as soon as practicable of a change in such status.

36.6 [NOT USED]

36.7 Bilateral CRR Transactions.

36.7.1 Transfer of CRRs.

36.7.1.1 General Provisions of CRR Transfers.

A CRR Holder may sell or otherwise transfer CRRs in increments of at least one-thousandth of a MW. Sales or other such transfers must be for at least a full day term consistent with the on-peak or off-peak specification of the CRR. The transferee may be any entity that is a Candidate CRR Holder or a CRR Holder consistent with the CAISO Tariff and the applicable Business Practice Manuals. All CRRs that are so sold or otherwise transferred by the CRR Holder continue to be subject to the relevant terms and conditions set forth in the CAISO Tariff and the applicable Business Practice Manuals.

Section 36.9.3. These quantities are calculated for each LSE or Qualified OBAALSE separately for each combination of season and time of use period for the annual CRR Allocation process, and for each time of use period for each monthly CRR Allocation process, and for each CRR Sink at which the eligible LSE serves Load or the Qualified OBAALSE exports Energy from the CAISO Balancing Authority Area. MSS eligibility for CRRs will account for net or gross MSS Settlement in accordance with Section 4.9.13.1. If the MSS Operator elects net Settlement, LSEs for such MSS Load shall submit CRR Sink nominations at the MSS LAP. If the MSS elects for gross Settlement, LSEs for such MSS Load shall submit CRRs Sink nominations at the applicable Default LAP. Load that is Pumped-Storage Hydro Units but is not Participating Load may be scheduled and settled at a PNode or Custom Load Aggregation Point and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode or Custom Load Aggregation Point. Load that is a Participating Load that is also aggregated is scheduled and settled at a Custom Load Aggregation Point that is customized specifically for such Load and, therefore, LSEs for such Participating Load shall submit CRR Sink nominations at the Custom Load Aggregation Point. Load that is Participating Load is scheduled and settled at an individual PNode, and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode. Load that is non-Participating Load, is not Pumped-Storage Hydro Units, and is not Load associated with ETCs, TORs, or MSS Operators that elects net Settlement, is scheduled and settled at the Default LAP. Therefore, LSEs for such Load shall submit CRR Sink nominations at their assigned Default LAP or Default LAPs if the Load they serve is located in more than one Default LAP. In tier 3 of the annual process and tier 2 of the monthly process, such LSEs may also submit CRR Sink nominations at a Sub-LAP of their assigned Default LAP. The CAISO will make available, prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, a list of allowable CRR Sinks to be used in the allocation. The allowable CRR Sinks will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sinks and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation.

36.8.3.4.1 CRR Year One Source Verification for LSEs.

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. Prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, the CAISO will make available a list of allowable CRR Sources to be used in the CRR Allocation. The allowable CRR Sources will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sources and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the locations to be nominated as CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning April 1, 2006 and ending December 31, 2006. For the first quarter of calendar year 2009 for CRR Year One, the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

36.8.3.4.2 Source Verification for Qualified OBAALSEs.

All CRR nominations by Qualified OBAALSEs must be source verified. A Qualified OBAALSE's source verification will be based on its legitimate need showing as specified in Section 36.9.1.

36.8.3.4.3 Calculation of Verified CRR Source Quantity.

The Verified CRR Source Quantity associated with each verified CRR Source for a particular LSE or Qualified OBAALSE will be: (i) for an owned generation resource the PMax of the unit multiplied by the LSE's or Qualified OBAALSE's ownership share; (ii) for a contract with a generation resource, the hourly MWh of Energy specified in the contract averaged over all hours of the relevant time of use period, but no greater than the PMax of the unit; or (iii) for a contract that delivers Energy to a Trading Hub or Scheduling Point, the hourly MWh of energy specified in the contract for delivery from the supplier to the LSE or Qualified OBAALSE at the Trading Hub or Scheduling Point, averaged over all hours of the

- (3) Uneconomic production from an Electric Facility that is, increasing the output of an Electric Facility to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.
- (4) Bidding practices that distort prices or uplift charges away from those expected in a competitive market, such as registering Start-Up Cost and Minimum Load Cost data or submitting Bid Costs on behalf of an Electric Facility that are unjustifiably high (relative to known operational characteristics and/or the known operating cost of the resource) or misrepresenting the physical operating capabilities of an Electric Facility resulting in uplift payments or prices significantly in excess of actual costs.

39.3.2 Mitigation Measures may also be imposed to mitigate the market effects of a rule, standard, procedure, design feature, or known software imperfection of a CAISO Market that allows a Market Participant to manipulate market prices or otherwise impair the efficient operation of that market, pending the revision of such rule, standard, procedure design feature, or software defect to preclude such manipulation of prices or impairment of efficiency.

39.3.3 Taking advantage of opportunities to sell at a higher price or buy at a lower price in a market other than a CAISO Market shall not be deemed a form of withholding or otherwise inconsistent with competitive conduct.

39.7.1.5 Temporary Default Energy Bid.

If the Scheduling Coordinator does not elect to use any of the other options available pursuant to Section 39.7.1, or if sufficient data do not exist to calculate a Default Energy Bid using any of the available options, the CAISO will first seek to obtain from the Scheduling Coordinator any additional data required for calculating the Default Energy Bid options available pursuant to 39.7.1. If the provision of additional data by a Scheduling Coordinator results in additional or modified Default Energy Bid options pursuant to 39.7.1, the Scheduling Coordinator will have another opportunity to elect one of these options as its temporary Default Energy Bid. If the Scheduling Coordinator does not elect to use any of the options available pursuant to Section 39.7.1, or if sufficient data still do not exist to calculate a Default Energy Bid using any of the available options, the CAISO may establish a temporary Default Energy Bid based on one or more of the following: (1) operating cost data, opportunity cost, and other appropriate input from the Market Participant; (2) the CAISO's estimated operating costs of the Electric Facility, taking the best information available to the CAISO; (3) an appropriate average of competitive Bids of one or more similar Electric Facilities; or (4) any of the other options for determining a Default Energy Bid for which data are available.

39.7.1.6 Default Energy Bids for RMR Units.

The available capacity in excess of the Maximum Net Dependable Capacity (MNDC) specified in the RMR Contract up to the maximum generation capacity (PMax) is subject to Local Market Power Mitigation. The Scheduling Coordinator for the RMR Unit must rank order its preferences between the Variable Cost Option, the LMP Option, and the Negotiated Rate Option, which shall be the default rank order if no rank order is specified by the Scheduling Coordinator. These preferences will be used to determine the Default Energy Bids for the capacity between the MNDC and PMax. RMR Proxy Bids for RMR Units based on contractually specified costs are used in lieu of Default Energy Bids for the contractual RMR Unit capacity between the minimum generating capacity (PMin) and the MNDC. The

MPM-RRD	Market Power Mitigation-Reliability Requirement Determination
MSA CAISOME	Metered Service Agreement for CAISO Metered Entities
MSA SC	Metered Service Agreement for Scheduling Coordinators
MSC	Market Surveillance Committee
MSS	Metered Subsystem
MSS Aggregation	Either (1) a Metered Subsystem or (2) a collection of Metered Subsystems represented by a single MSS Aggregator.
MSS Aggregation Net Measured Demand	The sum of the net metered CAISO Demand from all the Net-Load MSSs in the MSS Aggregation plus any exports out of the CAISO Balancing Authority Area from the MSS Aggregation. Net metered CAISO Demand of a MSS is defined as the algebraic difference between the gross CAISO Demand and Generation internal to the MSS.
MSS Aggregation Net Non-ETC/TOR Measured Demand	The sum of the net metered non-ETC/TOR CAISO Demand from all of the non-ETC/TOR Net-Load MSSs in the MSS Aggregation plus any non-ETC/TOR exports out of the CAISO Balancing Authority Area from the MSS Aggregation. Net metered non-ETC/TOR CAISO Demand of an MSS is defined as the algebraic difference between the non-ETC/TOR CAISO Demand and the non-ETC/TOR Generation within the MSS.
MSS Aggregator	An entity that has executed an agreement with the CAISO that enables it to represent individual MSS Operators in the CAISO Markets on an aggregated basis, which agreement has been accepted by FERC.
MSS Aggregator CRR Entity Agent Agreement	An agreement between the CAISO and an MSS Aggregator by which the MSS Aggregator commits to act as agent for aggregation of MSS Operators in the CRR Allocation, CRR Auction, and Secondary Registration System process, a pro forma version of which is set forth in Appendix B.12.

MSS Demand	CAISO Demand specified in an MSS Agreement as being within the MSS.
MSS Deviation Band	The amount by which a Load following MSS Operator can deviate from Expected Energy without incurring a Load Following Deviation Penalty, equal to three percent (3%) of an MSS Operator's gross metered Demand in the MSS and exports from the MSS, adjusted for Forced Outages and any CAISO directed firm Load Shedding for the MSS's portfolio as a whole.
MSS Load Following Energy	IIE, exclusive of Standard Ramping Energy, Ramping Energy Deviation, and Residual Imbalance Energy, produced or consumed due to Load following by an MSS. MSS Load Following Energy is the IIE that corresponds to the algebraic Qualified Load Following Instruction, relative to the Day-Ahead Schedule. MSS Load Following Energy does not coexist with HASP Scheduled Energy, and it does not overlap with Standard Ramping Energy, Ramping Energy Deviation, or Residual Imbalance Energy, but it may overlap with Day-Ahead Scheduled Energy, Derate Energy, Exceptional Dispatch Energy, Real-Time Self-Scheduled Energy, and Optimal Energy. MSS Load Following Energy is settled as provided in Section 11.5.1, and it is not included in BCR as described in Section 11.8.4.
MSS Net Negative Uninstructed Deviation	Net Negative Uninstructed Deviation for an MSS, with MSS Load Following Energy included in the netting.
MSS Operator	An entity that owns an MSS and has executed a MSS Agreement.
MSS Supply	Supply specified in an MSS Agreement as supplying an MSS.
Multi-Point CRR	A CRR Obligation specified according to one or more CRR Sources and one or more CRR Sinks and a flow from the CRR Source(s) to the CRR Sink(s), provided that at least the CRR Sink or the CRR Source identifies more than one point.

Transmission Revenue Requirement (TRR)	The Transmission Revenue Requirement is the total annual authorized revenue requirements associated with transmission facilities and Entitlements turned over to the Operational Control of the CAISO by a Participating TO. The costs of any transmission facility turned over to the Operational Control of the CAISO shall be fully included in the Participating TO's Transmission Revenue Requirement. The Transmission Revenue Requirement includes the costs of transmission facilities and Entitlements and deducts Transmission Revenue Credits and credits for Standby Transmission Revenue and the transmission revenue expected to be actually received by the Participating TO for Existing Rights and Converted Rights.
Transmission Rights and Transmission Curtailment (TRTC) Instructions	Operational directives developed (i) between Existing Rights holders, and holders of Converted Rights and the Participating TO, submitted to the CAISO by the Participating TO, unless otherwise agreed to by the Participating TO and the Existing Rights or Converted Rights holder, and (ii) by TOR holders, to facilitate the accommodation of Existing Rights, Converted Rights, and TORs in the CAISO Markets.
TRBA	Transmission Revenue Balancing Account
Trial Operation	The period during which Interconnection Customer is engaged in on-site test operations and commissioning of a Generating Unit prior to Commercial Operation.
TRM	Transmission Reliability Margin
TRR	Transmission Revenue Requirement
TRTC Instructions	Transmission Rights and Transmission Curtailment Instructions
Trustee	The trustee of the California Independent System Operator trust established by order of the California Public Utilities Commission on August 2, 1996 Decision No. 96-08-038 relating to the Ex Parte Interim Approval of a Loan Guarantee and Trust Mechanism to Fund the Development of an Independent System Operator (ISO) and a Power Exchange (PX) pursuant to Decision 95-12-063 as modified.

CAISO TARIFF APPENDIX C
Locational Marginal Price

The CAISO shall calculate the price of Energy at Generation PNodes, Scheduling Points, and Aggregated Pricing Nodes, as provided in the CAISO Tariff. LMPs can be set by Bids to sell or purchase Energy. The CAISO establishes Trading Hub prices and LAPs as provided in the CAISO Tariff. The LMPs at PNodes, including Scheduling Points, and Aggregated Pricing Nodes include separate components for the marginal cost of Energy, Marginal Cost of Congestion, and Marginal Cost of Losses. As provided in Sections 6.5.3.2.2 and 6.5.5.2.4, Day-Ahead Market LMPs are calculated and posted on a Day-Ahead basis for each hour of the Day-Ahead Market for Energy and for each Dispatch Interval for the Real-Time LMPs.

A. LMP Composition

In each hour of the Day-Ahead Market for Energy, the CAISO calculates the LMP for each PNode, which is equal to the marginal cost of Energy available at the PNode in the hour, based on the Bids of sellers and buyers selected in the Day-Ahead Market for Energy as specified in the Day-Ahead Schedule. The CAISO designates a Reference Bus, r , for calculation of the System Marginal Energy Cost (SMEC $_r$). The CAISO uses a distributed Reference Bus to define an aggregate value of Energy for the CAISO Control Area. The Locational Marginal Prices are determined by resources that are not eligible to set the Locational Marginal Price, which includes resources that have constraints that prevent them from being marginal. For each bus other than the Reference Bus, the Transmission Provider determines separate components of the LMP for the marginal cost of Energy, Marginal Cost of Congestion, and Marginal Cost of Losses relative to the Reference Bus, consistent with the following equation:

$$LMP_i = SMEC_r + MCC_i + MCL_i$$

$$LMP_r = SMEC_r$$

where:

- SMEC $_r$ is the LMP component representing the marginal cost of Energy (also referred to as λ) at the Reference Bus, r (System Marginal Energy Cost).

Each LAP includes only the buses of Market Participants who are in the LAP and who have Load that is represented by that LAP's definition. Market Participants that have metered Load must either be settled at a Default LAP or a Custom LAP created for each Load point of the Market Participant (nodal Settlement).

G. Intertie Scheduling Point Price Calculation

The CAISO calculates LMPs for Scheduling Points, which are represented in the FNM as PNodes or aggregations of PNodes, external to the CAISO Balancing Authority Area, through the same process that is used to calculate LMPs within the CAISO Balancing Authority Area. In some cases, facilities that are part of the CAISO Controlled Grid but are external to the CAISO Balancing Authority Area connect some Intertie Scheduling Points to the CAISO Balancing Authority Area, and in these cases the Scheduling Points are within external Balancing Authority Areas. In both of these cases, the Scheduling Points are represented in the FNM. The CAISO places injections and withdrawals at the Scheduling Point PNodes to represent Bids and Schedules whose supporting physical injection and withdrawal locations may be unknown, and the LMPs for Settlement of accepted Bids are established at the Scheduling Point PNodes.

G.1 Intertie Scheduling Point Price Calculation for IBAA

As described in Section 27.5.3, the CAISO's FNM includes a full model of the network topology of each IBAA. Consistent with the provisions of Section 27.5.3.4, the CAISO Tariff will specify Resource IDs that associate Intertie Scheduling Point Bids and Schedules with supporting injection and withdrawal locations on the FNM. As provided in Section 27.5.3.4, such Resource IDs may be specified by the CAISO based on the information available to it, or developed pursuant to a Market Efficiency Enhancement Agreement. Once these Resource IDs are established, the CAISO will determine Intertie Scheduling Point LMPs based on the injection and withdrawal locations associated with each Intertie Scheduling Point Bid and Schedule by the appropriate Resource ID. In calculating these LMPs the CAISO follows the provisions specified in Section 27.5.3 regarding the treatment of transmission Constraints and losses on the IBAA network facilities.

Attachment B – Blacklines

July 21, 2008 MRTU Compliance Filing (Docket No. ER06-615-011)

4th Replacement MRTU Tariff

* * *

11.2.1.7 IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules.

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedules submitted pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or make any payment to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable losses charges as specified in the existing agreement between the ~~the~~ TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.2.1.7. Where the provisions of this Section 11.2.1.7 do not conflict with the provisions of the agreement, the provisions of this Section 11.2.1.7 shall apply to the subject TORs. For each Scheduling Coordinator, the CAISO shall determine the applicable IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules, which can be positive or negative, as the sum of the products of the quantity scheduled in the Day-Ahead Schedule and the MCL at each eligible Point of Receipt and Point of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules.

* * *

11.2.4.2.2 Point-to-Point CRR Obligations.

For each CRR Holder, the CAISO shall calculate a CRR Payment for each CRR Obligation for a Point-to-Point CRR held by the CRR Holder, equal to the product of: 1) the MCC at the CRR Sink minus the MCC at the CRR Source; and 2) the MW quantity of the CRR; if that amount is positive. If the resulting amount is negative, the CAISO shall calculate a CRR Charge for the relevant CRR Holder equal to that negative amount. The full CRR Payment or CRR Charges calculated pursuant to this process shall be ~~subject to~~ pro-rated as described in 11.2.4.4.

* * *

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

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedule submitted to the HASP or RTM pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or make any payment to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable charges for losses as specified in the existing agreement between the TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.7.2. Where the provisions of this Section 11.5.7.2 do not conflict with the provisions of the agreement, the provisions of this Section 11.5.7.2 shall apply to the subject TORs. The balanced portion of the TOR Self-Schedule will be based on the difference between: (1) minimum of the metered CAISO Demand or TOR Self-Schedule submitted in the HASP, or the TOR maximum capacity as specified in the TRTC Instructions; and (2) the Day-Ahead Schedule. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the MCL at each eligible Points of Receipt and Points of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules. For all exports and imports settled in the HASP, the CAISO shall use the MWh quantity specified in the HASP Intertie Schedule. For all Demand settled in the Real-Time Market the CAISO shall use the metered CAISO Demand associated with the applicable TOR. For all Supply settled in the Real-Time Market the CAISO shall use the quantity specified in the Dispatch Instructions.

* * *

11.8.2.1.2 IFM Minimum Load Cost.

The Minimum Load Cost for the applicable Settlement Interval shall be the Minimum Load Cost submitted to the CAISO in the IFM divided by the number of Settlement Intervals in a Trading Hour. For each Settlement Interval, only the IFM Minimum Load Cost in a CAISO IFM Commitment Period is eligible for Bid Cost Recovery. The IFM Minimum Load Cost for any Settlement Interval is zero if: (1) the Settlement Interval is in an IFM Self Commitment Period for the Bid Cost Recovery Eligible Resource; (2) the Bid

Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract prior to the Day-Ahead Market or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule for the applicable Settlement Interval; or (3) the Bid Cost Recovery Eligible Resource is determined not actually On during the applicable Settlement Interval. For the purposes of determining IFM Minimum Load Cost, a Bid Cost Recovery Eligible Resource is assumed to~~determined to not actually~~ be On if ~~the~~its metered Energy in ~~that~~a Settlement Interval is equal to or greater ~~less~~ than the difference between its Minimum Load Energy and the Tolerance Band. ~~Otherwise, it is determined to be Off, referenced by the Minimum Load Energy.~~

* * *

11.8.3.1.2 RUC Minimum Load Cost.

The Minimum Load Cost for the applicable Settlement Interval shall be the Minimum Load Cost of the Generating Bid Cost Recovery Eligible Resource divided by the number of Settlement Intervals in a Trading Hour. For each Settlement Interval, only the RUC Minimum Load Cost in a CAISO RUC Commitment Period is eligible for Bid Cost Recovery. The RUC Minimum Load Cost for any Settlement Interval is zero if: (1) the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule in that Settlement Interval; (2) the Bid Cost Recovery Eligible Resource is not actually On in the applicable Settlement Interval; or (3) the applicable Settlement Interval is included in an IFM Commitment Period. For the purposes of determining RUC Minimum Load Cost, a Bid Cost Recovery Eligible Resource is assumed to ~~determined to not actually~~ be On if ~~its~~the metered Energy in ~~that~~a Settlement Interval is equal to or greater ~~less~~ than the difference between its Minimum Load Energy and the Tolerance Band. ~~Otherwise, it is determined to be Off, referenced by the Minimum Load Energy.~~

11.8.3.1.3 RUC Availability Bid Cost.

The RUC Availability Bid Cost is calculated as ~~the~~ product of the RUC Award with the relevant RUC Availability Bid price, divided by the number of Settlement Intervals in a Trading Hour. The RUC Availability Bid Cost for a Bid Cost Recovery Eligible Resource for a Settlement Interval is zero if the Bid Cost Recovery Eligible Resource is operating below its RUC Schedule, and also has a negative Uninstructed Imbalance Energy (UIE) magnitude in that Settlement Interval in excess of: (1) five (5) MWh

divided by the number of Settlement Intervals in the Trading Hour; or (2) three percent (3%) of its maximum capacity divided by the number of Settlement Intervals in a Trading Hour.

* * *

11.8.5 Unrecovered Bid Cost Uplift Payment.

Scheduling Coordinators shall receive an Unrecovered Bid Cost Uplift Payment for a Bid Cost Recovery Eligible Resource, including resources for MSS Operators that have elected gross Settlement, if the net of all IFM Bid Cost Shortfalls and IFM Bid Cost Surpluses calculated pursuant to Section 11.8.2, RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses calculated pursuant to Section 11.8.3, and the RTM Bid Cost Shortfalls and RTM Bid Cost Surpluses calculated pursuant to Section 11.8.4 for that Bid Cost Recovery Eligible Resource over a Trading Day is positive. For MSS Operators that have elected net Settlement, the Unrecovered Bid Cost Uplift Payment is at the MSS level. The MSS IFM, RUC, and RTM Bid Cost Shortfall or IFM, RUC, and RTM Bid Cost Surplus for each market for each Trading Hour is the sum of the IFM, RUC, and RTM Bid Cost Shortfalls and IFM, RUC, and RTM Bid Cost Surpluses for all resources in the MSS. Scheduling Coordinators for MSS Operators that have elected net Settlement will receive an Unrecovered Bid Cost Uplift Payment if the net of all IFM, RUC, and RTM Bid Cost Shortfalls and IFM, RUC, and RTM Bid Cost Surpluses for that MSS over a Trading Day is positive.

11.8.6 System-wide IFM, RUC and RTM Bid Cost Uplift Allocation.

11.8.6.1 Determination of IFM, RUC and RTM Bid Cost Uplift.

For each Settlement Interval, the CAISO shall determine the IFM, RUC and RTM Bid Cost Uplift for purposes of allocating the IFM, RUC and RTM Bid Cost Uplift as described below. In determining the IFM, RUC and RTM Bid Cost Uplifts below, the Unrecovered Bid Cost Uplift Payments for MSS BCR Eligible Resources in Metered Subsystems where the MSS Operator has elected net Settlement will be included on an MSS basis and not on an individual resource basis.

- (i) The IFM Bid Cost Uplift shall be the net of the IFM Bid Cost Shortfalls and IFM Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources with Unrecovered Bid Cost Uplift Payments.

- (ii) The RUC Bid Cost Uplift shall be the net of the RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources in the CAISO Control Area with Unrecovered Bid Cost Uplift Payments.
- (iii) The RTM Bid Cost Uplift shall be the net of the RTM Bid Cost Shortfalls and RTM Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources with Unrecovered Bid Cost Uplift Payments.

* * *

11.8.6.5.3 Allocation of the RUC Compensation Costs.

- (i) In the first tier, the RUC Compensation Costs are allocated to Scheduling Coordinators, based on their Net Negative CAISO Demand Deviation in that Trading Hour. The Scheduling Coordinator shall be charged at a rate which is the lower of (1) the RUC Compensation Costs divided by the Net Negative CAISO Demand Deviation for all Scheduling Coordinators in that Trading Hour; or (2) the RUC Compensation Costs divided by the RUC Capacity, for all Scheduling Coordinators in that Trading Hour. Participating Load shall not be subject to the first tier allocation of RUC Compensation Costs to the extent that the Participating Load's Net Negative CAISO Demand Deviation in that Trading Hour is incurred pursuant to a CAISO directive to consume in a Dispatch Instruction.
- (ii) In the second tier, the Scheduling Coordinator shall be charged an amount equal to any remaining RUC Compensation Costs in proportion to the Scheduling Coordinator's metered CAISO Demand in any Trading Hour.

11.8.6.6 Allocation of Net RTM Bid Cost Uplift.

The hourly Net RTM Bid Cost Uplift is computed for the Trading Hour as the product of the uplift ratio in 11.8.6.3 and the sum over all Settlement Intervals of the Trading Hour of any positive Net RTM Bid Cost Uplift after the sequential netting in Section 11.8.6.2. The hourly RTM Bid Cost Uplift is allocated to

Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected to not follow their Load and gross Settlement, in proportion to their Measured Demand for the Trading Hour. For Scheduling Coordinators for MSS Operators that have elected ~~(a) not to follow their~~ to either Load, and (b) follow or not gross Settlement, or both, the hourly RTM Bid Cost Uplift is allocated in proportion to their MSS Aggregation Net Measured Demand. For Scheduling Coordinators of MSS Operators that have elected to follow their Load, the RTM Bid Cost Uplift shall be allocated in proportion to their MSS Net Negative Uninstructed Deviation. Accordingly, each Scheduling Coordinator shall be charged an amount equal to its Measured Demand times the RTM Bid Cost Uplift rate, where the RTM Bid Cost Uplift rate is computed as the Net RTM Bid Cost Uplift amount divided by the sum of Measured Demand across all Scheduling Coordinators for the Trading Hour.

* * *

11.10.1.3.1 Congestion Charges for Real-Time Intertie Ancillary Service Awards from Dynamic System Resources.

For each Settlement Period, the Congestion Charge for Suppliers of Real-Time Ancillary Services Awards at Scheduling Points for Dynamic System Resources ~~are also charged for Congestion if the award is at a congested Scheduling Point. The charge shall be equal to the simple average of the fifteen (15) minute Shadow Prices of at the applicable congested Scheduling Point multiplied by the quantity of the Ancillary Service Award for the Settlement Period.~~

* * *

11.10.2.1.3 Hourly Net Obligation for Regulation Down Reserve.

Each Scheduling Coordinator's hourly net obligation for Regulation Down is determined as follows: the Scheduling Coordinator's metered CAISO Demand multiplied by the Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Down, reduced by accepted Self-Provided Ancillary Services specified as Regulation Down, plus or minus any Regulation Down Reserve obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. ~~The~~ Each Scheduling Coordinator's Ancillary Services Obligation percentage ~~is the total hourly Real-Time~~ for Regulation Down in that hour is required divided by the hourly metered CAISO Demand for that hour.

* * *

11.10.2.2.2 Hourly Net Obligation for Regulation Up.

Each Scheduling Coordinator's hourly net obligation for Regulation Up is determined as follows: (a) the Scheduling Coordinator's metered CAISO Demand multiplied by the Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up, reduced by accepted Self-Provided Ancillary Services specified as Regulation Up, plus or minus any Regulation Up Reserve Obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. ~~The~~Each Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up ~~in that hour is the total hourly Real Time Regulation Up~~ divided by the hourly metered CAISO Demand for that hour.

* * *

11.14 Neutrality Adjustments.

The CAISO shall be authorized to levy additional charges or make additional payments as special adjustments in regard to:

- (a) amounts required to reach an accounting trial balance of zero in the course of the Settlement process in the event that the charges calculated as due from CAISO Debtors are lower than payments calculated as due to the CAISO Creditors for the same Trading Day, which includes any amounts required to round up any invoice amount expressed in dollars and cents to the nearest whole dollar amount. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day on a monthly basis. In the event that the charges due from CAISO Debtors are higher than the payments due to CAISO Creditors, the CAISO shall allocate a payment to the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day on a monthly basis; and
- (b) awards payable by or to the CAISO pursuant to good faith negotiations or CAISO ADR Procedures that the CAISO is not able to allocate to or to collect from a Market Participant or Market Participants in accordance with Section 13.5.3.

These charges will be allocated among Scheduling Coordinators over an interval determined by the CAISO and pro rata based on Measured Demand during that interval.

* * *

11.29.9.6.2 Reserve Account.

The CAISO Reserve Account shall be available to the CAISO for the purpose of providing funds to clear the CAISO Clearing Account in the event that there are insufficient funds in the CAISO Clearing Account to pay CAISO Creditors. If there are insufficient funds in the CAISO Clearing Account to pay CAISO Creditors and clear the account on any Payment Date, due to payment default by one or more CAISO Debtors, the CAISO shall transfer funds from the CAISO Reserve Account to the CAISO Clearing Account to clear it by close of banking business on that Payment Date pursuant to Section 11.29.13.4.

If the CAISO Reserve Account is drawn upon, the CAISO shall as soon as possible thereafter take any necessary steps against the defaulting Scheduling Coordinator or CRR Holder, including making any calculations or taking any other appropriate action, to replenish the CAISO Reserve Account including drawing on any credit support or other Financial Security provided by the defaulting Scheduling Coordinator, ~~Candidate CRR Holder~~ or CRR Holder pursuant to Section 12 or serving demands on any defaulting Scheduling Coordinator, ~~Candidate CRR Holder~~ or CRR Holder if Financial Security has been exhausted or if no Financial Security is available due to establishment of an Unsecured Credit Limit.

The proceeds of drawings under any line of credit, other credit facility, or other Financial Security of the CAISO Reserve Account shall be held on trust for CAISO Creditors. If the CAISO Reserve Account is replenished as provided for in this Section 11.29.9.6.2, any credits shall be held on trust for all CAISO Creditors.

* * *

17 Transmission Ownership Rights (TORs).

Transmission Ownership Rights represent transmission capacity on facilities that are located within the CAISO Balancing Authority Area that are either wholly or partially owned by an entity that is not a Participating TO. This Section 17 shall apply to the TORs of Non-Participating TOs. In any case in which

(i) the CAISO has entered into a bilateral agreement with a Non-Participating TO regarding its TORs or (ii) a Participating TO has entered into a bilateral agreement with a Non-Participating TO regarding its TORs, ~~which agreement has been accepted by FERC~~, the provisions of the agreement shall prevail over any conflicting provisions of this Section 17. Where the provisions of this Section 17 do not conflict with the provisions of the ~~FERC-accepted~~ agreement, the provisions of this Section 17 shall apply to the subject TORs.

* * *

17.1.4 TRTC Instructions Content.

TRTC Instructions will include the following information at a minimum and such other information as the CAISO may reasonably require the Non-Participating TO holder of a TOR to provide to enable the CAISO to carry out its functions under the CAISO Tariff, Operating Procedures and Business Practice Manuals:

- (1) A unique Contract Reference Number for each source and sink combination applicable to the TOR (i.e., the CRN that will be assigned by the CAISO and communicated to the Non-Participating TO that references a single TOR or a set of interdependent TORs for each source and sink combination);
- (2) Whether the instruction can be exercised independent of the CAISO's day-to-day involvement ("Yes/No");
- (3) Name of an operational single point of contact for instructions and a 24-hour a day telephone number for the Non-Participating TO contact for TOR issues or the agreed upon party;
- (4) Name(s) and number(s) of TOR(s) that are represented by the unique CRN;
- (5) The following information, as stored in the Master File: (a) the applicable Point(s) of Receipt and Point(s) of Delivery); (b) for each Point of Receipt, the resource names for the physical resources as the eligible sources (eligible physical sources include Generating Units and System Resources), and for each Point of Delivery, the resource names for the physical resources as the eligible sinks (eligible physical sinks include Load PNodes, Custom Load Aggregation Points

and System Resources); (c) for each physical source or sink, the maximum capacity (MW) that can be scheduled as a TOR ~~under the Existing Contract~~; and (d) for each physical source and sink, the Scheduling Coordinator(s) and their Business Associate Identification (BAID) that is (are) eligible to submit TOR Self-Schedules utilizing these sources and sinks;

- (6) Names of the party(ies) holding the TOR(s) and the parties to any agreements applicable to the TORs;
- (7) The Scheduling Coordinator BAID that is entitled to the Settlement of reversal of Congestion Charges;
- (8) Amount of TORs, in maximum MW, that may be utilized under the relevant TRTC Instructions;
- (9) Instructions for the allowable timeframes at which the TOR Self-Schedules and TOR Self-Schedule changes may be submitted to the CAISO, which include whether the Scheduling Coordinator may submit TOR Self-Schedules or TOR Self-Schedule changes: (a) into the DAM; (b) into the HASP and the RTM; (c) after the close of submitting Bids into the HASP and the RTM, but before twenty (20) minutes before the applicable Trading Hour of the Trading Day; and (d) at or after twenty (20) minutes before the applicable Trading Hour of the Trading Day; in addition, the Non-Participating TO may also provide any additional comments and restrictions on the submission time of TOR Self-Schedules and TOR Self-Schedule changes;
- (10) Term of ownership interest in the TOR(s) and of any agreements applicable to the TOR(s);
- (11) Any special procedures that would require the CAISO to implement curtailments in any manner different than pro rata reduction of the transfer capability of the transmission line; any such instructions submitted to the CAISO must be clear, unambiguous, and not require the CAISO to make any judgments or

interpretations as to the meaning, intent, results, or purpose of the curtailment procedures or of any applicable Existing Contract, otherwise, they will not be accepted by the CAISO; and

- (12) Whether or not the TOR provides the right to self-provide Ancillary Services.

* * *

17.2 Treatment of TORs.

The CAISO will accommodate TORs, so that the holders of TORs will receive the same priorities (in scheduling, curtailment, assignment and other aspects of transmission system usage) to which they are entitled under any applicable Existing Contracts or other agreements pertaining to the operation of their TORs.

In addition, scheduling deadlines and operational procedures associated with TORs will be honored by the CAISO, provided such information is explicitly included in the TRTC Instructions. The CAISO will accommodate and honor TORs as follows:

- (1) The CAISO will reserve transmission capacity equal to the TOR transmission capacity and make a corresponding adjustment in its determination of ATC. The CAISO will not limit parallel flow from flowing on TOR transmission capacity consistent with the redispatch provisions of Section 17.2(3), just as the CAISO does not limit TOR Self-Schedules from flowing on non-TOR transmission. There shall be no compensation for parallel flow for either the CAISO or the TOR holder.
- (2) In the HASP, the CAISO will give valid TOR Self-Schedules priority over other non-TOR Day-Ahead Schedules and HASP Bids. In the event of a reduction in capacity on the transmission path associated with the TOR, the CAISO will honor the TOR priority in accordance with this Section 17.
- (3) The CAISO will allow the holder of a TOR to make changes to the scheduled amounts of supply after the submission of HASP TOR Self-Schedules in accordance with the TRTC Instructions established for such changes. The

CAISO will, as necessary, redispatch non-TOR resources to accommodate valid TOR Self-Schedule changes in Real-Time.

- (4) The CAISO will allow the holder of a TOR to self-provide Ancillary Services, which will include the ability of the holder of a TOR to import Ancillary Services at Scheduling Points with the CAISO.
- (5) The submission of a TOR Self-Schedule change that is authorized pursuant to an applicable existing agreement ~~between the CAISO and the TOR holder~~ shall not affect the application of the IFM Congestion Credit or the HASP and RTM Congestion Credit, and the IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules or the RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for a TOR Self-Schedule that satisfies the applicable requirements of Sections 17.4.1 and 17.5.

* * *

17.3.3 Settlement Treatment of Valid TOR Self-Schedules.

The resulting valid TOR Self-Schedules shall have the following Settlement treatment:

- (1) The CAISO will apply the TOR Settlement treatment in Sections 11.2.1.5 and 11.5.7.
- (2) The CAISO shall base the Marginal Cost of Losses on LMP differentials at the Points of Receipt and Points of Delivery identified in the valid TOR Self-Schedule; provided, however, that if a specific loss percentage exists in an applicable agreement between the TOR holder and the CAISO or an existing agreement between the TOR holder and a Participating TO, the CAISO will apply the IFM and RTM Marginal Cost of Losses Credit as provided in Sections 11.2.1.7 and 11.5.7.2. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 17.3.3(2). Where the provisions of this Section 17.3.3(2) do not conflict

with the provisions of the agreement, the provisions of this Section 17.3.3(2) shall apply to the subject TORs.

- (3) The CAISO will assess only charges applicable to Ancillary Services, Imbalance Energy, Transmission Losses, and Grid Management Charges for the use of a TOR and will not assess charges for neutrality, UFE, transmission Access Charges, Minimum Load Costs, or other charges that might otherwise be applicable to the Demand or exports served solely over the TOR. The CAISO will assess charges applicable to Ancillary Services for the use of a TOR only to the extent that the CAISO must procure Ancillary Services for the TOR holder because Ancillary Services are not self-provided by the TOR holder. The CAISO will assess charges applicable to Imbalance Energy for the use of a TOR only if the CAISO must procure Imbalance Energy for the TOR holder. The CAISO will assess Grid Management Charges for the use of a TOR only in accordance with the provisions of Section 11.22 and Appendix F, Schedule 1.
- (4) The holders of TORs will not be entitled to an allocation of revenues from the CAISO, including Access Charge revenues; provided that the Scheduling Coordinator for the TOR holder shall be allocated the applicable amount of IFM Marginal Losses Surplus Credit in accordance with the provisions of Section 11.2.1.6, except for any TOR Self-Schedule that received the IFM Marginal Cost of Losses Credit.
- (5) Parties with TORs shall continue to pay for Transmission Losses or Ancillary Services requirements in accordance with any Existing Contracts applicable to those TORs as they may be modified or changed in accordance with the terms of the Existing Contract. Any affected Participating TOs shall continue to provide Transmission Losses and any other Ancillary Services to the holder of a TOR subject to an Existing Contract as may be required by the Existing Contract. As described in Section 17.3.3(3) above, the CAISO will charge Scheduling Coordinators submitting the TOR Self-Schedule the charges applicable to

Transmission Losses, Ancillary Services, and Imbalance Energy in accordance with the CAISO Tariff (e.g., the Transmission Losses Charge based on the Marginal Cost of Losses), and any shortfall or surplus between the CAISO charges and the provisions of any applicable Existing Contract shall be settled bilaterally between the Existing Contract parties or through the relevant TO Tariff. To enable holders of TORs to determine whether the CAISO's calculations result in any associated shortfall or surplus and to enable the parties to the Existing Contracts to settle the differences bilaterally or through the relevant TO Tariff, the CAISO shall calculate and provide the Scheduling Coordinator's Settlements the amounts paid for the MCL for the amounts of MWh submitted with a valid TOR Self-Schedule. Each Participating TO will be responsible for recovering any deficits or crediting any surpluses associated with differences in Transmission Losses and Transmission Loss requirements and/or Ancillary Services requirements, through its bilateral arrangements or its Transmission Owner Tariff.

* * *

30.5.2.2 Supply Bids for Participating Generators.

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Participating Generators shall contain the following components: Start-Up Bid, Minimum Load Bid, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, Regulatory Must-Take/Must-Run Generation; Contingency Flag; and Contract Reference Number (if any). ~~Supply Bids~~ A Scheduling Coordinator for a Physical Scheduling Plants or and System Units must may include the Generation Distribution Factors as part of its Supply Bid. If the Scheduling Coordinator has not submitted the Generation Distribution Factors applicable for the Bid, the CAISO will use default Generation Distribution Factors stored in the Master File. All Generation Distribution Factors used by the CAISO will be normalized based on Outage data that is available to the automated market systems. Combined-cycle Generating Units may only be registered under a single Resource ID.

* * *

31.3.1 Market Clearing and Price Determination.

31.3.1.1 Integrated Forward Market Output.

The IFM produces: (1) a set of hourly Day-Ahead Schedules, AS Awards, and AS Schedules for all participating Scheduling Coordinators that cover each Trading Hour of the next Trading Day; and (2) the hourly LMPs for Energy and the ASMPs for Ancillary Services to be used for settlement of the IFM. The CAISO will publish the LMPs at each PNode as calculated in the IFM. In determining Day-Ahead Schedules, AS Awards, and AS Schedules the IFM optimization will minimize total Bid Costs based on submitted and mitigated Bids while respecting the operating characteristics of resources, the operating limits of transmission facilities, and a set of scheduling priorities that are described in Section 31.4. In performing its optimization, the IFM first tries to complete its required functions utilizing Economic Bids without adjusting Self-Schedules, and adjusts Self-Schedules only if it is not possible to balance Supply and Demand and manage Congestion with available Economic Bids. The Day-Ahead Schedules are binding commitments, including the commitment to Start-Up, if necessary, to comply with the Day-Ahead Schedules. The CAISO will not issue separate Start-Up Instructions for Day-Ahead commitments. A resource's status, however, can be modified as a result of additional market processes occurring in HASP, STUC and RTUC. ~~In addition, in Real Time, resources are required to follow Real Time Dispatch Instructions.~~

* * *

31.5.3.7 RUC Zones.

31.5.3.7.1 Use of RUC Zones.

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

Compensation Costs. As described in Section 11.8.6.13, Settlement of RUC Compensation Costs will not be on a RUC Zone basis.

31.5.3.7.2 Designation of RUC Zones.

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

* * *

34. REAL-TIME MARKET.

The RTM is the market conducted by the CAISO during any given Operating Day in which Scheduling Coordinators may provide Real-Time Imbalance Energy and Ancillary Services. The Real-Time Market consists of the Real-Time Unit Commitment (RTUC), the Short-Term Unit Commitment (STUC) and the Real-Time Dispatch (RTD) processes. The Short-Term Unit Commitment (STUC) runs once per hour at the top of the hour and utilizes the SCUC optimization to commit Medium Start, Short Start and Fast Start Units to meet the CAISO Demand Forecast. The CAISO shall dispatch all resources, including Participating Load pursuant to submitted Bids or pursuant to the provisions below on Exceptional Dispatch. In Real-Time, resources are required to follow Real-Time Dispatch Instructions. The Time Horizon of the STUC is approximately 255 minutes, starting with the fourth fifteen-minute interval of the next Trading Hour and extending for the next four Trading Hours. The RTUC runs every fifteen (15) minutes and utilizes the SCUC optimization to commit Fast Start and some Short Start resources and to procure any needed AS on a fifteen-minute basis. Any given run of the RTUC will have a Time Horizon of

approximately sixty (60) to 105 minutes (four to seven fifteen-minute intervals) depending on when during the hour the run occurs. Not all resources committed in a given STUC or RTUC run will necessarily receive CAISO commitment instructions immediately, because during the Trading Day the CAISO may issue a commitment instruction to a resource only at the latest possible time that allows the resource to be ready to provide Energy when it is expected to be needed. The RTD uses a Security Constrained Economic Dispatch (SCED) algorithm every five minutes throughout the Trading Hour to determine optimal Dispatch Instructions to balance Supply and Demand and maintain required Ancillary Services quantities for the next binding target interval. The RTD optimization utilizes up to a sixty-five-minute Time Horizon (thirteen (13) five-minute intervals), but the CAISO issues Dispatch Instructions only for the next target five-minute Interval. The RTUC, STUC and RTD processes of the RTM use the same FNM used in the DAM and the HASP, subject to any necessary updates of the FNM pursuant to changes in grid conditions after the DAM has run.

* * *

36.5.2 Required Training.

CRR Holders and Candidate CRR Holders must attend a training class at least once prior to participating in the CRR Allocations or CRR Auctions. The CAISO may update training requirements annually or on an as-needed basis. Unless granted a waiver by the CAISO, Candidate CRR Holders and CRR Holders shall at all times have in their employment a person, or have obtained the services of a third party or consultant, that has attended the CAISO's CRR training class and shall notify the CAISO as soon as practicable of a change in such status.

* * *

36.8.2 Load Eligible for CRRs and Eligible CRR Sinks.

Any entity that wishes to participate in the CRR Allocation process must provide information that demonstrates that it has an obligation to serve load. An LSE's eligibility for allocation of CRRs is measured by the quantity of Load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Sections 36.8.2.1 and 36.8.2.2. An OBAALSE's eligibility for allocation of CRRs is also measured by the quantity of load that it serves that is exposed to Congestion

Charges for the use of the CAISO Controlled Grid as determined in Section 36.9.3. For LSEs, the information necessary may include, but is not limited to, Settlement Quality Meter Data or relevant documents filed with the California Energy Commission. For OBAALSEs, the necessary information may include, but is not limited to, historical tagged Real-Time Interchange Export Schedules and historical load data reflecting the load they serve that is exposed to Congestion Charges for the use of the CAISO Controlled Grid. In addition, each such OBAALSE shall support its data submission with a written sworn affidavit by an executive authorized to represent the OBAALSE attesting to the accuracy of the data, and the CAISO will have the right to audit the raw data and calculations used to develop the submitted data set. An LSE serving internal Load is eligible for CRRs up to its Seasonal CRR Eligible Quantity or Monthly CRR Eligible Quantity, which is derived from its Seasonal CRR Load Metric or Monthly CRR Load Metric as described in Sections 36.8.2.1 and 36.8.2.2, respectively. Seasonal CRR Eligible Quantities and Monthly CRR Eligible Quantities for Qualified OBAALSEs are determined as provided in Section 36.9.3. These quantities are calculated for each LSE or Qualified OBAALSE separately for each combination of season and time of use period for the annual CRR Allocation process, and for each time of use period for each monthly CRR Allocation process, and for each CRR Sink at which the eligible LSE serves Load or the Qualified OBAALSE exports Energy from the CAISO Balancing Authority Area. MSS eligibility for CRRs will account for net or gross MSS Settlement in accordance with Section 4.9.13.1. If the MSS Operator elects net Settlement, LSEs for such MSS Load shall submit CRR Sink nominations at the MSS LAP. If the MSS elects for gross Settlement, LSEs for such MSS Load shall submit CRRs Sink nominations at the applicable Default LAP. Load that is Pumped-Storage Hydro Units but is not Participating Load may be scheduled and settled at a PNode or Custom Load Aggregation Point and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode or Custom Load Aggregation Point. Load that is a Participating Load that is also aggregated is scheduled and settled at a Custom Load Aggregation Point that is customized specifically for such Load and, therefore, LSEs for such Participating Load shall submit CRR Sink nominations at the Custom Load Aggregation Point. Load that is Participating Load is scheduled and settled at an individual PNode, and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode. Load that is non-Participating Load, is not Pumped-Storage Hydro Units, and is not Load associated with ETCs, TORs, or

MSS Operators that elects net Settlement, is scheduled and settled at the Default LAP. Therefore, LSEs for such Load shall submit CRR Sink nominations at their assigned Default LAP or Default LAPs if the Load they serve is located in more than one Default LAP. In tier 3 of the annual process and tier 2 of the monthly process, such LSEs may also submit CRR Sink nominations at a Sub-LAP of their assigned Default LAP. The CAISO will make available, prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, a list of allowable CRR Sinks to be used in the allocation. The allowable CRR Sinks will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sinks and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation.

* * *

36.8.3.4.1 CRR Year One Source Verification for LSEs.

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. ~~The CAISO will make available, p~~ Prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, ~~the CAISO will make available~~ a list of allowable CRR Sources to be used in the CRR Allocation. The allowable CRR Sources will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sources and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the locations to be nominated as CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning April 1, 2006 and ending December 31, 2006. For the first quarter of calendar year 2009 for CRR Year One,

the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

* * *

39.3 Categories of Conduct that May Warrant Mitigation.

39.3.1 Mitigation Measures may be applied to bidding, scheduling or operation of an Electric Facility or as specified in Section 39.3.1. The following categories of conduct, whether by a single firm or by multiple firms acting in concert, may cause a material effect on prices or generally the outcome of the CAISO Markets if exercised from a position of market power. Accordingly, the CAISO shall monitor the CAISO Markets for the following categories of conduct, and shall impose appropriate Mitigation Measures if such conduct is detected and the other applicable conditions for the imposition of Mitigation Measures are met:

- (1) Physical withholding of an Electric Facility, in whole or in part, that is, not offering to sell or schedule the output of or services provided by an Electric Facility capable of serving a CAISO Market. Such withholding may include, but not be limited to: (i) falsely declaring that an Electric Facility has been forced out of service or otherwise become totally or partially unavailable, (ii) refusing to offer Bids for an Electric Facility when it would be in the economic interest, absent market power, of the withholding entity to do so, (iii) declining Bids called upon by the CAISO (unless the CAISO is informed in accordance with established procedures that the relevant resource for which the Bid is submitted has undergone a forced outage or derate), or (iv) operating a Generating Unit in Real-Time to produce an output level that is less than the Dispatch Instruction.
- (2) Economic withholding of an Electric Facility, that is, submitting Bids for an Electric Facility that are unjustifiably high (relative to known operational characteristics and/or the known operating cost of the resource) so that: (i) the

Electric Facility is not or will not be dispatched or scheduled, or (ii) the Bids will set LMPs.

- (3) Uneconomic production from an Electric Facility that is, increasing the output of an Electric Facility to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.
- (4) Bidding practices that distort prices or uplift charges away from those expected in a competitive market, such as ~~(i) submitting Demand Bids at prices that are unjustifiably low relative to the expected marginal cost of meeting total expected demand resulting in DAM prices that are significantly below competitive levels and DAM clearing demand that is significantly below total expected demand or~~ ~~(ii) registering Start-Up Cost and Minimum Load Cost data or submitting Bid Costs on behalf of an Electric Facility that are unjustifiably high (relative to known operational characteristics and/or the known operating cost of the resource) or misrepresenting the physical operating capabilities of an Electric Facility resulting in uplift payments or prices significantly in excess of actual costs.~~

* * *

39.7.1.5 Temporary Default Energy Bid.

If the Scheduling Coordinator does not elect to use any of the other options available pursuant to Section 39.7.1, or if sufficient data do not exist to calculate a Default Energy Bid using any of the available options, the CAISO will first seek to obtain from the Scheduling Coordinator any additional data required for calculating the Default Energy Bid options available pursuant to 39.7.1. If the provision of additional data by a Scheduling Coordinator results in additional or modified Default Energy Bid options pursuant to 39.7.1, the Scheduling Coordinator will have another opportunity to elect one of these options as its temporary Default Energy Bid. If the Scheduling Coordinator does not elect to use any of the ~~other new~~ options available pursuant to Section 39.7.1, or if sufficient data still do not exist to calculate a Default Energy Bid using any of the available options, the CAISO may establish a temporary Default Energy Bid based on one or more of the following: (1) operating cost data, opportunity cost, and other appropriate input from the Market Participant; (2) the CAISO's estimated operating costs of the Electric Facility, taking

the best information available to the CAISO; (3) an appropriate average of competitive Bids of one or more similar Electric Facilities; or (4) any of the other options for determining a Default Energy Bid for which data are available.

* * *

CAISO Tariff Appendix A

Master Definitions Supplement

* * *

MSS Aggregation Net Measured Demand

The sum of the net metered CAISO Demand from all the Net-Load MSSs in the MSS Aggregation plus any exports out of the CAISO Balancing Authority Area from the MSS Aggregation. Net metered CAISO Demand of a MSS is defined as the algebraic difference between the gross CAISO Demand and Generation internal to the MSS.

* * *

MSS Deviation Band

The amount by which a Load following MSS Operator can deviate from Expected Energy without incurring a Load Following Deviation Penalty, equal to three percent (3%) of an MSS Operator's gross metered Demand in the MSS and exports from the MSS, adjusted for Forced Outages and any CAISO directed firm Load Shedding for the MSS's portfolio as a whole.

* * *

MSS Net Negative Uninstructed Deviation

Net Negative Uninstructed Deviation for an MSS, with MSS Load Following Energy included in the netting.

* * *

Transmission Rights and Transmission Curtailment (TRTC) Instructions

Operational directives developed (i) between Existing Rights holders, and holders of Converted Rights and the Participating TO, submitted to the CAISO by the Participating TO, unless otherwise agreed to by the Participating TO and the Existing Rights or Converted Rights holder, and (ii) by TOR holders, to facilitate the accommodation of Existing Rights, Converted Rights, and TORs in the CAISO Markets.

* * *

CAISO TARIFF APPENDIX C

Locational Marginal Price

* * *

A. LMP Composition

In each hour of the Day-Ahead Market for Energy, the CAISO calculates the LMP for each PNode, which is equal to the marginal cost of Energy available at the PNode in the hour, based on the Bids of sellers and buyers selected in the Day-Ahead Market for Energy ~~and as~~ specified in the Day-Ahead Schedule. The CAISO designates a Reference Bus, r , for calculation of the System Marginal Energy Cost (SMEC $_r$). The CAISO uses a distributed Reference Bus to define an aggregate value of Energy for the CAISO Control Area. The Locational Marginal Prices are determined by resources that are not eligible to set the Locational Marginal Price, which includes resources that have constraints that prevent them from being marginal. For each bus other than the Reference Bus, the Transmission Provider determines separate components of the LMP for the marginal cost of Energy, Marginal Cost of Congestion, and Marginal Cost of Losses relative to the Reference Bus, consistent with the following equation:

$$LMP_i = SMEC_r + MCC_i + MCL_i$$

$$LMP_r = SMEC_r$$

where:

- SMEC $_r$ is the LMP component representing the marginal cost of Energy (also referred to as λ) at the Reference Bus, r (System Marginal Energy Cost).
- MCC $_i$ is the LMP component representing the Marginal Cost of Congestion (also referred to as ρ) at bus i relative to the Reference Bus.
- MCL $_i$ is the LMP component representing the Marginal Cost of Losses (also referred to as γ) at bus i relative to the Reference Bus.

* * *

F. Load Zone Price Calculation

The CAISO calculates LAP prices based on the LMPs for a set of buses that comprise the LAP. These LAP prices represent the weighted average of the LMPs at the set of buses that comprise the LAP. The LAP bus weight is equal to the fractional share of each Load bus in the total Load in the LAP during the hour.

The price for LAP j is:

$$\text{LAP Price}_j = \sum_{i=1}^{NZ} WZ_i * \text{LMP}_i$$

where:

- NZ is the number of Load buses in LAP j .
- WZ_i is the load-weighting factor for bus i in LAP j . The sum of the weighting factors must equal 1 (i.e., 100 percent). These weights are based on State Estimator results for similar day.

Each LAP ~~one~~ includes only the buses of Market Participants who are in the LAP and who have Load that is represented by that LAP's definition. Market Participants that have metered Load must either be settled at a Default LAP or a Custom LAP created for each Load point of the Market Participant (nodal Settlement).

G. Intertie Scheduling Point Price Calculation

The CAISO calculates LMPs for Scheduling Points, which are represented in the FNM as PNodes or aggregations of PNodes, external to the CAISO Balancing Authority Area, through the same process that is used to calculate LMPs within the CAISO Balancing Authority Area. In some cases, facilities that are part of the CAISO Controlled Grid but are external to the CAISO Balancing Authority Area connect some Intertie Scheduling Points to the CAISO Balancing Authority Area, and in these cases the Scheduling Points are within external Balancing Authority Areas. In both of these cases, the Scheduling Points are represented in the FNM. The CAISO places injections and withdrawals at the Scheduling Point PNodes to represent Bids and Schedules whose supporting physical injection and withdrawal locations may be ~~are~~ unknown, and the LMPs for Settlement of accepted Bids are established at the Scheduling Point PNodes.

* * *

Attachment C – Clean Sheets

July 21, 2008 MRTU Compliance Filing (Docket No. ER06-615-011)

Currently Effective CAISO Tariff

6.5.1.3.2 Monthly, the CAISO shall publish the following information including, but not limited to:

- (a) Market Clearing Prices for all Aggregated PNodes used in the CRR Auction clearing for on-peak and off-peak;
- (b) CRR Holdings by CRR Holder (including):
 - (i) CRR Source name(s);
 - (ii) CRR Sink name(s);
 - (iii) CRR quantity (MW) for each CRR Source(s) and CRR Sink(s);
 - (iv) CRR start and end dates;
 - (v) Time of use specifications for the CRR(s); and
 - (vi) Whether the CRR is a CRR Option or a CRR Obligation.

6.5.1.3.3 Seasonally, the CAISO shall publish the following information including, but not limited to:

- (a) Set of LDFs that represent typical seasonal on-peak and off-peak values, not used for Settlements, before the new season.

6.5.1.4 Requirements to Obtain the CRR Full Network Model.

The CAISO shall distribute the CRR Full Network Model only to those Market Participants and non-Market Participants that satisfy the following requirements and the related procedures set forth in the Business Practice Manual.

- (a) A Market Participant that is a member of the WECC and that requests the CRR Full Network Model: (i) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website and (ii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the CRR Full Network Model.

- (b) A Market Participant that is not a member of the WECC and that requests the CRR Full Network Model: (i) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, (ii) shall provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the CRR Full Network Model.
- (c) A non-Market Participant that is a member of the WECC and that requests the CRR Full Network Model: (i) shall reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, and (iii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the CRR Full Network Model.
- (d) A non-Market Participant that is not a member of the WECC and that requests the CRR Full Network Model: (i) shall reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, (iii) shall provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iv) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the CRR Full Network Model.

36.5 Candidate CRR Holder and CRR Holder Requirements.

Any entity that holds or intends to hold CRRs must register and qualify with the CAISO and comply with the other terms of this Section, regardless of whether they acquire CRRs by CRR Allocation, CRR Auction, or the Secondary Registration System, or are assigned CRRs for Load Migration.

36.5.1 Creditworthiness Requirements.

All CRR Holders and Candidate CRR Holders must comply fully with all creditworthiness requirements as provided in Section 12 of the CAISO Tariff and Section 12.6 of this Appendix and as further developed in the applicable Business Practice Manuals. The amount of available credit for participating in a CRR Auction cannot exceed the entity's Aggregate Credit Limit as provided in Section 12.

36.5.2 Required Training.

CRR Holders and Candidate CRR Holders must attend a training class at least once prior to participating in the CRR Allocations or CRR Auctions. The CAISO may update training requirements annually or on an as-needed basis. Unless granted a waiver by the CAISO, Candidate CRR Holders and CRR Holders shall at all times have in their employment a person, or have obtained the services of a third party or consultant, that has attended the CAISO's CRR training class and shall notify the CAISO as soon as practicable of a change in such status.

nominations at the MSS LAP. If the MSS elects for gross Settlement, LSEs for such MSS Load shall submit CRRs Sink nominations at the applicable Default LAP. Load that is Pumped-Storage Hydro Units but is not Participating Load may be scheduled and settled at a PNode or Custom Load Aggregation Point and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode or Custom Load Aggregation Point. Load that is a Participating Load that is also aggregated is scheduled and settled at a Custom Load Aggregation Point that is customized specifically for such Load and, therefore, LSEs for such Participating Load shall submit CRR Sink nominations at the Custom Load Aggregation Point. Load that is Participating Load is scheduled and settled at an individual PNode, and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode. Load that is non-Participating Load, is not Pumped-Storage Hydro Units, and is not Load associated with ETCs, TORs, or MSS Operators that elect net Settlement, is scheduled and settled at the Default LAP. Therefore, LSEs for such Load shall submit CRR Sink nominations at their assigned Default LAP or Default LAPs if the Load they serve is located in more than one Default LAP. In tier 3 of the annual process and tier 2 of the monthly process, such LSEs may also submit CRR Sink nominations at a Sub-LAP of their assigned Default LAP. The CAISO will make available, prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, a list of allowable CRR Sinks to be used in the allocation. The allowable CRR Sinks will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sinks and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation.

36.8.3.4 Source Verification.

Source verification is required for LSE CRR nominations in tiers 1 and 2 of the CRR Year One annual allocation process and in tier 1 of each CRR Year One monthly allocation process. Source verification is required for all Qualified OCALSE CRR nominations in all tiers of all CRR Allocation processes.

36.8.3.4.1 CRR Year One Source Verification for LSEs.

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. Prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, the CAISO will make available a list of allowable CRR Sources to be used in the CRR Allocation. The allowable CRR Sources will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sources and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy

Attachment D – Blacklines

July 21, 2008 MRTU Compliance Filing (Docket No. ER06-615-011)

Currently Effective CAISO Tariff

ISO TARIFF APPENDIX BB

PART A. INFORMATION TO BE PROVIDED BY THE CAISO TO MARKET PARTICIPANTS.

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6.5.1.4 Requirements to Obtain the CRR Full Network Model.

The CAISO shall distribute the CRR Full Network Model only to those Market Participants and non-Market Participants that satisfy the following requirements and the related procedures set forth in the Business Practice Manual.

- (a) A Market Participant that is a member of the WECC and that requests the CRR Full Network Model: (i) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website and (ii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the CRR Full Network Model.
- (b) A Market Participant that is not a member of the WECC and that requests the CRR Full Network Model: (i) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, (ii) shall provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the CRR Full Network Model.
- (c) A non-Market Participant that is a member of the WECC and that requests the CRR Full Network Model: (i) shall reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, and (iii) shall provide to the CAISO a non-disclosure

statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the CRR Full Network Model.

(d) A non-Market Participant that is not a member of the WECC and that requests the CRR Full Network Model: (i) shall reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, (iii) shall provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iv) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the CRR Full Network Model.

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PART H. CONGESTION REVENUE RIGHTS

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36.5.2 Required Training.

CRR Holders and Candidate CRR Holders must attend a training class at least once prior to participating in the CRR Allocations or CRR Auctions. The CAISO may update training requirements annually or on an as-needed basis. Unless granted a waiver by the CAISO, Candidate CRR Holders and CRR Holders shall at all times have in their employment a person, or have obtained the services of a third party or consultant, that has attended the CAISO's CRR training class and shall notify the CAISO as soon as practicable of a change in such status.

* * *

36.8.2 Load Eligible for CRRs and Eligible CRR Sinks.

Any entity that wishes to participate in the CRR Allocation process must provide information that demonstrates that it has an obligation to serve load. An LSE's eligibility for allocation of CRRs is measured by the quantity of Load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Sections 36.8.2.1 and 36.8.2.2. An OBAALSE's eligibility for allocation of CRRs is also measured by the quantity of load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Section 36.9.3. For LSEs, the information necessary may include, but is not limited to, Settlement Quality Meter Data or relevant documents filed with the California Energy Commission. For OBAALSEs, the necessary information may include, but is not limited to, historical tagged Real-Time Interchange Export Schedules and historical load data reflecting the load they serve that is exposed to Congestion Charges for the use of the CAISO Controlled Grid. In addition, each such OBAALSE shall support its data submission with a written sworn affidavit by an executive authorized to represent the OBAALSE attesting to the accuracy of the data, and the CAISO will have the right to audit the raw data and calculations used to develop the submitted data set. An LSE serving internal Load is eligible for CRRs up to its Seasonal CRR Eligible Quantity or Monthly CRR Eligible Quantity, which is derived from its Seasonal CRR Load Metric or Monthly CRR Load Metric as described in Sections 36.8.2.1 and 36.8.2.2, respectively. Seasonal CRR Eligible Quantities and Monthly CRR Eligible Quantities for Qualified OBAALSEs are determined as provided in Section 36.9.3. These quantities are calculated for each LSE or Qualified OBAALSE separately for each combination of season and time of use period for the annual CRR Allocation process, and for each time of use period for each monthly CRR Allocation process, and for each CRR Sink at which the eligible LSE serves Load or the Qualified OBAALSE exports Energy from the CAISO Balancing Authority Area. MSS eligibility for CRRs will account for net or gross MSS Settlement in accordance with Section 4.9.13.1. If the MSS Operator elects net Settlement, LSEs for such MSS Load shall submit CRR Sink nominations at the MSS LAP. If the MSS elects for gross Settlement, LSEs for such MSS Load shall submit CRRs Sink nominations at the applicable Default LAP. Load that is Pumped-Storage Hydro Units but is not Participating Load may be scheduled and settled at a PNode or Custom Load Aggregation Point and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode or Custom Load Aggregation Point. Load that is a Participating Load that is also aggregated is scheduled and

settled at a Custom Load Aggregation Point that is customized specifically for such Load and, therefore, LSEs for such Participating Load shall submit CRR Sink nominations at the Custom Load Aggregation Point. Load that is Participating Load is scheduled and settled at an individual PNode, and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode. Load that is non-Participating Load, is not Pumped-Storage Hydro Units, and is not Load associated with ETCs, TORs, or MSS Operators that elects net Settlement, is scheduled and settled at the Default LAP. Therefore, LSEs for such Load shall submit CRR Sink nominations at their assigned Default LAP or Default LAPs if the Load they serve is located in more than one Default LAP. In tier 3 of the annual process and tier 2 of the monthly process, such LSEs may also submit CRR Sink nominations at a Sub-LAP of their assigned Default LAP. The CAISO will make available, prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, a list of allowable CRR Sinks to be used in the allocation. The allowable CRR Sinks will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sinks and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation.

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36.8.3.4.1 CRR Year One Source Verification for LSEs.

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. ~~The CAISO will make available, p~~ Prior to the beginning of the CRR a Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, the CAISO will make available a list of allowable CRR Sources to be used in the CRR a Allocation. The allowable CRR Sources will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sources and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the locations to be nominated as

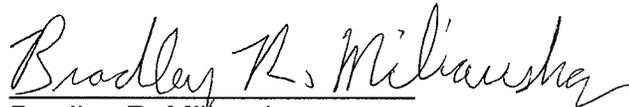
CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning April 1, 2006 and ending December 31, 2006. For the first quarter of calendar year 2009 for CRR Year One, the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

* * *

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing documents upon all of the parties listed on the official service lists for the above-referenced proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Washington, D.C. this 21st day of July, 2008.


Bradley R. Miliauska
Bradley R. Miliauska