

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System                    )       Docket Nos. ER06-615-012  
Operator Corporation                            )       and ER07-1257-000**

**POST-TECHNICAL CONFERENCE RESPONSE OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION ON  
BUSINESS PRACTICE MANUAL ISSUES**

Pursuant to the Commission’s “Notice Establishing Post-Technical Conference Schedule,” issued in the captioned proceeding on October 2, 2007 (“October 2 Notice”), the California Independent System Operator (“CAISO”) hereby submits its response (“Response”) on issues concerning the rules, standards, and practices in Business Practice Manuals (“BPMs”) that supplement the detail in the CAISO Tariff to implement the CAISO’s Market Redesign and Technology Upgrade (“MRTU”).<sup>1</sup> Specifically, this Response addresses issues as to whether certain information in the BPMs should be included in the CAISO Tariff. Parties raised these issues in filings submitted prior to the technical conference held in the proceeding on September 26-27, 2007 (“September Technical Conference”), at the September Technical Conference itself, and at a subsequent BPM stakeholder call conducted by the CAISO on November 2, 2007.

**I. BACKGROUND AND SUMMARY**

Throughout the development of the CAISO’s MRTU initiative, the CAISO explained that it would develop and issue BPMs covering all areas of the CAISO’s

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<sup>1</sup> 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 MRTU Tariff), and in the BPMs.

business. The BPMs provide guides for internal CAISO operations, document the manner in which the CAISO conducts its operations under the provisions of the MRTU Tariff, and provide consistency and transparency in the implementation of MRTU. The CAISO stated that, like the manuals and procedures adopted by other Independent System Operators (“ISOs”) and Regional Transmission Organizations (“RTOs”), the BPMs would include more detail than would be found in the MRTU Tariff provisions. In its February 9, 2006 filing that initiated the MRTU proceeding in Docket No. ER06-615, the CAISO explained that it intended to develop the BPMs through a series of version controlled releases and to seek stakeholder input at each stage of the BPM development process.<sup>2</sup> After that filing, the CAISO began an extensive stakeholder process concerning the BPMs. In response to the February 9 Filing, various parties raised questions and concerns about the CAISO’s proposed BPMs.

The Commission, in its September 21, 2006 order in this proceeding, rejected comments seeking a Commission mandate that the CAISO file the BPMs in their entirety for Commission review. Instead, the Commission directed the CAISO to continue its BPM stakeholder process and specified the actions to be taken following that process:

We direct the CAISO to continue working with stakeholders to develop the Business Practice Manuals. Once this process is completed, we direct the CAISO to file, within 30 days of the completion of the Business Practice Manuals stakeholder process, but no later than 180 days before the effective date of MRTU Release 1, any necessary additions to the MRTU Tariff. We will then schedule a period of comments; after which, we direct Commission staff to convene a technical conference to assist us in the determination of which practices or details remaining in the

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<sup>2</sup> California Independent System Operator Corporation Electric Tariff Filing to Reflect Market Redesign and Technology Upgrade, Docket No. ER06-615 (Feb. 9, 2006), Transmittal Letter at 93, and Attachment M (Prepared Direct Test. of Brian Rahman) at 13:12-15:6 (“February 9 Filing”).

Business Practice Manuals might appropriately belong in the MRTU Tariff.<sup>3</sup>

The BPM stakeholder process continued throughout the months after the September 21 Order was issued. Prior to August 3, the CAISO sufficiently completed the development of the BPMs to determine whether details in the BPMs should be moved to the MRTU Tariff.<sup>4</sup> On August 3, the CAISO submitted a filing (“August 3 Filing”) that included, *inter alia*, the details that the CAISO proposed to move to the MRTU Tariff, consistent with the Commission’s “rule of reason.”<sup>5</sup> The CAISO provided, in Attachment D to the August 3 Filing, a table showing that the extensive BPM stakeholder process consisted of over a dozen meetings and conference calls since May 2006. On August 10, 2007, the CAISO submitted a supplement to the August 3 Filing (“August 10 Filing”) that summarized the CAISO’s responses to stakeholder comments to date suggesting that details from the draft BPMs be moved to the MRTU Tariff.

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<sup>3</sup> *California Independent System Operator Corp.*, 116 FERC ¶ 61,274, at P 1370 (2006) (“September 21 Order”).

<sup>4</sup> The CAISO at one point proposed to complete that process by February 20, 2007. In an order issued on January 19, 2007, the Commission granted the CAISO an extension of time until May 2, 2007 to file MRTU Tariff modifications relating to the larger BPM stakeholder review process. However, as explained in a Motion for Extension of Time filed by CAISO on May 2, 2007, the CAISO concluded that an extension of the BPM stakeholder process was appropriate to allow the CAISO to consider stakeholder comments on a number of BPMs that were still undergoing substantial revision. On May 25, 2007, the Commission granted the requested extension so that, consistent with the September 21 Order, the CAISO could continue to work with its stakeholders to develop the BPMs and related tariff language and file, within 30 days of the completion of the BPM stakeholder process but no later than August 3, 2007, any necessary additions to the MRTU Tariff.

<sup>5</sup> *See* California Independent System Operator Corporation Modifications to Market Redesign and Technology Upgrade Tariff, Docket Nos. ER06-615-011 and ER07-1257-000 (Aug. 3, 2007), Transmittal Letter at 19-42. The application of the Commission’s “rule of reason” is discussed further in Section II.A, below.

On September 7, 2007, a number of parties filed comments, protests, and other submittals concerning the August 3 Filing, including with regard to BPM issues.<sup>6</sup> On October 5, 2007, the CAISO submitted reply comments in response to those filings (“October 5 Reply Comments”). Because the procedures set forth in the October 2 Notice established a separate schedule for addressing the issue of whether details in the BPMs should be included in the MRTU Tariff, the October 5 Reply Comments did not respond to comments on these BPM issues. The Commission has not yet issued an order concerning the August 3 Filing as supplemented on August 10.

On September 11, 2007, pursuant to the directives in the September 21 Order, the Commission issued a notice stating that Commission Staff would convene the September Technical Conference to help determine which practices or details in the BPMs should be included in the MRTU Tariff. The notice also directed parties that planned to take part in the September Technical Conference to submit, by September 18, 2007, a list of BPM provisions they wished to discuss. On September 18, a number of parties submitted comments in response to the September 11, 2007, notice.<sup>7</sup>

At the September Technical Conference, the parties and Commission Staff discussed the BPM issues raised in the parties’ September 18 filings and other issues. As discussed in more detail below, the CAISO agreed to add certain details to the MRTU

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<sup>6</sup> As relevant to the discussion in this Response, the parties that submitted filings on September 7 included the following: the California Department of Water Resources State Water Project (“SWP”); Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (“Six Cities”); Indicated Parties; Transmission Agency of Northern California (“TANC”); and Western Power Trading Forum (“WPTF”).

<sup>7</sup> The following parties submitted filings in response to the Commission’s notice: California Municipal Utility Association (“CMUA”); California Public Utilities Commission (“CPUC”); Coral Power, L.L.C. (“Coral Power”); Modesto Irrigation District (“MID”); Pacific Gas and Electric Company (“PG&E”); Southern California Edison Company (“SCE”); SWP; TANC; and WPTF.

Tariff, agreed to clarify the BPMs in certain respects, and agreed to consider other suggestions. On November 2, 2007, the CAISO conducted a stakeholder conference call to discuss certain stakeholder comments on the draft BPMs which were not discussed at the September Technical Conference due to time constraints.

During the September Technical Conference, the participants agreed to the schedule for this Response, comments, and reply comments as set forth in the October 2 Notice. Parties may submit comments on the Response by November 30, 2007 and reply comments by December 7, 2007. In order to assist in the development of comments on this Response, the CAISO committed to post copies of any BPMs to be revised based on stakeholder comments to date on the CAISO Website by November 15.<sup>8</sup> The following is a listing of BPMs that have been revised since the last major posting of draft BPMs in July 2007 with the date of the most recent update:

- BPM for BPM Change Management (November 15)
- BPM for Compliance Monitoring (August 1)
- BPM for Congestion Revenue Rights (November 15)
- BPM for Credit Management (September 12)
- BPM for Definitions and Acronyms (September 21)
- BPM for Managing Full Network Model (November 15)
- BPM for Market Instruments (November 15)
- BPM for Market Operations (November 15)
- BPM for Metering (November 15)

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<sup>8</sup> The current versions of BPMs, as well as prior drafts of these documents, are available on the CAISO Website at <http://www.caiso.com/17ba/17baa8bc1ce20.html>.

- BPM for Outage Management (November 15)
- BPM for Reliability Requirements (November 15)
- BPM for Scheduling Coordinator Certification & Termination (August 20)
- BPM for Settlements and Billing (attachments updated through November 12)<sup>9</sup>

As discussed below, the CAISO, stakeholders, and Commission Staff also reached conceptual agreement at the September Technical Conference on a proposal to convene a further technical conference approximately six months after MRTU implementation to address any questions concerning whether revisions to BPMs made after November 15, 2007 should be reflected in the MRTU Tariff.

The CAISO submits the instant Response pursuant to the October 2 Notice. The instant Response supplements, and incorporates herein by reference, the August 3 Filing and the August 10 Filing with regard to BPM issues. As discussed below, the issues concerning BPMs that were raised in parties' September 7 and September 18 filings<sup>10</sup> and at the September Technical Conference can be broadly divided into two categories: (1) general issues concerning BPMs and (2) issues concerning specific BPMs.<sup>11</sup>

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<sup>9</sup> See Attachment B to this Response for a listing of all postings of Charge Code updates since July 2007.

<sup>10</sup> For the sake of simplicity, this Response refers to all of the types of pleadings filed by parties on September 7 and September 18 as comments.

<sup>11</sup> Some of the arguments that were made in parties' September 7, 2007 filings were contained in protests. Although an answer is permitted in response to comments, the CAISO recognizes that, unless authorized by the Commission, Rule 213 of the Commission's Rules of Practice and Procedure precludes an answer to protests and an answer that exceeds the Commission's time limitations. To the extent the instant Response is considered to be an answer to protests, the CAISO respectfully requests waiver of Rules 213(a)(2) and 213(d)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.213(a)(2), -(d)(2), so that the CAISO may be permitted to address in the instant Response the arguments contained in the parties' September 7, 2007 filings. The Commission has accepted answers that are otherwise prohibited if such answers clarify the issues in dispute, *Southwest Power Pool, Inc.*, 89 FERC ¶61,284, at 61,888 (2000); *Eagan Hub Partners, L.P.*, 73 FERC ¶ 61,334, at 61,929 (1995), or assist the Commission, *El Paso*

With regard to the general BPM issues, the Commission should find the CAISO has generally complied with the Commission's "rule of reason" and with the Commission's findings in the September 21 Order that all details in the BPMs do not need to be included in CAISO Tariff. The Commission should also preclude parties from rehashing, under the guise of comments on the BPMs, issues that the Commission has previously resolved. Further, the Commission should reject parties' arguments that the CAISO Tariff should include references to specific BPMs. Moreover, the Commission should address all issues related to the BPMs as they have been modified through November 15, 2007, and should adopt the process agreed to by the participants at the September Technical Conference relating to concerns with changes to BPMs made after November 15.

As to the issues concerning specific BPMs, the Commission should approve the revisions to the CAISO Tariff that the CAISO proposes in the instant Response. These proposed revisions to the CAISO Tariff are shown in red-line format in Attachment A to this Response.<sup>12</sup> The Commission should recognize that the additions to the CAISO Tariff made in the instant filing are only the latest round of Tariff revisions the CAISO has made in response to stakeholder comments on the BPMs. The Commission should find that other comments made by the parties are sufficiently addressed by this Response. The CAISO has concluded that many of these comments are more properly addressed through clarifications to the BPMs themselves. These revisions to the BPMs are reflected in the current versions of the BPMs available on the CAISO Website. Moreover, the

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*Electric Co.*, 72 FERC ¶ 61,292, at 62,256 (1995). The CAISO submits that the instant Response does both in this proceeding.

<sup>12</sup> The CAISO will submit Tariff sheets reflecting these changes in a future compliance filing.

Commission should find that the CAISO is justified in declining to make certain revisions to the CAISO Tariff and the BPMs that parties propose, for the reasons discussed below.

## II. GENERAL BUSINESS PRACTICE MANUAL ISSUES

### A. The Commission Has Properly Concluded that the Rule of Reason Does Not Require all Details in the Business Practice Manuals To Be Included in the CAISO Tariff

In determining whether to require the CAISO to include details from the BPMs in the MRTU Tariff, the Commission applies its rule of reason.<sup>13</sup> The rule of reason does not require all of a transmission provider's business practices to be included in Commission-approved tariffs. As described in *Town of Easton v. Delmarva Power and Light Company*,<sup>14</sup> under the rule of reason the Commission "balance[s] [its] desire not to deprive utilities or groups of utilities of the flexibility they need to manage their own affairs by introducing substantial delay and layered decision-making into their operations . . . with the need for the full disclosure that furthers the purpose of having filing and posting requirements which provide real benefits to existing and potential customers or users of the services in question." In its *Prior Notice and Filing Requirements Under Part II of the Federal Power Act*,<sup>15</sup> the Commission adopted the description offered by the U.S. Court of Appeals for the District of Columbia Circuit in *City of Cleveland v. FERC*:

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<sup>13</sup> September 21 Order at P 1370.

<sup>14</sup> 24 FERC ¶ 61,251, at 61,531 (1983).

<sup>15</sup> 64 FERC ¶ 61,139, at 61,988 (1993).



[T]here is an infinitude of practices affecting rates and service. The statutory directive must reasonably be read to require the recitation of only those practices that affect rates and service *significantly*, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous. It is obviously left to the Commission, within broad bounds of discretion, to give concrete application to this amorphous directive.<sup>16</sup>

At least one commenter, Coral, suggests that the CAISO should be required to file the BPMs in their entirety for Commission approval. Coral at 2-3. This suggestion is inconsistent with the Commission's application of its rule of reason. In Order No. 890,<sup>17</sup> the Commission confirmed that it will continue to apply its rule of reason in a manner that would not require all of a transmission provider's business practices to be included in its tariff:

The Commission disagrees with parties arguing that all of a transmission provider's rules, standards, and practices should be incorporated into its OATT. We believe that requiring transmission providers to file all of their rules, standards and practices in their OATTs would be impractical and potentially administratively burdensome.

Order No. 890 at P 1651. As an example, the Commission noted that, "while MISO's business practices manuals implicate the Commission's jurisdiction because they generally involve 'the installation, operation, or use of facilities for the transmission or delivery of power in interstate commerce,' they do not require an FPA section 205 filing because 'they mostly involve general operating procedures.'"<sup>18</sup>

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<sup>16</sup> 773 F.2d 1368, 1376 (D.C. Cir. 1985) (emphasis in original).

<sup>17</sup> *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 FR 12266 (March 15, 2007), FERC Stats. & Regs. ¶ 31,241 (2007) ("Order No. 890"), *reh'g pending*.

<sup>18</sup> Order No. 890 at P 1650.

The Commission recently applied these principles to reject calls that the CAISO include the CAISO’s Credit Policy Guide in the currently effective ISO Tariff.<sup>19</sup> The Commission also recently rejected arguments that the CAISO should be required to describe the supporting information for exercising the negotiated rate option in the MRTU Tariff, finding “that the criteria for this rate may require frequent updates in order to capture the potential change in costs or market conditions, and therefore, is best suited for inclusion in the Business Practice Manual.”<sup>20</sup>

In addressing the issues raised by commenters, the Commission should apply its rule of reason consistent with the application of the rule of reason to the current CAISO Tariff and other Commission jurisdictional tariffs. In prior cases, the Commission has applied its rule of reason to determine that the following documents need not be included in a Commission-approved tariff:

- Procedures from a BPM for requests for information and challenges to confidentiality designations;<sup>21</sup>
- Details regarding marginal loss calculations;<sup>22</sup>
- Procedures to ensure that pass-through charges are not assessed to Load that does not use the transmission grid;<sup>23</sup>
- Criteria according to which the utility determined the availability of economy energy, the arrangement of sales of that energy, and the termination of such sales;<sup>24</sup>

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<sup>19</sup> 119 FERC ¶ 61,053 at P 15 (2007).

<sup>20</sup> *California Independent System Operator Corp.*, 119 FERC ¶ 61,313, at P 344 (“June 25 Order”).

<sup>21</sup> *Midwest Independent Transmission System Operator, Inc.*, 113 FERC ¶ 61,081, at P 118 (2005)

<sup>22</sup> *Northeast Utilities. Service Co. v. ISO New England*, 105 FERC ¶ 61,122 at P 21 (2003).

<sup>23</sup> *California Independent System Operator Corp.*, 95 FERC ¶ 61,195 (2001).

<sup>24</sup> *Commonwealth Edison Co.*, 21 FERC ¶ 61,096 (1982).

- Standard term and conditions and form contracts when the documents included prices and obligations to complete sales that were also included in the filed rates, as well as provisions that qualified customers for participation and typical contractual provisions;<sup>25</sup> and
- A framework for WSSC [now WECC] and its operating procedures relating to system security and general system reliability.<sup>26</sup>

The CAISO believes that the level of detail included in the MRTU Tariff is generally comparable to that in other ISO and RTO tariffs and is consistent with the Commission's rule of reason.

The Commission should recognize that the additional detail the CAISO added to the MRTU Tariff in the August 3 Filing and that the CAISO commits to add in today's filing supplement the numerous instances where the CAISO previously agreed to add additional details to the Tariff based on stakeholder concerns. For example, prior to the February 9, 2006 filing of the MRTU Tariff, the CAISO agreed to include in the Tariff additional detail on the Trading Hub price calculation. In response to comments on the February 9 Filing, the CAISO agreed to add still further detail to the MRTU Tariff on a wide range of issues, including additional detail on Locational Marginal Price ("LMP") calculations (September 21 Order at P 64); exemptions from Unaccounted for Energy and neutrality for Transmission Ownership Right ("TOR") Self-Schedules that are submitted for use of nodes on the TOR facilities in the CAISO's Control Area (September 21 Order at PP 987-88); provisions clarifying the eligibility of pump resources for Congestion Revenue Rights ("CRRs") (September 21 Order at P 777); clarifications concerning payment of Ancillary Services from imports selected in the Day-Ahead Market and

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<sup>25</sup> *Automated Power Exchange*, 85 FERC ¶ 61,232 (1998)

<sup>26</sup> *PacifiCorp*, 70 FERC ¶ 61,322 (1995).

reduced in the Hour-Ahead Scheduling Process (“HASP”) due to a derate at the applicable intertie (September 21 Order at P 347); and clarification of the physical validation requirements for Inter-SC Trades (September 21 Order at P 463).

The Commission also has directed the CAISO to add detail to the MRTU Tariff on a number of other issues, including an explanation of how the CAISO will determine the commitment of extremely long start resources and how such commitment will be integrated with the normal day-ahead commitment process (September 21 Order at P 125); the definition of RUC zones and the methodology used to define a RUC zone (September 21 Order at P 152); details addressing the settlement of emergency energy (September 21 Order at P 219); the criteria for procurement of Ancillary Services on a more granular level and a description of: (1) how the Full Network Model optimization will apply to reserves as it does to energy; and (2) if the Full Network Model optimization does not apply to reserves, how the CAISO will determine the definition of an ancillary services region or sub-region (September 21 Order at P 380); clarification of the process for handling interruptible imports (September 21 Order at P 389); a more thorough explanation of the Metered Subsystem-Load Aggregation Point (“MSS-LAP”) development process (September 21 Order at P 630); and details of how the CAISO’s proposal to make mid-year CRR adjustments will be accomplished in practice (September 21 Order at P 790).

When these additions to the MRTU Tariff are considered in concert with the additional detail proposed in the August 3 Filing and in today’s filing, the CAISO believes it has more than satisfied its obligation to show that the MRTU Tariff complies with the Commission’s rule of reason.

Indeed, the CAISO believes many of the Tariff additions proposed in Attachment A are not needed to satisfy the rule of reason, but are nonetheless beneficial because they provide clarifications to certain key provisions of the MRTU Tariff. The CAISO believes that the MRTU Tariff is a better document as a result of clarifications made in response to stakeholder questions and concerns. The CAISO appreciates the efforts of stakeholders who have offered helpful suggestions to improve the MRTU Tariff.

**B. The Commission Should Not Permit Parties to Revisit Issues Previously Resolved by the Commission Under the Guise of BPM Comments**

Many of the issues raised by commenters characterized as comments on the BPMs are actually attempts to revisit issues decided by the Commission in previous orders addressing the terms and conditions of the CAISO's MRTU Tariff or objections to Tariff provisions previously accepted by the Commission. These comments are untimely and prohibited requests for rehearing of these orders. Pursuant to Section 313(a) of the Federal Power Act, 16 U.S.C. § 8251(a), any request for rehearing must be filed within 30 days of issuance of the order for which rehearing is sought. Because the 30-day rehearing deadline is imposed by statute, it cannot be extended. *Puget Sound Energy, Inc.*, 114 FERC ¶ 61,231 (2006); *Wisconsin Valley Improvement Co.*, 80 FERC ¶ 61,257 (1997).

The failure to seek timely rehearing of these orders is not corrected by re-characterizing these requests as comments on the detail included in a BPM. The Commission rejects untimely requests for rehearing that are re-packaged as requests for reconsideration or other names. *Midwest Independent Transmission System Operator, Inc.*, 112 FERC ¶ 61,211 at PP 5, 10 (2005); *San Diego Gas & Electric Co. v. Sellers of*

*Energy and Ancillary Services into Markets Operated by the California Independent System Operator Corp. and California Power Exchange*, 104 FERC ¶ 61,186 at P 1 (2003); *Houston Lighting & Power Co.*, 84 FERC ¶ 61,183 (1998).

Specific instances of comments where parties are seeking to revisit issues previously decided by the Commission or object to Tariff provisions accepted in prior Commission orders are discussed in Section III of this Response below.

**C. The CAISO Has Procedures in Place to Ensure Consistency of the Tariff, BPMs, and CAISO Systems**

Some commenters raise questions about the consistency of certain provisions in the BPMs with the MRTU Tariff. These comments arguably go beyond the scope of the instant proceeding in that they are not comments that propose the addition of details from the BPM to the MRTU Tariff. Nonetheless, the CAISO responds to a number of these comments in Section III of this Response. The CAISO also wishes to assure the Commission that it has procedures in place to confirm the consistency of the Tariff, BPMs, and the systems under development to implement MRTU. Specifically, the CAISO has engaged the services of a number of independent consultants, including Science Applications International Corporation (“SAIC”), LECG, and Pricewaterhouse Coopers (“PWC”), to review the CAISO’s MRTU systems and related documentation to ensure consistency. This review is part of the CAISO’s MRTU readiness efforts.

**D. The Tariff Should Not Include References to Specific BPMs**

The CAISO Tariff includes a number of references to applicable BPMs. WPTF, CMUA and SWP suggest that all references to applicable BPMs in the MRTU Tariff should refer to specific BPMs by name. The CAISO urges the Commission not to

impose such a requirement upon the CAISO. Including references to specific BPMs would create the very sort of administrative burdens that the Commission seeks to avoid through the application of its rule of reason. If the CAISO were subject to this requirement, the CAISO would not have the flexibility to alter the title of a BPM, to transfer information from one BPM to another, or to expand the scope of a BPM without modifying the CAISO Tariff. Presumably, this is one reason why the Commission has not required other ISOs and RTOs to identify specific manuals where their tariffs cross-reference applicable non-tariff documents.<sup>27</sup> Like these other ISOs and RTOs, the CAISO should be able to change the names of BPMs and reorganize the BPMs without incurring the additional burden of having to make a tariff amendment filing.

As discussed during the September Technical Conference, however, the CAISO is prepared to assist Market Participants and interested parties in identifying the applicable BPM that contains the implementation detail for a given Tariff provision without putting specific names of BPMs in the CAISO Tariff or in specific BPM sections. The CAISO has developed a mapping table that will be posted on the CAISO Website. This table will map references to the BPMs in the CAISO Tariff to the titles of the relevant BPMs. Updating this mapping document will be less burdensome than including the names of specific BPMS in the Tariff because the mapping table can and will be updated without

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<sup>27</sup> See, e.g., ISO New England, Inc. Transmission, Markets and Services Tariff (“ISO-NE Tariff”), 1st Revised Sheet No. 7030 (defining an FTR Holder in relevant part as an entity that “registers with the ISO as the holder of the FTR in accordance with Section III.7 of this Market Rule and applicable ISO New England Manuals”); ISO-NE Tariff, 1st Revised Sheet No. 7067 (stating that “[a] Market Participant may elect to Self-Schedule its Resources in accordance with and subject to the procedures specified in this Market Rule and the ISO New England Manuals”); PJM Interconnection, L.L.C. Open Access Transmission Tariff (“PJM Tariff”), Original Sheet No. 37B (defining the term List of Approved Contractors to mean “[a] list developed by each Transmission Owner and published in a PJM Manual”); PJM Tariff, First Revised Sheet No. 42.01a (defining the term Schedule of Work in relevant part to mean a schedule “subject to modification, as required, in accordance with Transmission Provider’s scope change process for interconnection projects set forth in the PJM Manuals”).

the need for a Commission filing. This approach appeared to be generally acceptable to interested parties during the September Technical Conference.<sup>28</sup>

SWP proposes that all of the BPMs should be posted, in current form, on the CAISO Website in one large .pdf document, so that the consolidated BPMs could be subject to a quick word-search. The CAISO is prepared, prior to MRTU start-up, to either post such a consolidated .pdf document of the BPMs or to develop a BPM search tool on the CAISO Website that would allow for word searches of the current versions of all BPMs.

**E. The Commission Should Address All Issues Related to the BPMs as Updated Through November 15**

As noted above, the CAISO is posting updated versions of any BPMs to be revised based on stakeholder comments on the CAISO Website by November 15, the date of this filing. Consistent with the schedule discussed at the September Technical Conference, this will provide all interested parties with an opportunity to identify any details in the current BPMs they believe should be in the CAISO Tariff in time for the comments due on November 30.

During the September Technical Conference, the CAISO, other participants and Commission Staff also agreed that an additional technical conference will be scheduled approximately six months after MRTU implementation. At this technical conference, parties will have a final opportunity to identify any details in new or revised BPM language developed after November 15 which commenters believe should be added to the

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<sup>28</sup> The CAISO also is posting a related mapping document which lists all references to the CAISO Tariff in the BPMs. The CAISO is updating this document based on the versions of the BPMs posted by November 15 and expects to post this document by November 16.



CAISO Tariff. The CAISO agreed to this approach based on the understanding that, after this additional technical conference, any party alleging that details in BPMs should be moved to the Tariff will have the opportunity to raise this issue only through the CAISO stakeholder process or through a Section 206 complaint. The CAISO respectfully requests that the Commission formally adopt this proposal to convene a further technical conference approximately six months after MRTU implementation to address any questions concerning whether revisions to BPMs made after November 15, 2007 should be reflected in the MRTU Tariff. This approach will allow parties to raise concerns about details in the BPMs as modified through the period shortly after MRTU start-up but will ultimately provide needed finality on the issue of whether details in the BPMs should be included in the MRTU Tariff.

### **III. COMMENTS ON SPECIFIC BUSINESS PRACTICE MANUALS**

#### **A. BPM for Settlements and Billing**

##### **1. There Is No Merit to WPTF's Argument That Certain Details Concerning Settlements and Billing Should Be Imported Into the MRTU Tariff**

WPTF argues that the provisions in the MRTU Tariff concerning settlements and billing lacks important details, and that, where detail is provided, there are inconsistencies between the BPM for Settlements and Billing, the MRTU Tariff, and the Configuration Guides. WPTF recommends that the following information be included in the MRTU Tariff: (1) descriptive information from the charge-specific narrative descriptions in each Configuration Guide, (2) a listing of the underlying parameters that

make up the specific charge types, and (3) a compilation of the business rules for each charge type. WPTF, September 18 Comments, Attachment 1 at 36-40.<sup>29</sup>

The CAISO has developed the level of detail in the MRTU Tariff to balance the need to describe the settlements principles in the Tariff clearly and accurately without populating the Tariff with unnecessary information that informs participants of its settlements functions but does not describe how the charges and payments are derived. In addition, the CAISO's review of other ISO and RTO tariffs indicates that the level of detail included in the CAISO Tariff is consistent with or exceeds the level of detail provided in those tariffs. Similar to how other ISO and RTO tariffs operate, the MRTU Tariff describes market principles and rules (including those relating to settlements and billing) in a detailed narrative format (*i.e.*, in words) with implementation detail such as settlements- and billing-related mathematical formulae is appropriately included in the BPM for Settlements and Billing. The Commission has expressly rejected proposals that details such as mathematical formulae must be included in the tariffs of other ISOs and RTOs. For example, in one proceeding, a utility requested that ISO-NE and New England Power Pool ("NEPOOL") be directed to include in their tariffs a marginal loss calculation and the mechanism by which it is calculated. The Commission rejected this request. The Commission concluded, *inter alia*, that ISO-NE and NEPOOL provided specificity in their tariffs that satisfied the rule of reason, and that "NEPOOL has provided further detail in its Manual M-28 and ISO-NE has included further information

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<sup>29</sup> WPTF makes this argument in the section of its September 18 Comments concerning the BPM for Settlements and Billing, but the scope of WPTF's argument appears to include all of the BPMs.

on its website regarding, among other things, the mathematical formula describing the calculation of marginal losses.”<sup>30</sup>

An example will help to illustrate the inappropriateness of including detail from the BPM for Settlements and Billing in the MRTU Tariff – consider, for instance, the CAISO’s Pass Through Bill (“PTB”) functionality. SWP requests that the PTB description in the BPM for Settlements and Billing be included in the Tariff. SWP, September 18 Comments at 2. As explained in the BPM, the PTB functionality allows the CAISO to bill for charges or make payments for items that are not calculated from payloads that are passed on to SaMC through the market software systems to be settled. All charges and payments that go through a PTB, however, are conducted pursuant to Commission-approved provisions of the MRTU Tariff. Section 3.3 of the BPM for Settlements and Billing includes 13 pages of information, including calculation details, concerning the various rules applicable to each of the five different types of PTB (PTB Financial Adjustment, PTB Direct Charge, PTB Bill Determinant, Historic Rerun PTB, and PTB Charge Code Adjustment). WPTF claims that “the changes we have requested are relatively modest in their scope and magnitude,”<sup>31</sup> but there is nothing modest about the scope or magnitude of the additions that would have to be made to the MRTU Tariff if the CAISO were required to include in it details such as those concerning the PTB functionality. If the rule of reason means anything, it means that such details should be excluded from the MRTU Tariff.

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<sup>30</sup> *Northeast Utilities Service Co. v. ISO New England*, 105 FERC ¶ 61,122, at P 21.

<sup>31</sup> WPTF, September 18 Comments, Attachment 1 at 1.

Requiring the MRTU Tariff to include details such as formulae from the BPM for Settlements and Billing would also hinder the process of subsequently amending the Tariff. One example illustrating how including formulae in the Tariff has the potential to unnecessarily complicate the tariff amendment process is the CAISO's efforts during 2005 to implement a solution to the problem of excessive costs incurred in procuring resources over the interties. In Amendment No. 66 to the current CAISO Tariff, the CAISO proposed, and the Commission accepted, changing the methodology for settling import and export bids from "bid or better" to "pay as bid." The modifications to the narrative text of the tariff language necessary to implement this change were relatively modest in scope. However, because the relevant settlement formulae were included in the CAISO's Dispatch Protocol, several of those formulae also had to be revised before Amendment No. 66 could be filed, a process which required careful attention from CAISO technical personnel, and consumed a disproportionate amount of time and effort. This was problematic because expeditious action was needed to file and implement Amendment No. 66 due to the mounting costs that CAISO Market Participants were unfairly incurring as a result of the "bid or better" settlement rule. Had such formulae not been included in the Tariff, the CAISO would have been able to expedite obtaining Commission approval of the settlements principles while it continued to develop the best formulae for implementation. Moreover, after the Amendment No. 66 filing, the CAISO realized that the formulae required additional revisions to reflect the "pay as bid" principle accurately described in the narrative Tariff language. Once the CAISO corrected the formulae, another Tariff amendment was required, imposing additional timing and administrative burdens on all interested parties even though the settlement

principles had already been described in more than sufficient detail for the Commission to rule on them. If these formulae had been included in a BPM, rather than the tariff proper, the process of correcting the settlement methodology for intertie bids would have been significantly streamlined, and no prejudice would have resulted to Market Participants, because the narrative text of the tariff provisions implementing the “pay as bid” methodology described precisely how the new methodology would operate.

None of the three specific types of information that WPTF describes should be included in the MRTU Tariff. The descriptive information from the charge-specific narrative descriptions in the Configuration Guides was developed based on provisions in the MRTU Tariff. The CAISO has ensured, and continues to ensure, that the substantive material in the Configuration Guides, and in the BPMs, is also provided in its entirety or in relevant part in the MRTU Tariff. In this regard, the CAISO has systematically made modifications to the MRTU Tariff where the CAISO’s own review or stakeholder input indicates a need to make them, whether to resolve inconsistencies or to provide clarification. The instant Response, for example, includes exactly these kinds of modifications. Further, in cases where a provision in a BPM is inconsistent with a provision in the MRTU Tariff or needs to be clarified, the CAISO has made or will make appropriate changes to the BPM. These processes for modifying the MRTU Tariff and BPMs have worked well throughout the time that the CAISO and stakeholders have developed MRTU. The processes can be expected to go equally well in the future.

WPTF fails to explain exactly which provisions in the Configuration Guides it believes are not reflected, in whole or in relevant part, in the MRTU Tariff. It would be inappropriate to copy all of the descriptive information in the Configuration Guides into

the MRTU Tariff, since the MRTU Tariff reflects that information already. WPTF's proposal to make unneeded additions to the MRTU Tariff is completely at odds with WPTF's assertion that "[w]e do not want the Tariff to be any more voluminous or complex than it already is, nor do we want any more detail than is absolutely necessary." WPTF, September 18 Comments, Attachment 1 at 1.

For similar reasons, the CAISO should not be required to include in the MRTU Tariff a listing of the underlying parameters that make up the specific charge types or a compilation of the business rules for each charge type. The MRTU Tariff already contains narrative descriptions of each of the charges and payments under MRTU, rules concerning assessment of the charges, and rules concerning provision of the payments. The CAISO ensures and continues to ensure that these MRTU Tariff provisions are consistent with the more detailed information found in the BPMs. And again, WPTF fails to explain specifically what underlying parameters and business rules for charge types it believes the MRTU Tariff does not already reflect. The Commission should reject WPTF's vague arguments that unnecessary material should be added to the MRTU Tariff.

**2. The Commission Should Reject WPTF's Argument Concerning Alleged Inconsistencies and its Proposal for a Further Review Processes**

WPTF cites four instances of purported inconsistency in provisions found in the Configuration Guides, BPMs, and MRTU Tariff. WPTF argues that these instances are indicative of more widespread types of issues and that the CAISO should be required to

complete two comprehensive reviews with stakeholders to augment and correct the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 40-43.<sup>32</sup>

As explained above, the CAISO and stakeholders have been engaged in reviewing the provisions of the MRTU Tariff and BPMs throughout the development of MRTU. Those processes have worked well and should be continued. Moreover, the participants in the September Technical Conference agreed to the procedures to be followed after those meetings. Specifically, the participants, including WPTF, agreed that issues involving the BPMs as updated through November 15 (and specifically issues as to whether details in those BPMs should be moved to the MRTU Tariff) would be addressed through the filing of the CAISO's Response and two rounds of written comments. Issues concerning whether details added to the BPMs after November 15 should be added to the MRTU Tariff will be addressed through a technical conference to be scheduled approximately 6 months after MRTU start-up. Thus, there is no reason to add, on top of these already extensive processes, the comprehensive review processes that WPTF proposes.

Also, contrary to what WPTF asserts, the fact that there are still inconsistencies in the MRTU Tariff or BPMs to be resolved (*e.g.*, those described in the instant Response) has no bearing on whether additional detail needs to be included in the MRTU Tariff. The CAISO can and should resolve any inconsistencies without including in the MRTU Tariff the additional detail that WPTF suggests.

As to the four specific instances of inconsistency that WPTF mentions, the CAISO provides the following responses:

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<sup>32</sup> WPTF suggests that the CAISO and stakeholders conduct a comprehensive review not later than three months prior to MRTU start-up and a second review six months after MRTU start-up.

- Regarding WPTF’s comparison of Section 3.1 of Configuration Guide Pre-Calc RTM Net Amount with Section 11.8.4.5.1 of the MRTU Tariff, consistent with the materials in Appendix D of the BPM for Market Operations describing the Expected Energy determinations, the CAISO is in this Response proposing changes to the settlement tariff language that reflects the proper Energy types. In addition the CAISO will modify the descriptions in that Configuration Guide and all other Configuration Guides containing the details on the Energy types included to be consistent with those calculations.
- Regarding WPTF’s assertion that Section 3.4 of Configuration Guide PC SU and Min Load references the “MQS system” but provides little or no detail on how values are calculated, the CAISO clarifies that this detail is provided in Appendix D to the BPM for Market Operations and that the CAISO has provided in that BPM clarifying cross-references to the relevant Tariff provisions. Moreover, in this Response the CAISO proposes to add additional Tariff language in Sections 11.5.1, 11.5.1.1, 11.8.2.1.5, 11.8.4, 11.8.4.1.5, 11.8.4.2.1, and 11.8.4.2.2 to address specifically the updates provided to the Expected Energy calculations in Appendix D to the BPM for Market Operations. In addition, the CAISO has provided a series of changes to its defined terms that reflect the definitions of the various Energy types as reflected in that Appendix D.
- As to WPTF’s assertion that Section 2.1 of Configuration Guide CC 302 (regarding Voltage Support) conflicts with Section 11.10.7 of the MRTU Tariff, the CAISO agrees with WPTF. Configuration Guide CC 302 accurately reflects that the allocation of costs related to Voltage Support has been programmed in the



CAISO's MRTU systems to be charged to the Participating TO in whose PTO Service Territory the resource providing the Voltage Support is located. To provide consistency with this Configuration Guide, the CAISO proposes to revise both Section 11.10.7 of the MRTU Tariff and the related Configuration Guides CC 1302, 1303, and 3303 to reflect this change.

- With regard to WPTF's assertion that terms should be specified in Section 2.2 of Configuration Guide 1101 Black Start Allocation, the CAISO has determined that no terms need to be specified. Under the current MRTU Tariff, Black Start Capability costs will be allocated in one of two ways: as an RMR cost if procured through the RMR process, or as a pass-through if procured otherwise (*e.g.*, through a Black Start Agreement that would be filed with the Commission).

### **3. The CAISO Has Revised the BPM for Settlements and Billing and Other Components of MRTU as Part of the CAISO's Iterative and Collaborative Efforts with Stakeholders**

WPTF asserts that it had difficulty in reviewing the BPM for Settlements and Billing because inconsistencies and errors have made it almost impossible to review the Charge Code algorithms. WPTF states that the CAISO recognizes that the Charge Code algorithms have not yet been audited for quality assurance and are continuously being updated and corrected. WPTF, September 18 Comments, Attachment 1 at 3 & n.7.

Over the past two years, the CAISO has taken significant measures in developing its Charge Codes, documenting such codes, sharing them with participants both through the development and testing stages and evaluating them with stakeholders, consultants, and internally with its own experts. Both in the development of its codes and the integration of such codes this effort has been laborious but has proven to be fruitful.

Throughout this process, the CAISO has been transparent and has provided numerous opportunities for stakeholders to participate in stakeholder meetings, training sessions, market simulations workshops and even one-on-one discussions with staff regarding specific issues when necessary. The CAISO acknowledges that its continuing efforts to develop and evaluate its charge types have led to revisions and has resulted in several updates of its Charge Codes posted in its BPM for Settlements and Billing. This iterative process has been and is necessary to ensure readiness before MRTU start-up and was done in response to stakeholder requests that the CAISO keep the Charge Codes up to date with their known changes. The CAISO believes it would have been inappropriate, and inconsistent with the collaborative stakeholder process established in this proceeding, to wait until its internal review was completed before making the details of settlements equations available to stakeholders. Therefore, the CAISO has posted draft versions of the BPM for Settlements and Billing that included draft versions of the equations contained therein, so that stakeholders could familiarize themselves with the equations and begin to analyze them. The CAISO especially appreciates the feedback that stakeholders have provided to the CAISO concerning the codes, as this feedback has proven to be very helpful to the CAISO in developing its codes.

WPTF's claims that the equations have been so rife with inconsistencies and errors that they have been nearly impossible to review are simply unfounded and proven wrong by the enormous efforts both by the CAISO and stakeholders in developing their systems for readiness. While there have been errors identified, the CAISO believes that parties have continued to successfully evaluate and even develop their own systems based on the information that has been provided.

Moreover, the CAISO has carefully balanced the need to “finalize” codifying its charges with the need to incorporate changes required by Commission orders, changes to systems upstream, and stakeholder requirements. These factors have contributed to the need to continuously evolve the Charge Codes. At the same time, the CAISO was required to “freeze” its requirements in order to prepare testing its codes and software. This was accomplished by keeping track of the changes to be made as these were discovered but without a delay to the testing of the CAISO’s systems functionality as it exists. While this process is not yet complete, it has thus far proven to be fruitful in not only ensuring that the settlements system functions, but also in identifying any errors or inconsistencies in its codes.

The progress being made in both the development of CAISO’s codes and documentation of the settlements Charge Codes is further illustrated by the involvement of numerous vendors representing Market Participants in this process. These vendors have provided feedback and input to the CAISO as they develop Market Participants’ systems. Indeed, the CAISO has actively participated in numerous meetings with vendors and staff members of all of its major Market Participants, to the point of a number of them being contacted daily, to coordinate and discuss any of the challenges they may be facing in developing their systems based on the CAISO documentation. The CAISO believes that the progress being made by the vendors is evidence that WPTF’s statements are simply an inappropriate exaggeration.

At this point, the CAISO has not yet completed its validation process to review and ensure that all Charge Codes are ready for go live. The CAISO plans to continue its

process until at least early January.<sup>33</sup> In addition to its own efforts to ensure that the go-live settlements software is consistent with the Tariff requirements, in accordance with the Tariff, the CAISO has engaged the services of PWC to conduct an audit of its settlement Charge Codes. PWC will provide an audit opinion just prior to the close of the first Day-Ahead Market (*i.e.*, prior to 10 AM on March 31, 2008) that its settlements software calculates settlements charges consistent with the MRTU Tariff. While there are still many “moving targets” in light of pending Commission orders and continued evaluation of the accuracy of its Charge Codes, the CAISO is endeavoring to provide PWC all the information it needs to provide its independent audit in a timely manner. The CAISO will have an initial assessment from PWC approximately sixty days before MRTU go-live. At such time, the CAISO anticipates that there may be certain changes that will have to be made in order to ensure that PWC issue its opinion prior to MRTU go-live on March 31, 2008. The CAISO agrees with WPTF’s suggestion that these measures will contribute to the CAISO implementing settlements software that produces settlements outcomes consistent with the Tariff. However, to expect that the CAISO wait until this process is complete, in order to provide stakeholders with the codes to review as suggested by WPTF, would be counter-productive. The PWC opinion must be provided just before start-up because it is important that the independent auditor certifies that the CAISO is going live with software that is consistent with the Tariff. If this audit had been conducted months in advance, with all of the Commission-required changes pursuant to its orders and the changes in scope as new issues have arisen, it would have required a re-audit of the software. The CAISO believes that such an expensive doubling

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<sup>33</sup> The CAISO will be continuing validation into January as some of the minor charge codes (*i.e.*, Emergency Energy, Black Start, etc.) require special operational configurations.

of efforts would have been unwarranted in light of its efforts as described above to continuously review and address errors identified by its own staff and by stakeholders. The CAISO also believes it has found the most appropriate balance in trying to address the competing interests and believes that WPTF's suggestions are infeasible and inappropriate at this juncture.

As part of this process, the CAISO has especially made strenuous efforts to be responsive to issues raised by stakeholders concerning the BPM for Settlements and Billing. These efforts have included keeping track of all the comments and questions that stakeholders have submitted concerning revisions to the MRTU Tariff and the BPMs and posting on the CAISO Website a number of documents providing the CAISO's written responses to stakeholder comments and questions. As it began to divert its efforts towards responding to questions from Market Participants participating in the implementation workshops and meetings as well as inquires by vendors, the CAISO was unable to respond to a number of questions submitted to the BPM mailbox which had been made previously available. Many of the questions have been addressed through the various interactions the CAISO has had with stakeholders and in some instances they have been superseded by the changes to the codes. However, the CAISO has planned to dedicate resources towards closing out those questions before the end of this year. In the meantime, the CAISO has always and continues to encourage Market Participants to raise any pressing concerns in the biweekly SaMC User Group meetings held by the CAISO to address any settlements implementation questions.

## **B. BPM for BPM Change Management**

As the CAISO explained in its October 5 Reply Comments, the participants at the September Technical Conference agreed that the merits of the BPM change management process would not be addressed in the November 15 through December 7 filings directed by the Commission in this proceeding, and the Commission could and should rule on the merits of that change management process based on the initial and reply comments concerning the August 3 Filing. The CAISO expressed its support for this approach and explained that the Commission should approve the BPM change management process as a just and reasonable proposal that has been crafted to address significant stakeholder input on proposed changes to the rules, standards, and business practices that implement the MRTU Tariff. CAISO, October 5 Reply Comments at 43-58. Based on participant discussions and feedback provided at the September Technical Conference, the CAISO has made refinements and clarifications to further improve the BPM change management process.

Because the CAISO has previously provided full support for the BPM change management process in the August 3 Filing and the October 5 Reply Comments, the CAISO will not address again the merits of its proposed BPM change management process in the instant Response. The CAISO does, however, respond below to comments that have been filed in this proceeding that specifically concern the BPM for BPM Change Management and whether details from this BPM should be included in the related provisions of the MRTU Tariff.

**1. The BPM for BPM Change Management Should Not Be Filed As Part of the MRTU Tariff**

In the October 5 Reply Comments, the CAISO explained that some commenters have argued that the CAISO should be required to incorporate the entire BPM for BPM Change Management into the MRTU Tariff,<sup>34</sup> but that this issue would be addressed in the CAISO's November 15 filing required by the October 2 Notice. CAISO October 5 Reply Comments at 54. As discussed in Section II.A above, the Commission has properly concluded that the rule of reason does not require all details in the BPMs – including the BPM for BPM Change Management – to be included in the MRTU Tariff.<sup>35</sup>

It is worth noting that the Commission did not conclude that the CAISO must include the BPM change management process in its Tariff. Instead the Commission accepted a CAISO proposal to include this process in its Tariff. The CAISO did not intend, as part of that proposal, to include detail in the MRTU Tariff that exceeded the detail required under the rule of reason or that would be administratively burdensome.

The CAISO notes that it did add significant detail to the MRTU Tariff concerning the BPM change management process based on stakeholder comments prior to the August 3 Filing. The CAISO also added language to the MRTU Tariff providing that the BPM for BPM Change Management itself cannot be altered by CAISO management; it can be changed only with Governing Board approval. This Tariff provision should provide stakeholders with additional comfort that the BPM for BPM Change

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<sup>34</sup> See Indicated Parties, September 7 Comments at 10-11; TANC, September 7 Comments at 5-13; WPTF, September 7 Comments at 79-80.

<sup>35</sup> For example, Order No. 890 provides in relevant part that, “The Commission disagrees with parties arguing that all of a transmission provider’s rules, standards, and practices should be incorporated into its OATT. We believe that requiring transmission providers to file all of their rules, standards and practices in their OATTs would be impractical and potentially administratively burdensome.” Order No. 890 at P 1651.

Management will only be modified when necessary and when those changes are approved by the Board after a highly transparent process.

The MRTU Tariff already contains more detail on manual change management procedures than other ISO or RTO tariffs. Indeed, some other ISOs and RTOs have not included any details on their manual change management procedures in their tariffs.<sup>36</sup> Moreover, in Order No. 890, the Commission required public posting of “a transparent process for amending rules, standards, and practices previously posted by a transmission provider” but did not require that this process be included in the transmission provider’s tariff. Order No. 890 at P 1655. This is the standard against which any application of the rule of reason should be judged.

**2. Section 2.4.4 (Entitled “BPM Change Management PRR Review and Action”), and Section 22.11.1.5 of the MRTU Tariff (Entitled “BPM PRR Review and Action”)**

PG&E, citing Section 2.4.4 of the BPM for BPM Change Management, argues that the provisions in Section 22.4.3 of the MRTU Tariff should be modified to state that the CAISO will allow stakeholders a minimum of 10 Business Days to provide written comments on posted BPM PRRs. PG&E, September 18 Comments at 2

Other commenters, including CMUA, supported this change at the September Technical Conference. Based on this feedback, the CAISO agreed to add to the MRTU Tariff the provisions in Section 2.4.4 concerning the length of the written comment period. The provision in the MRTU Tariff that corresponds to Section 2.4.4 is actually Section 22.11.1.5, not Section 22.4.3. Therefore, in Attachment A to the instant

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<sup>36</sup> For example, changes to the Midwest ISO’s business practice manuals are governed by the “Stakeholders Governance Guide” not approved by the Commission. Changes to the NYISO manuals are governed by the “NYISO Manual Review, Revision and Approval Process” document which is also not approved by the Commission.



Response, the CAISO proposes changes to Section 22.11.1.5 of the MRTU Tariff that reflect these provisions of Section 2.4.4.

The CAISO notes, however, that PG&E does not quite accurately describe the written comment period provisions in Section 2.4.4. Those provisions state that the CAISO will allow written comments within 10 Business Days “or otherwise as specified in a Market Notice.” The CAISO may issue a Market Notice shortening (or eliminating) the written comment period of 10 Business Days if circumstances require expedited treatment of a BPM PRR.<sup>37</sup> Even in such an expedited case, however, the BPM PRR process gives stakeholders the opportunity to provide comments at the BPM Change Management stakeholder meeting held to address that BPM PRR.<sup>38</sup> Moreover, the CAISO anticipates that it will need to depart from the normal written comment period of 10 Business Days only in rare circumstances.

**3. Section 2.4.10 (Entitled “Appeal of BPM PRR Final Decision”) of the BPM for BPM Change Management, and Section 22.11.1.6 of the MRTU Tariff (Entitled “Right to Appeal to CAISO”)**

PG&E notes that, in Section 2.4.10 of the BPM for BPM Change Management, the CAISO commits to publish on the CAISO Website BPM PRR final decisions which are appealed to the CAISO’s committee of three executives, and that in the August 3 Filing, the CAISO stated that it would include all BPM PRR reports provided to the CAISO Governing Board in quarterly MRTU reports to the Commission during the first

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<sup>37</sup> See BPM for BPM Change Management, Sections 2.5 and 2.6.

<sup>38</sup> See BPM for BPM Change Management, Section 2.4.4 (“In issuing a recommendation, the BPM Change Management Coordinator shall consider public comments submitted to the CAISO Website *and at the BPM Change Management stakeholder meetings*”) (emphasis added); BPM for BPM Change Management, Section 2.6 (“At the next BPM Change Management meeting the BPM Change Management Coordinator shall . . . obtain stakeholder input on the revisions”).

year of MRTU operation. PG&E asserts that these commitments should be included in MRTU Tariff provisions or codified through a Commission ruling. PG&E, September 18 Comments at 2.

The commitments that PG&E describes do not need to be included in the MRTU Tariff because they do not significantly affect the rates, terms, or conditions of service provided by the CAISO. Therefore, under the Commission's rule of reason, they are appropriately included in a BPM. To the extent PG&E expresses concerns about the CAISO's commitment to Section 2.4.10, the CAISO notes that any changes to this provision of the BPM would require CAISO Governing Board approval. As to the quarterly reporting commitment described in the August 3 Filing, that commitment is not an MRTU Tariff obligation. Rather, it was required by the September 21 Order, which means that it has already been codified through a Commission ruling as PG&E requests. *See* September 21 Order at P 1417.

Also, in its September 18 Comments, PG&E recommends that Section 22.11.1.6 of the MRTU Tariff be modified to include provisions of Section 2.4.10 of the BPM for BPM Change Management which describe how appeals of a final decision on BPM PRRs will be reviewed by a CAISO committee. PG&E states that the process for establishing the appeals committee should be included in the MRTU Tariff or in the BPM and determined in advance of any appeal to assure unbiased review. PG&E, September 18 Comments at 2-3. At the September Technical Conference, PG&E stated that it would consider this issue to be resolved if the CAISO were to (i) revise Section 22.11.1.6 to state that the appeals committee is a standing committee established in advance of any appeal so as to ensure unbiased review of such appeal, and (ii) revise Section 2.4.10 to

provide details concerning the formation of the committee. Other commenters stated that they supported these revisions as well.

To resolve this issue, the CAISO proposes revisions to Section 22.11.1.6 of the MRTU Tariff and has made revisions to Section 2.4.10 of the BPM, consistent with the discussion with these stakeholders at the September Technical Conference. As revised, Section 22.11.1.6 of the Tariff and Section 2.4.10 of the BPM both state that the CAISO will establish, three months in advance of appeals committee meetings, the composition of the appeals committee (including alternate members who will serve in the event the primary committee members have schedule or other conflicts) and standing meeting dates if needed. These provisions also state that the CAISO can change the appeal's committee's meeting date with 10 Business Days notice if required to accommodate schedules of the appeals committee members. Section 22.11.1.6 of the Tariff specifies that the appeals committee will be comprised of CAISO executives, and Section 2.4.10 of the BPM provides the additional detail that the appeals committee will include the CAISO Chief Executive Officer, the CAISO Vice President of External Affairs, and the CAISO General Counsel. The seriousness of the CAISO's commitment to a meaningful appeals process is indicated by this commitment of its high-level executives to ensure that the BPM change management process works properly. Section 2.4.10 of the BPM also clarifies that the appeals committee hearing an issue will not include the executive sponsor of the BPM PRR on appeal, but the executive sponsor may participate in the committee's public meeting.

In addition, PG&E included, in its September 7 Comments, several proposed changes that it stated are intended to simplify and clarify the MRTU Tariff but not to

change the Tariff's meaning. PG&E, September 7 Comments at 6. As shown in Attachment A to this Response, the CAISO agrees to adopt most of these non-substantive changes to Sections 22.4.3, 22.11.1.1, 22.11.1.3, 22.11.1.4, 22.11.1.5, and 22.11.1.6 of the MRTU Tariff.

#### **4. Section 2.5 (Entitled "Urgent Requests for BPM Revisions")**

At the September Technical Conference, CMUA asserted that Section 2.5 of the BPM for BPM Change Management, which provides for urgent requests by entities for BPM revisions, should be included in the MRTU Tariff.

Upon consideration of this issue, the CAISO has concluded that the MRTU Tariff should be modified to state that entities may make urgent requests for BPM revisions and provide a summary of the process for requesting and evaluating such requests.

Therefore, the CAISO proposes to include these provisions in new Section 22.11.1.8 of the MRTU Tariff as shown in Attachment A to this Response.

### **C. BPM for Compliance Monitoring**

#### **1. The Sections of the BPM for Compliance Monitoring Listed by TANC**

During the BPM stakeholder process and in its September 7 Comments, TANC has proposed that a number of specified provisions in the BPM for Compliance Monitoring be included in the MRTU Tariff. TANC, September 7 Comments at 25-28. TANC also lists these provisions in its September 18 Comments for discussion during the September Technical Conference. TANC, September 18 Comments at 1-2. The CAISO, in its August 10 Filing, opposed TANC's proposals in almost all cases on the basis that the level of detail described in the provisions was inappropriate for incorporation into the

MRTU Tariff. The CAISO incorporates by reference the statements it made on this issue in the August 10 Filing.

However, in a very few cases the CAISO has determined that it is appropriate to incorporate more detail in response to TANC's comments and, in response to comments submitted during the stakeholder process by WPTF. The changes the CAISO considers appropriate are to the provisions of Section 11.23 of the MRTU Tariff regarding potential Uninstructed Deviation Penalties (“UDP”). In these cases, the CAISO agrees with the comments that certain clarifications of the potential application of UDP that have been provided in the BPM for Compliance Monitoring would benefit from clarification of their authority in MRTU Tariff Section 11.23. The proposed revisions to Section 11.23 were provided for stakeholder review during the stakeholder process without significant comment. The CAISO withheld these revisions from the August 3 Filing but described them in the August 10 Filing, noting their omission from the August 3 Filing pending further CAISO consideration of the potential implementation of UDP. Since August 10, the CAISO has determined that these revisions to Section 11.23 should be incorporated into the MRTU Tariff to provide authority for the provisions of the BPM for Compliance Monitoring and that the determination of the implementation of UDP will be made at a later date independent of this filing.

## **2. Section 10 (Entitled “Audit and Testing Requirements”)**

WPTF asserts that the provisions in Section 10 of the BPM for Compliance Monitoring state that the CAISO does not yet have a formal process in place to conduct the auditing and testing described in Sections 8.9 and 8.10 of the MRTU Tariff, and

argues that the Commission should provide a process whereby stakeholders can assess MRTU Tariff impacts. WPTF, September 18 Comments, Attachment 1 at 53.

There is no need for the Commission to provide such a process. First, the CAISO already addressed this matter in part, by modifying the BPM for Compliance Monitoring to reflect this change even prior to WPTF's submittal of its comments and by the CAISO's recent adoption of Operating Procedure G-214, which implements a program of unannounced testing of compliance with Ancillary Services requirements. Operating Procedure G-214 is referenced in Section 10.3 of the BPM for Compliance Monitoring and will continue in effect upon implementation of Sections 8.9 and 8.10 of the MRTU Tariff. Second, the CAISO has determined that the reference in Section 10 of the BPM for Compliance Monitoring indicating the absence of a formal process to implement the provisions of Sections 8.9.8 through 8.9.15 of the MRTU Tariff for a "performance audit" was incorrect, as the CAISO has a long-standing program for monitoring of the performance of resources regarding their compliance with Ancillary Services obligations, including rescission of payments for Ancillary Services in the event of non-performance, as described in Sections 4 and 5 of the BPM for Compliance Monitoring. Given the foregoing, the CAISO has deleted entirely the reference in Section 10 of the BPM for Compliance Monitoring indicating the absence of a formal process to implement the provisions of Sections 8.9 and 8.10 of the MRTU Tariff. To clarify the matter of implementation of the "performance audit" provisions of the MRTU Tariff, the CAISO has revised the provisions of Section 10.2 of the BPM for Compliance Monitoring to provide a reference to the other provisions of the BPM for Compliance Monitoring in which the CAISO's monitoring of resource performance is implemented.

#### **D. BPM for Congestion Revenue Rights**

In its October 5 Reply Comments (at 80), the CAISO explained that, as a general matter, the only changes that were made to the MRTU Tariff in the August 3 Filing with regard to CRR provisions were the changes that were previously filed and approved in the CAISO's March 9, 2007 filing in Docket No. ER07-613<sup>39</sup> and the CAISO's May 7, 2007 filing in Docket Nos. ER07-869, *et al.*<sup>40</sup> In addition, the CAISO stated that the August 3 Filing included changes to the CRR provisions of the MRTU Tariff that were provided in a filing submitted on July 20, 2007 in Docket Nos. ER07-869, *et al.*<sup>41</sup> and for which the comment period had terminated and Commission action was (and is) still pending. The CAISO asserted that the Commission should resolve issues related to the CRR provisions in those other proceedings and according to the procedural schedules set therein. The CAISO reiterates the same point here, but also recognizes that certain arguments made by parties in their September 7, 2007 filings in response to the August 3 Filing relate to the BPM for CRRs, including questions as to whether details in that BPM should be included in the MRTU Tariff. The CAISO addresses these arguments below and also addresses arguments made by parties in their September 18 filings concerning the BPM for CRRs.

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<sup>39</sup> Amendments to the ISO Tariff to Facilitate Timely Implementation of the MRTU Markets, Docket No. ER07-613-000 (Mar. 9, 2007). The Commission conditionally accepted this CAISO filing, subject to modifications, in *California Independent System Operator Corp.*, 119 FERC ¶ 61,124, *reh'g and clarification denied*, 121 FERC ¶ 61,120 (2007) ("May 8 Order").

<sup>40</sup> Amendments to Facilitate the Initial Congestion Revenue Right Allocation and Auction Process Under the Market Redesign and Technology Upgrade Program; Congestion Revenue Rights for Sponsors of Merchant Transmission Upgrades, Docket Nos. ER07-869-000, *et al.* (May 7, 2007). The Commission conditionally accepted this CAISO filing, subject to modifications, in *California Independent System Operator Corp.*, 120 FERC ¶ 61,023 (2007), *reh'g pending* ("July 6 Order").

<sup>41</sup> Amendments in Compliance with the Commission's July 6, 2007 Order in Docket Nos. ER07-869-000; ER07-475-000; and ER06-615-001, Docket Nos. ER07-869-001, *et al.* (July 20, 2007).

## 1. BPM for CRRs Generally

PG&E states that the BPM for CRRs is likely to require revisions based upon the CAISO's July 20, 2007 filing in Docket Nos. ER07-869, *et al.* and the Commission's order in response to that filing. Therefore, PG&E states, it cannot yet fully assess whether the provisions of the revised BPM for CRRs should be incorporated into the MRTU Tariff. PG&E, September 18 Comments at 1.

The July 20, 2007, compliance filing added detail in the MRTU Tariff pertaining to: (i) the transfer of CRRs due to Load Migration and the CAISO's tracking of these transfers, (ii) the modeling of transmission outages in the network model used for CRR purposes, and (iii) the use of common load forecasts for monthly CRR eligibility and monthly resource adequacy showings.<sup>42</sup> In addition the CAISO added Tariff language in response to the Commission's July 6 Order on CRR provisions. In preparation of its first annual CRR Allocation go live, the CAISO strove to put in the BPM any procedures participants needed to know about to participate in the CRR allocation. The CAISO filed the BPM for CRRs and the BPM for CRR Holder Registration for informational purposes with the Commission on June 7, 2007 on compliance in Docket ER07-613 to ensure that the CAISO had adequate provisions in its BPMs to address the go live issues. The version of the BPM for CRRs as filed on June 7, 2007 included the following improvements: (1) recommended and accepted proposed stakeholder changes to better reflect the filed CRR policy; (2) changes to reflect the Long Term CRR provisions as filed on January 29 in Docket No. ER07-475; (3) changes required as a result of the May 8 Order; (4) changes made to the CRR rules on May 7 in Docket No. ER07-869; and (5)

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<sup>42</sup> See July 6 Order at P 232 (2007).



changes required as a result of the April 20 Order Granting in Part and Denying in Part Requests for Clarification and Rehearing in Docket No. ER06-615.<sup>43</sup>

The CAISO recognized at that time that that ,while the BPM for CRRs was finalized for the purposes of supporting the go-live with the CRR Allocation, additional changes could be required in the BPM for CRRs as a result of the July 6, 2007 CRR Order and the CAISO's July 20 filing. The CAISO added additional information to the BPMs on July 23, 2007, which it found necessary for use in the CRR Allocation process.

The CAISO has now added the additional material in the BPM for CRRs to address the load migration provisions filed on July 20 and also the load forecast verification. With regard to the modeling of transmission outages and the criteria for determining what constitutes a "significant transmission outage." the Commission noted that the criteria will be included in the CAISO's BPMs which will be available prior to MRTU implementation. *See* April 20 Rehearing Order at P 646. As described in Section 36.4 of the MRTU Tariff, the BPM will include additional material to describe methodology that will be used in determining how it will apply any known outages to determine the Available CRR Capacity and how the measures it will take to account for unplanned and unreported outages. In addition, the CAISO will provide additional detail in the BPM for CRRs on the methodology to derate all flow limits, including Transmission Interface limits and normal thermal limits based on statistical factors, to account for any planned or unplanned Outages that may occur for the monthly CRR Allocation and CRR Auction for CRR Year One scheduled for later this year.

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<sup>43</sup> *California Independent System Operator Corp.*, 119 FERC ¶ 61,076 (2007) ("April 20 Rehearing Order").

The CAISO has already posted the criteria it will use to determine which outages fall under the 30-day reporting rule in its BPM for Outages. That material has been posted since September 8, 2007. On November 8, 2007, the CAISO posted a discussion paper discussing the methodology it would use to determine what outages would be exempt from the 30-day rule based on the criteria provided in the BPM for Outages. On November 13, 2007, the CAISO held a conference call to discuss its methodology and has now included that detail in the BPM for CRRs. With respect to the remaining methodologies discussed above that pertain to how the CAISO will model the reported outages or account for unknown outages, the CAISO is going to post whitepapers on November 20 to discuss its proposed methodologies and will hold a conference call on or about November 27. The CAISO plans to have this material vetted with stakeholders and included in its BPM no later than two weeks before the start of the monthly CRR Allocation scheduled to take place in February of next year.

The CAISO believes that the material available for participants in the BPMs at this time is sufficient to address the question of whether additional detail from the BPM should be included in the Tariff. Parties can review the materials and make further specific recommendations on what content they believe should be in the Tariff. There is no need to continue to hold this process open for this issue. Moreover, to the extent that PG&E or other parties believe that further changes to the MRTU Tariff are needed on any of these topics, they can seek to have such changes implemented pursuant to the procedures discussed at the September Technical Conference or simply through discussions with the CAISO.

## **2. Use of the Term “Allocation Eligible Entities” Throughout the BPM for CRRs**

TANC notes that the CAISO uses the term Allocation Eligible Entities throughout the BPM for CRRs, but that the term is not used in the provisions of the MRTU Tariff concerning CRRs and is not defined in the MRTU Tariff. TANC asserts that the Commission should direct the CAISO to use consistent definitions in the MRTU Tariff and the related BPMs. TANC, September 7 Comments at 25; TANC, September 18 Comments at 1.

The CAISO agrees that the definitions in the BPMs should be consistent with the definitions in the MRTU Tariff. The CAISO’s usage of the term Allocation Eligible Entities in the BPM for CRRs, however, is not inconsistent with anything in the MRTU Tariff. As described in Section 8.2 of the BPM for CRRs, the term Allocation Eligible Entities refers to “Candidate CRR Holders or CRR Holders that are also LSEs or Qualified OCALSEs.” The drafters of the BPM for CRRs found that the term Allocation Eligible Entities was useful in describing the procedures applicable to either LSEs or OCALSEs that are eligible to participate in the CRR Allocation process, whereas the drafters of the CRR provisions of the MRTU Tariff found it more useful to refer to LSEs and to OCALSEs specifically. Since the term Allocation Eligible Entities is not used in the MRTU Tariff, the CAISO sees no need to define it therein. Moreover, the MRTU Tariff and the BPM for CRRs (and the rest of the BPMs, for that matter) already contain terms that are clearly defined and consistently used in each document. Therefore, it is not necessary to import terms that are used exclusively in the BPMs (*e.g.*, Allocation Eligible Entities) into the MRTU Tariff, or vice versa.

**3. Section 3.4 (Entitled “Training Requirements”) of the BPM for CRRs and Section 36.5.2 (Entitled “Required Training”) of the MRTU Tariff**

In its September 7 Comments, WPTF argues that the CAISO provides no rationale for the provision in Section 36.5.2 of the MRTU Tariff (which is cross-referenced in Section 3.4 of the BPM for CRRs) stating that, unless granted a waiver by the CAISO, Candidate CRR Holders and CRR Holders are required at all times to have in their employment a person that has attended the CAISO’s CRR training class. WPTF requests that the Commission direct the CAISO to remove this provision from the MRTU Tariff and the BPM for CRRs or, in alternative, that the provision be revised to state that Candidate CRR Holders and CRR Holders must have at all times, in their employment or under contract to act on their behalf, a person that has attended the CRR training class. WPTF September 7 Comments at 17-18.

The provision that WPTF cites was contained in the CAISO’s May 7, 2007 filing in Docket Nos. ER07-869, *et al.*, which the Commission has accepted. Therefore, WPTF’s argument constitutes an untimely request for rehearing of that Commission order and a collateral attack on the order, and is outside the scope of the instant proceeding. Further, WPTF ignores the fact that the CAISO already allows Market Participants to rely on contractors or consultants who have attended the CRR training class, to the extent that such contractors or consultants represent that they are acting as agents on behalf of the specific Candidate CRR Holders or CRR Holders. As provided in the BPM for CRRs, the CAISO may provide waivers of the training requirements. In the event that a CRR Holder or Candidate CRR Holder demonstrates that they are adequately staffed to meet the training requirements, either through their own employees or their

consultants or contractors, the CAISO is not adverse to providing the appropriate waivers and allowing Market Participants the ability to use consultants and contractors as they deem appropriate.

**4. Section 7.1.2 (Entitled “LSEs”) of the BPM for CRRs, and Sections 36.8.2 (Entitled “Load Eligible for CRRs and Eligible CRR Sinks”) and 36.8.3.4.1 (Entitled “CRR Year One Source Verification for LSEs”) of the MRTU Tariff**

In their September 7 Comments, the Six Cities argue that Sections 36.8.2 and 36.8.3.4.1 of the MRTU Tariff should be supplemented to state that allowable CRR Sources and CRR Sinks will be posted no fewer than 30 days prior to the date that LSEs are required to submit their nominations. Six Cities, September 7 Comments at 11. WTPF makes similar arguments concerning these sections in its September 7 Comments. WTPF, September 7 Comments at 18.

The arguments of Six Cities and WTPF are beyond the scope of the instant proceeding, because they propose revisions to MRTU Tariff language that the Commission has already approved, rather than any suggestion that material from the BPM for CRRs should be moved to the MRTU Tariff. Indeed, there appears to be no relevant BPM language to move. Section 7.1.2 of the BPM for CRRs states that the CAISO will make available, prior to the beginning of the CRR Allocation process, a list of allowable CRR Sources and Sinks to be used in the allocation. Section 36.8.2 and 36.8.3.4.1 of the MRTU Tariff already contain provisions that say the same thing.

Nevertheless, the CAISO believes it is important to more clearly define the time line in Section 7.1.2 of the BPM for CRRs regarding the posting of allowable CRR Sources and CRR Sinks. Therefore, the CAISO has revised Section 7.1.2 of the BPM to state that the CAISO will post the list of allowable CRRs Sinks and Sources no later than

30 days before the close of the first tier of the annual CRR Allocation process, and to state that, with respect to the monthly CRR Allocation process, the CAISO will post the list of allowable CRR Sources and Sinks no later than two weeks before the close of tier 1 of the monthly CRR allocation. Further, the CAISO has revised Section 7.1.2 to state the procedure the CAISO will use in the event that a resource is energized after the list of allowable CRR Sources and Sinks is released and after the close of the market. In such circumstances, the CAISO will reflect the energizing of such a resource in the list of allowable CRR Sources and Sinks if possible, based on individual circumstances, provided that the CAISO will accommodate the energizing of the resource only if the PNode for the resource actually exists in the Full Network Model (“FNM”).

**5. Sections 7.2.2.1 (Entitled “Forecast Load Methodology”) and 8.7 (Entitled “Mid-Year Adjustments to Seasonal CRR Holdings to Account for Load Migration”) of the BPM for CRRs**

TANC argues that information of the type contained in Sections 7.2.2.1 and 8.7 of the BPM for CRRs should be incorporated into the MRTU Tariff. TANC, September 7 Comments at 23-24; TANC, September 18 Comments at 1.

Section 7.2.2.1 of the BPM for CRRs concerns the CAISO’s forecast Load methodology and contains two sentences. The first sentence (“For the monthly CRR Allocation process each LSE submits its forecasted Demand data to CAISO through the CRR MUI”) describes a CAISO business practice concerning how LSEs provide data to the CAISO, and consists of detail that does not affect the CAISO’s rates, terms, and conditions of service. Therefore, pursuant to the Commission’s rule of reason, the sentence need not be included in the MRTU Tariff. The second sentence of Section 7.2.2.1 (“The CAISO may adjust the submitted data to ensure consistency with CEC data

associated with the Resource Adequacy data . . .”) is already reflected in language contained in the last sentence of Section 36.8.2.2 of the MRTU Tariff and in the section cross-referenced therein, Section 36.8.6 of the MRTU Tariff. Therefore, it has already been incorporated into the MRTU Tariff.

Section 8.7 of the BPM for CRRs refers to adjustments to CRR transfers to reflect Load migration. Provisions concerning such adjustments are contained in Section 36.8.5.3 of the MRTU Tariff. The CAISO has supplemented the BPM for CRRs in Section 7.2.3 to include the procedures the CAISO will follow based on the provisions of Section 36.8.5.3. Furthermore, the CAISO found it unnecessary to include the same information in section 8.7 of the BPM for CRR as section 7.2.3 now contains all the relevant material.

**6. Section 8.5 (Entitled “Priority Nomination Process for Years after CRR Year One”) of the BPM for CRRs and Section 36.8.3.5.1 (Entitled “Tier 1 – Prior Nomination Process”) of the MRTU Tariff**

TANC states that the use of the phrase “CRR Year One” in Section 8.5 of the BPM for CRRs appears to be inconsistent with the use of the phrase “immediately previous year” in Section 36.8.3.5.1 of the MRTU Tariff, and thus TANC asks the CAISO to provide clarification. TANC, September 7 Comments at 24-25; TANC, September 18 Comments at 1.

These phrases have different meanings. CRR Year One is a term defined in Appendix A to the MRTU Tariff that means “[t]he *first* period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manuals.” (Emphasis added.) That is the sense in which the term is used in Section 8.5 of the BPM for CRRs. By comparison, the relevant provisions of Section 36.8.3.5.1 of

the MRTU Tariff state that “Tier 1 of the annual CRR Allocation *in years beyond CRR Year One* will be a Priority Nomination Process through which CRR Holders may nominate some of the same CRRs that were allocated in the immediately previous year.” (Emphasis added.) Thus, Section 36.8.3.5.1 concerns *each* year beyond CRR Year One and the allocation that occurred in *each* of the immediately previous years. For example, pursuant to Section 36.8.3.5.1, in 2010 participants will be able to nominate annual CRRs that were allocated in 2009.

**7. Attachment B (Entitled “Simultaneous Feasibility Test”) to the BPM for CRRs and Section 36.4.2 (Entitled “Simultaneous Feasibility”) of the MRTU Tariff**

WPTF points to Attachment B to the BPM for CRRs and argues that Section 36.4.2 of the MRTU Tariff provides no information about the treatment of Multi-Point CRRs and that the section should include a general description of their use and treatment. WPTF September 18 Comments, Attachment 1 at 54.

It is not clear what additional information found in Attachment B WPTF is proposing should be included in the Tariff; WPTF should have provided more specific requests and explanation for such. Most of the material in Attachment B is a description of the optimization function. The CAISO strives to include in its Tariff a description of its optimization functions but does not include the actual equations as it does not believe this adds additional value. While the CAISO is not certain exactly what it was that WPTF is requesting, it is proposing to add additional information on the treatment of Point-to-Point CRRs and Multi-Point CRRs in the optimization. Some of this language is based on what is in Attachment B. However, the CAISO has also included additional language drawn from clarifying language provided in the BPM for CRRs in response to



stakeholder requests for additional information on how Multi-Point CRRs can be treated in the optimization.

**8. Section 36.8.4.1 (Entitled “CRRs with Trading Hub Sources”) of the MRTU Tariff**

WPTF, in its September 7 Comments, argues that the addition of the last sentence to Section 36.8.4.1 of the MRTU Tariff is unexplained. WPTF also asserts that Long Term CRRs should be based on information known at the time they were allocated and should not be subject to year-to-year fluctuations in Generation Distribution Factors (“GDFs”). WPTF suggests that the CAISO clarify that the CAISO will disaggregate Hub CRRs into Point-to-Point CRRs using the year 1 GDFs. WPTF September 7 Comments at 19.

The last sentence of Section 36.8.4.1 was added to the MRTU Tariff in the CAISO’s July 20, 2007 filing in Docket Nos. ER07-869, *et al.* Therefore, WPTF’s proposed changes to this section are untimely and outside the scope of the instant proceeding.

Moreover, the disaggregation issue that WPTF raises does not need to be resolved as yet, because MRTU does not currently provide for Long Term CRRs with CRR Sources and Sinks. The CAISO may revisit the issue when it implements a Long Term CRR auction process. Further, the allocation factors at issue here are not actual GDFs, but rather are the same allocation factors that the CAISO uses in its annual CRR allocation process. There are no Long Term CRRs sourced at Trading Hubs – such Long Term CRRs can be nominated, but then they are disaggregated based on the allocation factors that exist at the time that Tier LT is run (*i.e.*, the fall of 2007 for Q2-Q4 CRRs or the fall of 2008 for Q1 CRRs), or perhaps using the immediate next year's allocation

factors if they are known at that time. Once the Point-to-Point Long Term CRRs are awarded, the allocation factors have no further relevance. The disaggregation issue is only relevant in CRR Year One, because that is the only time that the issue of nominating Trading Hub CRRs in the Long Term CRR process arises at all. Therefore, the question of what happens in subsequent years is irrelevant. The CAISO plans to modify the BPM for CRRs to reflect the clarifying detail described above.

**9. Sections 6.3.1 (Entitled “Permissible CRR Source Location for the CRR Allocation Process”), 6.3.2 (Entitled “CRR Source Limitation”), 6.3.3 (Entitled “Requirements for CRR Source Verification”), and 6.3.4.4 (Entitled “ETC or CVR Points of Delivery”) of the BPM for CRRs**

TANC argues that information pertaining to Existing Transmission Contracts ("ETCs") and Converted Rights ("CVRs") contained in sections 6.3.1 (on "Points of Delivery Associated with ETCs and CVRs"), 6.3.2 (on ETC and CVR Contract Terminating Points), 6.3.3 (on ETC and CVR Contract Points), and 6.3.4.4 (on ETC and CVR Points of Delivery) of the BPM for CRRs should be incorporated for CRRs.

TANC, September 7 Comments at 23; TANC, September 18 Comments at 1. TANC asserts that these provisions are significant to the rates, terms and conditions of the CRR process, but provides no further explanation other than the unsurprising conclusion that information in the BPM for CRRs is "pertinent to the CRR process." The CAISO believes that the significant details in these BPM provisions are already included in the MRTU Tariff and specifically in Section 36.8.3.4. As such, the CAISO does not believe the rule of reason requires the inclusion of additional detail from these BPM provisions in the MRTU Tariff.

## **E. BPM for Market Instruments**

### **1. Section 9.1 (Entitled “Inter-SC Trades of Energy”)**

WPTF, after noting that Section 9.1 of the BPM for Market Instruments contains a provision stating that the CAISO facilitates Inter-SC Trades of Energy “at Aggregated Pricing Nodes that are also Defined Trading Hubs or LAPS (APN),” argues that a provision in Section 28.1.6 of the MRTU Tariff<sup>44</sup> – stating that unvalidated trades occur at Aggregated Pricing Nodes that are defined Trading Hubs or LAPS – has never been modified to limit trades to EZ Gen Hubs or to Default LAPS. WPTF asserts that the BPM provision is therefore more restrictive than the MRTU Tariff provision. WPTF requests that the CAISO be directed to ensure that any BPM language is consistent with the MRTU Tariff provision allowing Inter-SC Trades at defined Trading Hubs and LAPS, removing the BPM restriction of trading only at EZ Gen Hubs and non-MSS LAPS. WPTF, September 18 Comments, Attachment 1 at 43-44; Coral Power, September 18 Comments at 4.

In order to make the above-referenced provisions of the BPM for Market Instruments and the MRTU Tariff equivalent, the CAISO proposes to modify Section 28.1.6.4 of the MRTU Tariff to add the word “Default” immediately before the word LAPS. It was never the CAISO’s intent to facilitate financial Inter-SC Trades at special-purpose Custom LAPS, because doing so would re-introduce the very concerns that were meant to be resolved in the settlement in Docket No. EL04-108 concerning “seller’s choice” issues. In contrast to Default LAPS, which are large aggregations of PNodes created for the very purposes of scheduling and settling Demand of Load located in IOU

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<sup>44</sup> WPTF appears specifically to mean Section 28.1.6.4 of the MRTU Tariff.

service territories, Custom LAPs are created for special purposes generally applicable to only a single Market Participant. For example, the CAISO has agreed to create a Custom LAP for Aggregated Participating Load (“APL”) for bidding and settlement purposes. Such a Custom LAP should not be available to the market in general as a location for a financial Inter-SC Trade.

The CAISO believes that WPTF’s root concern in raising this issue is that WPTF seeks fewer restrictions on locations for financial Inter-SC Trades. In this regard, the CAISO is open to the idea of creating other “defined” Trading Hubs provided that there is sufficient stakeholder support for the creation of such additional Trading Hubs and they include a sufficiently large number of PNodes so as not to introduce any “seller’s choice” concerns.

## **2. Section 11.1 (Entitled “Scope of Reports Available to SCs”)**

WPTF states that it could not verify that all of the reports listed in Section 11.1 of the BPM for Market Instruments were provided under Section 6 of the MRTU Tariff. WPTF argues that the CAISO should be directed to reference in Section 6 any of the BPM reports that are not currently referenced there. WPTF, September 18 Comments, Attachment 1 at 44.

To resolve this issue, the CAISO proposes revisions to Sections 6.5.3 and 6.5.4 of the MRTU Tariff to reference the BPM reports that are not currently referenced in Section 6. The CAISO also notes that there was some discussion of Section 6.5.3 at the September Technical Conference, and specifically of whether the CAISO will have the ability to post all Shadow Prices or just intertie Shadow Prices. The CAISO confirms that it will have the ability to post all Shadow Prices, including 15-minute Shadow

Prices. As discussed below, in this Response, the CAISO also proposes to change the term “constraint” in the definition of Shadow Price to “Constraint.”

**3. Sections 13.2 (Entitled “Transmission”) and 13.4 (Entitled “Energy”)**

WPTF argues that the MRTU Tariff should include more specific references to the types of information described in Section 13.2 of the BPM for Market Instruments under the heading “Transmission Outages”, and to the types of information described in Section 13.4 of the BPM for Market Instruments under the bullet point that addresses RUC Demand and other RUC-related information. WPTF, September 18 Comments, Attachment 1 at 44-45.

To address this issue, the CAISO proposes revisions to Sections 6.5.3.2.1 and 6.5.3.2.2(c) of the MRTU Tariff to include more specific references to the types of information described in Sections 13.2 and 13.4 of the BPM for Market Instruments.

**4. Attachment D (Entitled “Calculation of Default Energy Bids”) and Attachment E (Entitled “Bid Adder Calculations”)**

TANC, in its September 7 Comments, argues that Attachments D and E to the BPM for Market Instruments, both of which contain information on calculations concerning Bids, should be included in their entirety in the MRTU Tariff on the basis that they contain details that are required to understand the rates, terms, and conditions of CAISO service. TANC, September 7 Comments at 28-29. In its September 18 Comments, TANC includes Attachment D and E in its list of BPM provisions to be discussed at the September Technical Conference. TANC, September 18 Comments at 2.

The Commission should deny TANC’s request that Attachments D and E be included in the MRTU Tariff. In the June 25 Order, the Commission found that the rule

of reason does not require the CAISO to describe supporting documentation for exercising the negotiated rate option for Default Energy Bids in the MRTU Tariff. June 25 Order at PP 343-44. For similar reasons, the Commission should find that the supporting documentation concerning Default Energy Bids contained in Attachment D does not need to be included in the Tariff. Further, in the August 3 Filing, to comply with Commission directives, the CAISO added to the MRTU Tariff all of the detail in those attachments that is appropriate for inclusion in the Tariff consistent with the rule of reason. The CAISO added to the MRTU Tariff a number of details from Attachment D concerning Default Energy Bid options: the CAISO added to Section 39.7.1.1 details on how gas price indices are used under the Variable Cost Option, added to Section 39.7.1.2 details concerning the LMP Option, and added to Section 39.7.1.5 details concerning the Temporary Default Energy Bid Option. TANC fails to explain what specific additional details it believes should be moved from Attachment D to the MRTU Tariff, nor does TANC explain why the CAISO's changes in compliance with Commission directives are not sufficient.

TANC also fails to explain what specific details it believes should be moved from Attachment E to the MRTU Tariff. The CAISO believes that Section 39.8 of the MRTU Tariff provides sufficient enabling language and that section is implemented by more detailed provisions in Attachment E.

For these reasons, the Commission should find that TANC's generic argument that all of Attachments D and E should be included in the MRTU Tariff provides an inadequate basis for granting TANC's request.

**5. Section D 3.1.1 of Attachment D (Entitled “Feasibility Test”) and Section 39.7.1.2 of the MRTU Tariff (Entitled “LMP Option”)**

WPTF, in its September 7 Comments, quotes the following provisions from Section 39.7.1.2 of the MRTU Tariff:

Each Bid segment created under the LMP Option for Default Energy Bids will be subject to a feasibility test, as set forth in a Business Practice Manual, to determine whether there are a sufficient number of data points to allow for the calculation of an LMP based Default Energy Bid. The feasibility test is designed to avoid excessive volatility of the Default Energy Bid under the LMP Option that could result when calculated based on a relatively small number of prices.

WPTF argues that this MRTU Tariff provision lacks sufficient detail concerning the CAISO’s feasibility test (which is also discussed in Section D 3.1.1 of Attachment D to the BPM for Market Instruments) and that the CAISO should be directed to include detail in Section 39.7.1.2 to enable Scheduling Coordinators to understand how the feasibility test works and when it applies. WPTF, September 7 Comments at 19.

The Commission should find that Section 39.7.1.2 already contains sufficient detail concerning the feasibility test, and that, consistent with the Commission’s rule of reason, implementation detail concerning the CAISO’s feasibility test is appropriately included in Section D 3.1.1. As described in Section D 3.1.1, there has to be a sufficient number of data points for each Bid segment in order to create a rational LMP-based Default Energy Bid in order to avoid excessive volatility of the LMP Default Energy Bid. Section D 3.1.1 establishes a specific number of data points depending on whether the Bid segment is to be used on- of off- peak and depending on the season. The CAISO believes that the quantity of data needed for this threshold test should remain in Section D 3.1.1 and should not be imported into the MRTU Tariff. The CAISO should have

some flexibility, subject to the BPM Change Management process, to increase or decrease the number of data points required based on actual experience, and it is in the interest of both Market Participants and the CAISO to make those changes efficiently, such as through the BPM change management process, and not to burden the Commission with tariff amendment filings that change the number of data points from 10 to 15 for summer on-peak bid segments.

#### **6. Revisions to the MRTU Tariff Based on Review by SAIC and the CAISO's Own Review**

Rules concerning Energy Bids, Ancillary Services Bids, and Bid submission and validation are a central component of the BPM for Market Instruments.<sup>45</sup> In parallel with stakeholder review of these rules and the related provisions in the MRTU Tariff, SAIC, an independent contractor employed by the CAISO, has been conducting an independent review of some of the features of the MRTU Market design, including the SIBR bidding rules, which is one of the foundations of the Market Instruments BPM. Based on suggestions provided by SAIC, and on the CAISO's own review, the CAISO proposes clarifications to the MRTU Tariff that include the following:

- The CAISO proposes changes to a number of provisions in Section 8 to move provisions therein to more appropriate locations in the MRTU Tariff, eliminate redundant and inaccurate language, and provide clarification of Ancillary Services rules. These changes are described in the roadmap document provided in Attachment C to the instant Response.
- The CAISO proposes to modify Section 30.5.1 (entitled "General Bidding Rules") to make it clear that Energy associated with awarded Ancillary

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<sup>45</sup> See, e.g., BPM for Market Instruments, Sections 3-8.



Services capacity cannot be offered in the HASP or Real-Time Market separately from the awarded Ancillary Services capacity.

- The CAISO proposes to modify Section 30.5.2.2 (entitled “Supply Bids for Participating Generators”) to eliminate reference to the Master File as the location where default Generation Distribution Factors are stored.
- The CAISO proposes several clarifying changes to Section 30.5.2.4 (entitled “Supply Bids for System Resources”).
- The CAISO proposes to add new Section 30.5.4 (entitled “Wheeling Through Transactions”) to set forth provisions in the MRTU Tariff that correspond to provisions that address Wheeling Through transactions contained in Sections 3.4.1 and 8.2 of the BPM for Market Instruments.
- The CAISO proposes to modify Section 30.7.2 (entitled “Timing of CAISO Validation”) to address SAIC’s observation that not all Bid validation occurs prior to Market Close.
- The CAISO proposes to modify Section 30.7.3.1 (entitled “Validation Prior to Market Close and Master File Update”) to describe DAM Scheduling Infrastructure and Bidding (“SIBR”) rules (specifically, rules concerning generation/extension of Self-Schedules to cover gaps and RUC capacity (41401, 41403, 44002, 44004, 41328, and 41331)).
- The CAISO proposes to modify Section 30.7.3.3 (entitled “Validation Prior to Market Close and After Master File Update”) to clarify that modified Bids for Resource Adequacy Resources will reflect the full capacity of the resource as defined in the Master File.

- The CAISO proposes to modify Section 30.7.3.4 (entitled “Validation After Market Close”) in response to SAIC’s observation that generated Bids are not based entirely on Master File data and that validation of export priority and Wheeling Through transactions occur after the close of the DAM.
- The CAISO proposes to modify Section 30.7.4 (entitled “HASP and RTM Validation”) to indicate that there can be other validation rules that apply, in addition to the DAM validation rules.
- The CAISO proposes to modify Section 30.7.6.1 (entitled “Validation of Ancillary Services Bids”) to state circumstances in which Ancillary Services bids will be generated or will be erased by SIBR.
- The CAISO proposes to modify Section 31.3 (entitled “Integrated Forward Market”) in order to reflect that the IFM honors resource constraints and to provide additional clarifying language.
- The CAISO proposes to modify Section 40.6.1 (entitled “Day-Ahead Availability”) to clarify that Resource Adequacy Resources must be available except for limitations specified in the Master File or imposed by legal or regulatory prohibitions.

**7. Revisions to the MRTU Tariff Provisions Concerning Participating Load, Aggregated Participating Load, and Pumping Load**

The BPM for Market Instruments contains numerous rules applicable to Participating Load and Pumping Load.<sup>46</sup> SWP, in its September 7 Comments, suggested a number of modifications to the related provisions of the MRTU Tariff concerning Participating Load, Aggregated Participating Load, and Pumping Load. In its October 5 Reply Comments (at 78-79), the CAISO stated that it would have no objection to making several of these modifications. In the instant Response, the CAISO proposes to make the modifications, in some cases revised based on the CAISO's further review of the referenced MRTU Tariff provisions, as follows:

- The CAISO proposes changes to Sections 11.2.1.3 (formerly entitled “IFM Charges for Demand by Participating Loads,” but revised to read “IFM Charges for Demand by Participating Loads, including Aggregated Participating Loads”), 30.5.3.1 (entitled “Demand Bids Components”), and 30.5.3.2 (entitled “Exceptions to Requirement for Submission of Demand Bids and Settlement at the LAP”) to make clear that Aggregated Participating Load, whether or not offering Curtailable Demand in any given hour, will be settled using the Custom LAPs applicable to that Aggregated Participating Load.
- The CAISO proposes changes to Section 30.5.2.3 (formerly entitled “Supply Bids for Participating Loads and Aggregated Participating Loads,” but revised to read “Supply Bids for Participating Loads, Including Pumped Storage Hydro Units and

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<sup>46</sup> See, e.g., BPM for Market Instruments, Sections 3.2 (entitled “Ancillary Services Bids”), 3.4 (entitled “Import and Export Bids”), 5 (entitled “Energy Bids”), 5.1.1.2.4 (entitled “Pump Mode of Pumped-Storage Hydro Units & Participating Load (Required for Pumped-Storage Hydro Units and Pumping Load Resources”), 5.2.1.1 (entitled “Participating Load Demand Bids”).

Aggregated Participating Loads”) to clarify the differing requirements applicable to ordinary Participating Load, Aggregated Participating Load, and Pumping Load associated with Pumped Storage Hydro.

- The CAISO proposes modifications to Section 30.5.2.6.3 (entitled “Non-Spinning Reserve Capacity”) to clarify the rules concerning Supply bids for Participating Loads.
- The CAISO proposes modifications to the definitions of Minimum Load and Minimum Load Costs to align those defined terms with how they are used in Section 30.13 (entitled “Format and Validation of Minimum Load Costs”).
- The CAISO proposes modifications to the definitions of Participating Load and Aggregated Participating Load to clarify that (1) Aggregated Participating Load is in fact still Participating Load for purposes of the numerous tariff provisions that reference only Participating Load and (2) Aggregated Participating Load treatment is available to more than one Pumping Load unit at the same location.

## **F. BPM for Market Operations**

### **1. Section 3.1.5 (Entitled “Aggregated Pricing Nodes”)**

WPTF argues that, in connection with the provisions of Section 3.1.5 of the BPM for Market Operations, the CAISO should be directed to publish the complete set of binding network Constraints and their respective Shadow Prices, and the general contents for this publication, the method of publication, and the publication schedule should be included in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 19; Coral Power, September 18 Comments at 4.

The CAISO has already stated in the August 3 Filing, in MRTU Tariff Section 6.5.3.2.2 that the CAISO will post all Shadow Prices. In this Response, the CAISO further proposes to change the term “constraint” in the definition of Shadow Price to “Constraint.” This gives the term Constraint the meaning as defined in the Tariff: “Physical and operational limitations on the transfer of electrical power through transmission facilities.” The CAISO believes that this should address WPTF’s concerns.

**2. Section 4.2.1.2 (Entitled “Final Qualification Process”)**

WPTF argues that Section 4.2.1.2 of the BPM for Market Operations is inconsistent with Sections 8.6.2 and 31.3.1.2 of the MRTU Tariff with regard to the disqualification of Self-Provided Ancillary Services from an RA Resource. WPTF asserts that the CAISO should make the provisions consistent and should include in Section 31.3.1.2 the specific circumstances under which Self-Provision from an RA Resource will be disqualified. WPTF, September 18 Comments, Attachment 1 at 11-12; Coral Power, September 18 Comments at 4.

The existing language of Section 4.2.1.2 of the BPM for Market Operations is consistent with the principle, reflected in the MRTU Tariff language, that the amount of a Scheduling Coordinator’s Ancillary Service Obligation is netted based on the amount of Ancillary Services that are actually Self-Provided, not just the amount of Ancillary Services that are merely *offered* to be Self-Provided. As provided in Section 8.6.2 of the Tariff, the right to self-provide Ancillary Services is conditional on the CAISO finding that the capacity is not needed for Energy as a result of the MPM-RRD process. Therefore, if the submission to self-provide an Ancillary Service is not qualified by the CAISO, the entity’s Ancillary Services Obligation will not be reduced accordingly. (*See*

*e.g.*, Section 11.10.3.2 of the CAISO Tariff). The procedures in 31.3.1.2 that can potentially disqualify submissions to self-provide an Ancillary Service are part of the pre-IFM MPM-RRD process. All of these principles are adequately reflected in these sections of the Tariff. Nevertheless, the CAISO has included clarifying language in Section 4.2.1.2 of the BPM for Market Operations to clarify this concept.

**3. Sections 4.2.2 (Entitled “Conversion of Conditionally Qualified SPAS to Energy”) and 4.2.3 (Entitled “Conversion of Conditionally Unqualified SPAS to Qualified SPAS”)**

WPTF argues that the CAISO should be directed to add sufficient detail to the MRTU Tariff so that Market Participants can understand the outcome set forth in Sections 4.2.2 and 4.2.3 of the BPM for Market Operations, which concern the conversion of conditionally qualified and conditionally unqualified Self-Provided Ancillary Services to Energy. WPTF, September 18 Comments, Attachment 1 at 19-20; Coral Power, September 18 Comments at 4.

Upon consideration of the issue that WPTF raises, the CAISO has determined that the MRTU Tariff does not need to be modified as WPTF proposes. Section 8.6.2 of the MRTU Tariff already contains provisions concerning the right to Self-Provide Ancillary Services, including the CAISO’s conditional qualification rule. In comparison, Sections 4.2.2 and 4.2.3 of the BPM for Market Operations simply contain additional procedural detail concerning how the conditional qualification rule is applied. The CAISO has modified Sections 4.2.2 and 4.2.3 by adding a cross-reference to Section 8.6.2 of the MRTU Tariff.

#### **4. Section 4.2.5 (Entitled “Ancillary Service Award Allocation of Energy Bids”)**

WPTF has several comments that reference Section 4.2.5 of the BPM for Market Operations but are, in fact, challenges to Commission-approved provisions of the MRTU Tariff. WPTF claims that it did not understand these provisions until they reviewed this BPM provision. WPTF argues that the CAISO should be directed to revise its procedure for determining how energy from Ancillary Services is compensated and specifically that the CAISO should not be allowed to assign the energy that is most costly to produce to Regulation Up unless it pays for this energy at bid cost and it should not be allowed to assign the energy that is least costly to produce to Regulation Down unless it sells the energy back at bid cost. WPTF, September 18 Comments, Attachment 1 at 4-5; Coral Power, September 18 Comments at 3.

WPTF also argues that the CAISO should be directed to put the details in Section 4.2.5 of the BPM concerning how Regulation Energy will be treated under all circumstances (a short number of intervals and a longer number of intervals) and the specific treatment of Regulation Energy under the Uninstructed Deviation Penalty into the Tariff. WPTF, September 18 Comments, Attachment 1 at 20; Coral Power, September 18 Comments at 4.

These comments did highlight a need to revise Section 4.2.5 of the BPM for Market Operations to ensure consistency with the Tariff. Among other things, the CAISO has revised Section 4.2.5 to make it clear that Energy associated with Regulation will be settled as Instructed Imbalance energy rather than Uninstructed Imbalance Energy. These changes are included in the latest version of the BPM for Market Operations posted on the CAISO Website.

The CAISO does not, however, agree that changes to the MRTU Tariff are justified. The settlement implications of Regulation Energy have been in the Tariff since the CAISO filed its MRTU tariff and moreover, these settlements rules are largely similar to the rules for settling Regulation Energy in today's market: Section 11.5.1 illustrates that Regulation Energy is settled as Instructed Imbalance Energy; Section 11.8.4.1.5 demonstrates that Regulation Energy is not included in Bid Cost Recovery. Because Regulation Energy is Instructed Imbalance Energy it is not subject to UDP, however, Section 11.23 already discusses the treatment of Regulation itself under UDP. WPTF's comments are an attempt to revisit these principles and the Commission should not permit such a collateral attack on rules long since filed and approved. The Commission should therefore reject the request for Tariff changes as beyond the scope of this proceeding. However, to ensure clarity in the Tariff, the CAISO is offering some changes in Sections 11.5.1, 11.5.1.1, and 11.5.1.2 to confirm terminology. In addition, consistent with the principles in Section 11.10.2 the CAISO has provided the clarification in Section 8.2.3.5 that Regulation Energy resulting from Regulation that substituted for another Ancillary Service continues to be treated and settled as Regulation Energy regardless of what service it substituted for. These tariff provisions adequately represent the settlement principles for Regulation Energy.

#### **5. Section 4.2.7 (Entitled "Operating Reserve Requirements")**

WPTF references Section 4.2.7 of the BPM for Market Operations in a comment that challenges long-standing existing practices concerning the compensation for Ancillary Services where the CAISO uses bids for one Ancillary Service (*e.g.*, Regulation) to satisfy requirements for another form of Ancillary Service (*e.g.*, Spinning



Reserves). WPTF claims that details were not previously included in the Tariff as the basis for a protest of the way the CAISO pays for Ancillary Services when it substitutes higher-valued services for lower-valued services. WPTF, September 18 Comments, Attachment 1 at 5-6; Coral Power, September 18 Comments at 3.

The CAISO notes that the treatment of substituted Ancillary Services is an element of the CAISO's existing Ancillary Service market design that is being retained under MRTU. In addition, the MRTU Tariff already addresses the compensation for substituted Ancillary Services. Section 11.10.2 of the MRTU Tariff states that "In computing the user rate for each service the quantity (MW) and costs of any substituting Ancillary Service will be treated as if they are costs and MW associated with the Ancillary Service need they are being used to fulfill." As such, WPTF's substantive protest concerning the manner in which the CAISO compensates substituted Ancillary Services is beyond the scope of appropriate comments on the details in the BPMs.

As discussed above, WPTF's comments do illustrate the benefit of clarifying a related Tariff provision. As shown in Attachment A, the CAISO is prepared to revise Section 8.2.3.5 to clarify that when the CAISO dispatches the Energy associated with Regulation that was used to satisfy requirements for another Ancillary Service, it continues to be treated as Regulation Energy regardless of the Ancillary Service for which it is substituted. The CAISO has also revised Section 4.2.7 of the BPM to ensure consistency with the applicable Tariff provisions.

WPTF also argues that the provision in Section 4.2.7 concerning a 25% limit on the total amount of Ancillary Services that can be imported into the CAISO is inconsistent with the maximum limit provision contained in Section 8.3.3 (specifically,

Section 8.3.3.1) of the MRTU Tariff. WPTF requests that the CAISO reconcile the provisions. WPTF, September 18 Comments, Attachment 1 at 12; Coral Power, September 18 Comments at 4.

The CAISO has determined that under MRTU it will not need to limit imports based on individual Scheduling Points (*i.e.*, interties). The representation that WPTF is referring to in Section 4.2.7 of the BPM is therefore inaccurate, and the CAISO has removed the 25% limit on AS imports from the ties and is also proposing to remove this specification from the BPM.<sup>47</sup>

#### **6. Section 4.3 (Entitled “Ancillary Services Procurement”)**

WPTF asserts that a particular provision in Section 4.3 of the BPM for Market Operations (“If an AS Bid in DAM is included and the Energy Bid does not extend to the full available capacity of the resource, then all or part of the AS Bid is considered to use available capacity that is not covered by the Energy Bid, and no opportunity cost is considered in the co-optimization of Energy and AS”) suggests that the CAISO can extend a Scheduling Coordinator’s bid whether the unit is obliged to provide Resource Adequacy capacity or not, and that it can do so while limiting the Scheduling Coordinator’s compensation. WPTF argues that the MRTU Tariff is silent on this issue, and that the Tariff should state how it will use a Scheduling Coordinator’s Energy and Ancillary Services Bids, what assumptions it will make about otherwise unused capacity that is not bid in the DAM, and when it will alter Scheduling Coordinator compensation by assigning a zero opportunity cost to a Scheduling Coordinator’s DA Ancillary

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<sup>47</sup> However, under MRTU, the minimum Ancillary Service procurement limit for the Ancillary Service System Region, which is a percentage (currently 50%) of the Ancillary Service requirements for the Expanded System Region, will continue to apply. *See* Sections 4.1.1 and 4.2 of the BPM for Market Operations.

Services bid or to its unbid capacity. Further, WPTF argues that the CAISO should not be allowed to appropriate services where there is no obligation to offer them or allowed to impose a “discount” by assigning zero opportunity cost to services bid in the DA market. WPTF, September 18 Comments, Attachment 1 at 6-7; Coral Power, September 18 Comments at 3.

WPTF also argues that another sentence in Section 4.3 (“For AS that is Self-Provided in the IFM, an Energy Bid may be submitted for DAM, but must be submitted later, specifically, in the HASP/Real-Time Bid submission timeframe”) has no analogue in the MRTU Tariff and should be included in the Tariff in order to inform Scheduling Coordinators what their obligations are. WPTF, September 18 Comments, Attachment 1 at 21.

WPTF is incorrect in asserting that the MRTU Tariff is silent regarding this issue. In fact, the Tariff contains several relevant provisions. Section 8.5.5 (entitled “Evaluation of Ancillary Services Bids”) states that the CAISO optimizes Ancillary Services and Energy. Section 11.10.1.1 (entitled “Ancillary Services in DAM”) contains the opportunity cost concepts that apply when a resource has not submitted an Energy Bid. Section 30.5.2.6 (entitled “Ancillary Services Bids”) provides that submitting an Energy Bid associated with an Ancillary Service Bid is optional in the DAM but not optional in the RTM. The Commission has already approved these provisions. Finally, Section 30.7.3 (entitled “DAM Validation”) provides the DAM bid validation rule that extends the Energy Bid Curve. Therefore, WPTF’s is incorrect in its assertion that these issues are not addressed in the MRTU Tariff, and thus, its arguments constitute an untimely request for rehearing of, and collateral attack on, provisions previous

Commission directives. As a result, these WPTF arguments are outside the scope of this proceeding.

Nevertheless, as discussed further in the section of this Response concerning the BPM for Market Instruments, both in response to WPTF's question and in its evaluation of the bid validation rules reflected in the BPM for Market Instruments, the CAISO has provided clarifying language in various Tariff sections, consistent with its market rules, that reflect the Bidding rules and the rules that apply to Ancillary Services Bids through the Bid validation process. For the same reasons stated above, the CAISO is also proposing to include additional tariff language to address WPTF's lack of bidding rules in the tariff with regards to when an Energy Bid may be provided for a Submission to Self-Provide an AS submitted for DAM. Lastly, the CAISO has modified Section 4.3 of the BPM for Market Operations to reflect the clarifications described above and to provide a numerical example.

Section 34.16.1 provides that "Scheduling Coordinators for resources that have been awarded or self-provide Regulation Up, Spinning Reserve, or Non-Spinning Reserve capacity must submit an Energy Bid for at least all the awarded or self-provided Ancillary Services capacity." And Section 34.13 (entitled "Real-Time Bid Submission") states that RA resources that self-provided AS in the DAM must submit an Energy bid in RTM). In addition, Section 30.5.2.6 provides as follows:

In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; (2) an Energy Bid associated with capacity Bid before the close of the Real-Time Market (submitting an Energy Bid associated with a Ancillary Service Bid in the Day-Ahead Market is optional); (3) Ramp Rate (Operating Reserve Ramp Rate and regulating ramp rate, if applicable); (4) Distribution Curve for Physical Scheduling Plant or

System Unit; and (5) maximum operating level (MOLmax) and minimum operating level (MOLmin).

The CAISO believes that while these Sections already provide the principles also reflected in the BPM that WPTF seeks to have imported into the Tariff, it is offering clarifying language in Section 30.5.2.6 in order to address the issue raised by WPTF. With respect to the BPM for Market Operations and its representations of the bidding rules and bid validation rules, the CAISO proposes to continue to ensure that there are adequate cross references to the BPM for Market Instruments where such rules reside.

**7. Section 4.5 (Entitled “Ancillary Services Considerations”)**

WPTF argues that Section 4.5 of the BPM for Market Operations contains detail about the conditions under which Contingency Only Resources will be dispatched, and that the detail should be included in Section 34.10 of the MRTU Tariff. WPTF September 18 Comments, Attachment 1 at 12-13; Coral Power, September 18 Comments at 4.

WTPF’s argument should be disregarded. Sections 34.8 (as modified by the CAISO as described in Section III.F.25, below) and 34.3.2 of the MRTU Tariff clearly stipulate the conditions under which the CAISO will dispatch Contingency Only resources. The provisions in Section 34.3.2 and 34.8 are also consistent with the detail contained in Section 4.5 of the BPM for Market Operations. For purposes of clarification, the CAISO has included a cross-reference to MRTU Tariff Sections 34.3.2 and 34.8 in Section 4.5 of the BPM for Market Operations.

**8. Sections 4.6.2 (Entitled “Spinning Reserve Certification and Testing Requirements”) and 4.6.3 (Entitled “Non-Spinning Reserve Certification and Testing Requirements”)**

WPTF asserts that Sections 4.6.2 and 4.6.3 of the BPM for Market Operations, which address Spinning Reserve and Non-Spinning Reserve certification testing requirements, should be included in the MRTU Tariff because they are used in determining whether a provider is or is not qualified to provide Ancillary Services. WPTF, September 18 Comments, Attachment 1 at 22.

The CAISO should not be required to include these sections in the MRTU Tariff. Section 8.3.4 of the MRTU Tariff already addresses certification and testing requirements, as does Appendix K to the MRTU Tariff, the Ancillary Service Requirements Protocol. Sections 4.6.2 and 4.6.3 of the BPM for Market Operations are consistent with these MRTU Tariff provisions but provide additional detail that is appropriately included in a BPM pursuant to the rule of reason.

**9. Section 6.4.4 (Entitled “Close Day-Ahead Market”)**

WPTF argues that the details in Section 6.4.4 of the BPM for Market Operations concerning the actions the CAISO will take in the event of a market disruption should be included in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 26.

The possible market disruptions contemplated in Section 6.4.4 are the type of market disruptions reflected in Sections 7.6 and 7.7 of the CAISO Tariff. The CAISO believes that these provisions of the Tariff provide it sufficient authority to implement the procedures in Section 6.4.4 of the BPM and no additional tariff language is required. Moreover, in the event that the CAISO believes it is necessary to conduct an Exceptional Dispatch to avoid a Market Interruption, it may do so as provided in Section 34.9 of the

MRTU Tariff. The CAISO has provided a cross-reference to Sections 7.6 and 7.7 of the MRTU Tariff, but sees no need to include additional tariff language as it may result in unnecessary redundancies in the Tariff.

**10. Section 6.5.1 (Entitled “Reliability Requirement Determination & Local Market Power Mitigation”)**

WPTF asserts that language in Section 6.5.1 of the BPM for Market Operations concerning RMR dispatch is inconsistent with language in Section 31.2 of the MRTU Tariff on the same subject, and that the CAISO should make revisions to reconcile and clarify the sections. WPTF, September 18 Comments, Attachment 1 at 13.

To address this issue, the CAISO proposes to revise Section 31.2 to clarify that that section relates to the automated process for dispatching RMR. The CAISO notes that Section 41 of the MRTU Tariff concerns RMR generally and describes the CAISO’s RMR dispatch authority.

**11. Section 6.7.2.7 (Entitled “RUC Availability Bids”)**

WPTF references this provision of the BPM for Market Operations as the basis for an argument that the CAISO must change the way it determines the capacity that a Scheduling Coordinator for a non-RA resource can offer in the Residual Unit Commitment Process. WPTF argues that the CAISO should be required to change the way it interprets bids so that the quantity portion of the bid represents total output rather than incremental output. WPTF, September 18 Comments, Attachment 1 at 7-8; Coral Power, September 18 Comments at 3.

This is another instance where the provisions of the MRTU Tariff already clearly describe the practice to which WPTF objects. As such, WPTF’s substantive protest concerning the manner in which the CAISO determines the capacity that a Scheduling

Coordinator for a non-RA resource can offer in RUC is beyond the scope of appropriate comments on the details in the BPMs.

The MRTU Tariff is clear that what can be offered in RUC is based on what is not committed in the IFM. The relevant provisions have been in the MRTU Tariff since first approved by the Commission in 2006. Section 30.1 states that “Bids submitted in the DAM apply to the 24 hours of the next Trading Day (23 or 25 hours on the Daylight Savings transition days) and are used in both the IFM and RUC.” Section 30.5.2.7 provides that “Scheduling Coordinators may submit RUC Availability Bids for specific Generating Units in the DAM. Capacity that does not have Bids for Supply of Energy in the IFM will not be eligible to participate in the RUC process. The RUC Availability Bid component is a MW-quantity of non-RA Capacity in \$/MW per hour, and \$0/MW for RA Capacity.” Section 31.1 provides that “Scheduling Coordinators submit a single Bid to be used in the DAM, which includes the MPM-RRD, the IFM and RUC.” Section 31.5.1.1 provides that “Scheduling Coordinators may make such capacity available for participation in RUC by submitting a RUC Availability Bid, provided the Scheduling Coordinator has also submitted an Energy Bid for such Capacity into the IFM.” Section 31.5.1.2 provides that a Scheduling Coordinator may only submit RUC Availability Bids (above the minimum load) for which they are also submitting an Energy Bid. Section 31.5.3 then provides that “The procurement target for RUC in any given Trading Hour will be determined based on the next day’s hourly CAISO Forecast of CAISO Demand less the Energy scheduled in the Day-Ahead Schedule, and accounting for other factors, as appropriate, such as Demand Forecast error and estimated incremental HASP Bids



including those from Participating Intermittent Resources.” These provisions together demonstrate the long-standing rules for RUC Availability Bids in the MRTU Tariff.

In the BPM for Market Operations, the CAISO attempted to provide a reader-friendly description of how RUC Availability Bids are interpreted since they are submitted at the same time as the IFM bids, so that parties could better understand how they are treated. The language in the BPM that WPTF is pointing to is entirely consistent with the Tariff provisions discussed above. In order to clarify the RUC Availability Bid rules in the BPM, the CAISO has replaced the sentence WPTF raised concerns about with a simple reference to the BPM for Market Instruments and applicable Tariff provisions which describe the rules for RUC Availability Bids. In addition, the CAISO will clarify, in Section 7.1 of the BPM for Market Operations, that RUC Capacity is whatever is left after taking into account Day-Ahead Schedules, AS Awards, and Self-Provided AS.

#### **12. Section 6.7.2.2 (Entitled “RUC Zones”)**

PG&E states that, during the September Technical Conference, stakeholders should discuss whether the provisions of Section 6.7.2.2 of the BPM for Market Operations, which concerns RUC Zones, should be expanded or moved into the body of the MRTU Tariff. PG&E, September 18 Comments at 3.

At the September Technical Conference, the CAISO agreed to list the actual RUC Zones in the BPM for Market Operations so that it is part of the BPM review process. The CAISO has added this list to Section 6.7.2.2 of the BPM for Market Operations.

**13. Section 6.7.2.8.3 (Entitled “Short Start Unit Capacity Constraint”)**

WPTF argues that provisions of Section 6.7.2.8.3 of the BPM for Market Operations, which concern the setting of the Short Start Unit constraint parameter and specify a parameter floor of 75%, should be included in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 22-23; Coral Power, September 18 Comments at 4.

During the September Technical Conference, the CAISO agreed to modify Section 6.7.2.8.3 to state that the 75% floor may be adjusted based on experience and to list the relevant factors the CAISO will use in making such adjustments. Further, to address the issue that WPTF raises, the CAISO proposes to include in Section 31.5.4 of the MRTU Tariff a description of the factors that CAISO Operators will consider in determining the Short Start Unit constraint parameter. The CAISO does not, however, believe that it is appropriate to include the 75% floor in the MRTU Tariff, because circumstances may arise in which the level of that floor needs to be changed. The CAISO will clarify Section 6.7.2.8.3 to specify that the 75% level of the floor is an example, but also state that the CAISO may change the level of the floor if necessary. In addition, the CAISO is proposing to include language in MRTU Tariff Section 31.5.4 that reflects the conditions under which the parameter will be adjusted.

**14. Section 7.2.3.5 (Entitled “Dispatch Instruction Breakdown”)**

WPTF argues that the CAISO should be required to either (a) explain in the MRTU Tariff why there is a need for a component of each Dispatch Instruction that is to be determined ex post (“TBD component”) as described in Section 7.2.3.5 of the BPM for Market Operations, (b) remove the TBD component from all BPMs, or (c) add

provisions to the MRTU Tariff that excuse Scheduling Coordinators from complying with CAISO Dispatch Instructions unless the TBD component is set to some value that identifies the remainder of the Dispatch Instruction is complete and not in need of ex post adjustment. WPTF, September 18 Comments, Attachment 1 at 14; Coral Power, September 18 Comments at 4.

The CAISO has determined that the “TBD” breakdown component is still necessary at least in the event that a resource is being dispatched from one hour to the next where the resource has no or less bid capacity in the next hour. Ultimately through the Expected Energy calculations described in Appendix D of the BPM for Market Operations, such Dispatch may be considered Residual Imbalance Energy. However, at the time that the CAISO is actually dispatching the resource the best it can say is that portion for the Dispatch capacity is either NOBID or “TBD.”

**15. Section 7.3.1.1 (Entitled “Energy Limits & Energy Quota Calculation”)**

WPTF suggests including in the MRTU Tariff the language in Section 7.3.1.1 of the BPM for Market Operations that states that, with regard to a resource that is committed for a Trading Day and as a result of its Minimum Run Time constraints is required to be online during the subsequent Trading Day, the resource may be limited from either modifying its Bid or being paid based on Bid prices greater than the Bid that was used for the original commitment decision. WPTF also requests that the CAISO specifically identify the narrow circumstances in which a Scheduling Coordinator would not be allowed to change its Bid for a resource that is committed and required to continue to be online because it has a long Minimum Run Time. WPTF, September 18 Comments, Attachment 1 at 8-9; Coral Power, September 18 Comments at 3.

As an initial matter, the CAISO notes that Section 34.15.1 of the MRTU Tariff already contains provisions concerning resource constraints. To resolve the issue that WPTF raises, however, the CAISO has deleted from Section 7.3.1.1 of the BPM the entire paragraph containing the language that WPTF cites.<sup>48</sup> The CAISO also proposes to revise Section 31.5.1.1 of the MRTU Tariff to clarify that the operating characteristics used in determining which capacity is eligible for RUC participation include a resource's Energy Limits.

**16. Section 7.5.1 (Entitled “Hourly Schedule Changes & Dispatch Priorities”)**

WPTF asserts that the details contained in Section 7.5.1 of the BPM for Market Operations should be included in the MRTU Tariff because they affect how a Scheduling Coordinator is paid for energy it provides under Exceptional Dispatch. WPTF, September 18 Comments, Attachment 1 at 14-15; Coral Power, September 18 Comments at 4.

The CAISO notes that Section 11.5.6 of the MRTU Tariff already defines how Exceptional Dispatch transactions are settled. Further, detail contained in the second bullet point in Section 7.5.1 of the BPM for Market Operations is also provided in Section 34.16.5 of the MRTU Tariff. Nevertheless, clarification of the MRTU Tariff and the BPM for Market Operations would be helpful to resolve this WPTF issue. Therefore, the CAISO proposes to add new Section 34.16.6 to the MRTU Tariff to include further detail about how ramping of resources will occur in cases of Exceptional Dispatch, and the CAISO will modify Section 7.5.1 of the BPM for Market Operations to provide further clarification regarding the settlement of Exceptional Dispatch transactions.

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<sup>48</sup> That paragraph began with the words “To the extent a resource . . . .”

WPTF also asserts that the SCUC/SCED constraint classes listed in Section 7.5.1 of the BPM for Market Operations are different from the schedule priorities found in MRTU Tariff provisions referenced by Section 7.5.1. WPTF states that the conditions under which the SCUC and SCED operate should be accurately reflected in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 24.

No revisions need to be made to the MRTU Tariff concerning the constraint classes. To resolve the issue that WPTF raises, the CAISO has modified Sections 7.5.1 and 7.5.2.2 (concerning RTM Self-Schedules) to provide clarification regarding the constraint classes and how the CAISO will resolve constraints.

**17. Section 7.5.4.1 (Entitled “HASP Prices for HASP System Resource Schedules and HASP AS Awards”)**

WPTF argues that the MRTU Tariff should require the CAISO to publish the 15-minute Shadow Prices described in Section 7.5.4.1 of the BPM for Market Operations. WPTF, September 18 Comments, Attachment 1 at 25; Coral Power, September 18 Comments at 4.

Sections 6.5.3.2.2 of the MRTU Tariff states that the CAISO will publish Shadow Prices following the close of the Day-Ahead Market and 6.5.4.2.2 of the MRTU Tariff states that the CAISO will publish HASP Shadow Prices. As discussed above, the CAISO believes its Tariff provisions as it proposed to revise the definition of Shadow Price address this concern.

**18. Sections 7.6.1.1 (Entitled “Security Constrained Unit Commitment/Security Constrained Economic Dispatch Timeline Shift”)**

WPTF states that the following provisions in Section 7.6.1.1 of the BPM for Market Operations should be included in the MRTU Tariff because it affects that way

Generating Units are operated and determines how penalties might be applied: “the entire timeline for the RTM (including Bid submission and validation, and all related applications such as ADS) are shifted 2.5 minute earlier. The timeline for RTUC is shifted 7.5 minutes earlier.” WPTF, September 18 Comments, Attachment 1 at 25.

The CAISO agrees with WPTF that the above-quoted provisions should be deleted from the BPM for Market Operations, because the provisions include inappropriate detail about how the timeline for the RTM changes from the pre-MRTU market to the MRTU market. Therefore, the CAISO has deleted the provisions from Section 7.6.1.1 and has also deleted similar provisions in Section 7.8.1.1 of the BPM for Market Operations. In addition, the CAISO proposes to modify Section 34.3.1 of the MRTU Tariff to include language similar to the language in Section 7.6.1.1 stating that the CAISO’s dispatch target is the center of the interval between the 5-minute boundary points.

**19. Section 7.6.1.2 (Entitled “Real-Time Ancillary Services Procurement”)**

WPTF suggests that provisions in Section 7.6.1.2 of the BPM for Market Operations contain key assumptions about how resources with RA obligations are treated by the CAISO. WPTF also suggests that Section 7.6.1.2 conflicts with Section 34.2.2 of the MRTU Tariff, governing Real-Time Ancillary Services Procurement. WPTF, September 18 Comments, Attachment 1 at 9; Coral Power, September 18 Comments at 3.

In response to this issue, the CAISO is proposing to add detail to Section 34.13 of the MRTU Tariff to clarify the treatment of Resource Adequacy Resources in the Real-Time procurement of Ancillary Services. The CAISO is also proposing to revise and move language in Section 34.2.2 of the MRTU Tariff to Section 30.7.3.1 to make it clear

that, in the absence of an Ancillary Services Bid for any resource, including a Resource Adequacy Resource, that has submitted an Energy Bid in the in the HASP/RTM, the CAISO shall submit a zero dollar Ancillary Services Bid for that resource.

WPTF also states that it is unclear how the CAISO will use the EMS to procure Real-Time Ancillary Services, as suggested in Section 7.6.1.2 of the draft BPM for Market Operations. WPTF contends that the CAISO should be directed to explain how the Energy Management System (“EMS”) will be used to procure regional Ancillary Services and put these details in its Tariff. WPTF, September 18 Comments, Attachment 1 at 10; Coral Power, September 18 Comments at 3.

As an initial matter, the CAISO notes that EMS has a requirements calculator based on WECC criteria. The results of this calculator fluctuate based on actual system conditions. The results of the EMS requirements calculator do not automatically determine Ancillary Service requirements. CAISO operations staff, however, may make manual adjustments to the Ancillary Service requirements based on the results of the EMS requirements calculator and other information on system conditions. Such adjustments to Ancillary Service requirements will be based on NERC and WECC requirements, consistent with Section 8.3.3 of the MRTU Tariff.

The CAISO believes WPTF has identified an area where the BPM for Market Operations requires clarification. In the most current version of the BPM for Market Operations posted on the CAISO Website, the CAISO has revised Section 7.6.1.2 of the BPM to delete the reference to EMS and to clarify that Real-Time Ancillary Service requirements are calculated within the RTM using system/regional requirements (MW requirements) based on the application of WECC MORC and real-time operational

conditions. The CAISO has also updated Section 7.6.1.2 to reflect recent revisions to the Ancillary Service provisions of the Tariff.

WPTF argues that a particular sentence in Section 7.6.1.2 (“Providers of Real-Time AS (both previously committed and uncommitted) are paid an ASMP which includes recovery of Real-Time AS using for the resources’ unit-specific opportunity cost”) contradicts other provisions in the BPM for Market Operations. WPTF also argues that the treatment of Real-Time Ancillary Service capacity payments should be clarified in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 23; Coral Power, September 18 Comments at 4.

WPTF’s arguments are without merit. Contrary to what WPTF asserts, the above-quoted sentence does not contradict other provisions in the BPM for Market Operations stating that there will be Real-Time payment for Regulation. Moreover, the second paragraph of Section 7.6.1.2 contains a cross-reference to Section 4.4 of the BPM for Market Operations; as stated in the cross-reference, Section 4.4 provides details for ASMP payment.

In addition, the CAISO’s rules concerning opportunity costs for Ancillary Services are contained in Section 11.10.1.1 of the MRTU Tariff. To the extent that WPTF’s arguments are based on opposition to the rules in the MRTU Tariff addressing when the CAISO includes opportunity costs and when the CAISO does not include them, those arguments are outside the scope of the instant proceeding and constitute an untimely request for rehearing of, and collateral attack on, the Commission’s previous approval of those rules. For further clarity in the Tariff on how the opportunity cost is



determined based on the Bids and services offered, the CAISO does, however propose changes to Section 31.3.1.2 of the CAISO Tariff

**20. Section 7.6.2.2 (Entitled “Available Operating Reserve Calculation”)**

WPTF argues that a particular sentence in Section 7.6.2.2 of the BPM for Market Operations (“The available Operating Reserve calculation is performed on all resources that have capacity covered by Bids (whether submitted or inserted) regardless of whether Ancillary Services have been Awarded and regardless of the resource’s on-line status”) is inaccurate and has no apparent purpose or relationship to other provisions of the MRTU Tariff or the BPM. WPTF requests that the CAISO explain and clarify this provision of the BPM, and add a clearer description to the MRTU Tariff to the extent the provision has any financial implication for a Scheduling Coordinator WPTF, September 18 Comments, Attachment 1 at 15; Coral Power, September 18 Comments at 4.

Section 7.6.2.2 of the BPM for Market Operations includes detail to implement Section 8.10.8 of the MRTU Tariff. Section 7.6.2.2 contains the procedure that is used to determine whether units are operating consistent with their Operating Reserve Ramp Rates, and the above-quoted sentence in Section 7.6.2.2 simply indicates that the CAISO makes this determination for all units. Further, pursuant to Section 8.10.8.1 of the MRTU Tariff, the CAISO rescinds payments for undispachable Ancillary Service capacity only with regard to those units that do not perform as expected. To address WPTF’s issue, the CAISO will add language to clarify the settlement implications of the above-quoted sentence, and a cross-reference to Section 8.10.8.1 of the MRTU Tariff, to Section 7.6.2.2 of the BPM for Market Operations.

**21. Section 7.6.2.3 (Entitled “Ramping & Ancillary Services Eligibility”)**

WPTF argues that specified provisions in Section 7.6.2.3 of the BPM for Market Operations concerning ramping and Ancillary Services do not describe how Scheduling Coordinators will know whether the CAISO is using the Operational Ramp Rate or the Regulating Ramp Rate at any given time.<sup>49</sup> WPTF requests that the Commission direct the CAISO to explain the operational and financial implications of the referenced BPM provisions, modify the MRTU Tariff to include this BPM information, and conform the BPM to the existing MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 16-17; Coral Power, September 18 Comments at 4.

The Commission should deny WPTF’s requests. WPTF is incorrect in asserting that Section 7.6.2.3 does not describe how Scheduling Coordinators will know which Ramp Rate is being used at any given time. Section 7.6.2.3 provides in relevant part that, in cases where the CAISO seeks to move a unit from one Dispatch Interval to another, the CAISO will use the regulating Ramp Rate in the hourly Schedule change constraint if the unit is providing Regulation in any of two consecutive hours; otherwise, the CAISO will use the Operational Ramp Rate. This provision is consistent with the rule in Section 34.15.1(c) of the MRTU Tariff that “the submitted Regulation Ramp Rate for resources that are providing Regulation shall be used for all Dispatch Instructions.”

Section 7.6.2.3 includes detail to implement, and is consistent with, Section 34.15.1 of the MRTU Tariff. The detail contained in Section 7.6.2.3 has no settlement or other implications that would require it to be included in the MRTU Tariff. To provide

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<sup>49</sup> WPTF erroneously states that one of these provisions, which begins with the phrase “Use the regulating Ramp Rate,” is contained in Section 7.6.2.2 of the BPM for Market Operations. In fact, that provision is contained in Section 7.6.2.3.

further clarification in Section 7.6.2.3, however, the CAISO has modified the section to cross-reference Section 34.15.1 and to include other clarifying changes.

Further, the detail in Section 7.6.2.3 concerning slow and fast ramping differences and their relevance for Ancillary Services is provided to explain how the CAISO classifies characteristics that the CAISO then uses in making dispatch decisions. The CAISO is proposing to add specific language to Section 34.15.1 of the MRTU Tariff to describe differences in how the slow and fast ramping facilities are treated.

**22. Section 7.7.3 (Entitled “Short-Term Unit Commitment Outputs”)**

WPTF states that the first bullet point in Section 7.7.3 of the BPM for Market Operations is inconsistent with a particular sentence in Section 34.9 of the MRTU Tariff<sup>50</sup> with regard to the issuance of instructions related to Exceptional Dispatches, and requests that the CAISO resolve the inconsistency and clarify the MRTU Tariff language if necessary. WPTF, September 18 Comments, Attachment 1 at 23-24; Coral Power, September 18 Comments at 4.

The sentence in Section 34.9 of the MRTU Tariff is correct and the first bullet point in Section 7.7.3 of the BPM for Market Operations is in error. The CAISO has deleted that bullet point from Section 7.7.3, modified the second bullet point in Section 7.7.3, and modified the bullet points in Section 7.8.3 of the BPM for Market Operations to make the BPM consistent with Section 34.9 of the MRTU Tariff and to provide clarification.

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<sup>50</sup> WPTF erroneously states that the provision it quotes appears in Section 7.7.3 of the MRTU Tariff, when in fact it appears in Section 34.9.

**23. Section 7.8 (Entitled “Real-Time Economic Dispatch”)**

WPTF states that Section 7.8 of the BPM for Market Operations is somewhat circular and internally inconsistent in that it states that Uninstructed Deviations prompt AGC, and that AGC creates further Uninstructed Imbalance Energy, but that this Uninstructed Imbalance Energy is met with instructed Energy. WPTF requests clarification and an explanation. WPTF, September 18 Comments, Attachment 1 at 17-18; Coral Power, September 18 Comments at 4.

The CAISO has made changes to Section 7.8 to provide clarification on the issue that WPTF identifies. The CAISO also proposes to delete the phrase “below a predetermined value” from Section 34.16.3.1(c) of the MRTU Tariff, which currently reads as follows: “in the event of an unscheduled increase in system Demand or a shortfall in Generation output and Regulation margin drops below a predetermined value, the CAISO will use Dispatch Energy in the RTM or Dispatch Operating Reserve, to restore Regulation margin.” The CAISO does not, however, propose any changes to the MRTU Tariff concerning the settlement of Regulating Energy. As explained in Section III.F.4, above, Section 11.8.4.1.5 of the MRTU Tariff is already amply clear on how Regulating Energy is settled.

**24. Section 7.8.2.3 (Entitled “Regulating Resource Dispatch”)**

WPTF requests that the CAISO be directed to include in the MRTU Tariff the ramping energy allocation formula contained in Section 7.8.2.3 of the BPM for Market Operations, as well as the operational and financial implications of that formula. WPTF, September 18 Comments, Attachment 1 at 18; Coral Power, September 18 Comments at 4.

The Commission should deny WPTF's request. Section 34.15.1(c) of the MRTU Tariff already states in relevant part that "the submitted Regulation Ramp Rate for resources that are providing Regulation shall be used for all Dispatch Instructions." The formula in Section 7.8.2.3 of the BPM for Market Operations provides additional detail concerning how the CAISO's optimization implements the submitted Ramp Rate. That formula is precisely the sort of implementation detail that is appropriately included in a BPM rather than in the MRTU Tariff.

**25. Section 7.9 (Entitled "Real-Time Contingency Dispatch")**

WPTF states that Section 7.9 of the BPM and Section 34.3.2 of the MRTU Tariff appear to disagree about how contingency dispatches will be settled. WPTF suggests that the CAISO should verify that the Energy Bid Cap is in fact used as a Bid input under contingency dispatch situations and to modify Tariff Section 34.3.2 to be consistent with the BPM until a full Scarcity Pricing mechanism is implemented in Release 1a. WPTF, September 18 Comments, Attachment 1 at 10-11; Coral Power, September 18 Comments at 3.

The CAISO agrees that certain changes to both the BPM and the Tariff are appropriate. As shown in the redlined Tariff provisions provided as Attachment A to this filing, the CAISO has agreed to revise Section 34.8 of the MRTU Tariff to clarify that Contingency Only reserves are dispatched via RTCD for a Contingency event as described in Section 34.3.2. Such dispatch and pricing will be based on the original Energy Bids. If Contingency Only reserves are dispatched in response to a System Emergency that has occurred because the CAISO has run out of Economic Bids when no Contingency event has occurred, the RTED will Dispatch such Contingency Only

reserves using Maximum Bid Prices as provided in Section 39.6.1 as the Energy Bids for such reserves and will set prices accordingly.

The CAISO has also deleted Footnote 33 in the BPM for Market Operations as it does not accurately reflect the rules included in the Sections of the Tariff discussed above. The CAISO has also revised Section 7.9 of the BPM consistent with the clarifications to Section 34.8 of the MRTU Tariff.

**26. Sections 8.1.4 (Entitled “Scope of Price Corrections for RTM”) and 8.1.5 (Entitled “Price Correction Process”)**

TANC argues that the entire price correction methodology referenced in Section 35 of the MRTU Tariff (entitled “Market Validation and Price Correction”) should be included in the MRTU Tariff rather than in Section 8.1.5 of the BPM for Market Operations, on the basis that details concerning the price correction methodology significantly affect rates. TANC, September 7 Comments at 13-14; TANC, September 18 Comments at 1.

TANC’s comments (as supplemented at the September Technical Conference) in fact relate to the provisions of both Section 8.1.4 and Section 8.1.5 of the BPM for Market Operations. TANC fails to recognize the critical distinction between the enabling language contained in Section 35 of the MRTU Tariff and the implementation details contained in Sections 8.1.4 and 8.1.5 of the BPM, as evidenced by the fact that TANC criticizes the CAISO’s “decision to duplicate some, but not all provisions of section 8.1.5” in the MRTU Tariff. The Commission’s rule of reason does not require wholesale duplication of BPM materials in the MRTU Tariff and the CAISO believes that the Tariff language in then August 3 Filing describes the process in adequate detail. Finally, the price validation and correction process is a business process to ensure that prices

produced are consistent with the Tariff. Therefore, the Commission should permit the details of the business process to remain in Sections 8.1.4 and 8.1.5 of the BPM for Market Operations.

**27. Sections A 1.4.4 (Entitled “Reliability Capacity Bids (RUC Bid)”, A 1.5.5.1 (Entitled “Operational/Regulating/Reserve Ramp Rate”) and A 1.5.5.6 (Entitled Ancillary Services Ramping Constraints”)**

WPTF asserts that the formulas contained in Section A 1.4.4 in Attachment A to the BPM for Market Operations are complex and cannot be matched with any MRTU Tariff provisions. WPTF argues that the CAISO should be directed to explain the formulas further in the MRTU Tariff and to indicate how the policies presented in the MRTU Tariff relate to the formulas or otherwise augment the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 27-28.

WPTF also argues that the CAISO should be directed to include Sections A 1.5.5.1 and A 1.5.5.6 in Attachment A to the BPM for Market Operations in the MRTU Tariff, and to allow stakeholders to review these MRTU Tariff additions. WPTF, September 18 Comments, Attachment 1 at 28.

The material in Attachment A is largely redundant with the Tariff and the BPM. In addition, the specifications provided in that attachment describe the breadth of the functionality of the software, but do not relate to procedures that the CAISO and participants must follow in participating in the CAISO Markets. Because this document was based on software requirements development, it contains language that was not conformed to the terminology of the Tariff and has resulted in some confusion. While the CAISO has made many of its systems configuration documents available to the extent that it does not violate vendor confidentiality concerns, the CAISO recognizes that

certain stakeholders may still be interested in having access to this documentation. Therefore, the CAISO is removing this attachment from the BPM and will make it available for review on its website and will include a link to the document in the BPM so that participants can review it as necessary.

Based on the rule of reason, the inclusion of details from Attachment A to the BPM for Market Operations at this point would be largely redundant with the Tariff and certainly should not be required to be included in the Tariff. With respect to WPTF's specific requests regarding Section A 1.4.4, the CAISO will correct the references to Reliability Capacity Bids and Reliability Capacity to reflect that these are as referred to in the tariff as RUC Availability Bids. The CAISO Tariff already provides significant detail to address these aspects of the CAISO Markets and the CAISO does not believe that the information in Section A 1.4.4 of this attachment adds any material substance to the rates, terms and conditions of service set forth in the MRTU Tariff.

With respect to Sections A 1.5.5.1 to A.1.5.5.6, much of the language in these sections are already reflected in the MRTU Tariff and insertion of this material in the Tariff as a whole would only serve to create redundancies and confusion. For example, Section A 1.5.5.1 states that:

The Operational Ramp Rate function is described by a staircase function of up to four segments (in addition to Ramp Rate segments inserted by SCUC for modeling Forbidden Operating Regions). The Operational Ramp Rate function is submitted with the Energy Schedule and Bid data. The Operational Ramp Rate function allows the SCs to declare the Ramp Rate at different operating levels. However, the submitted Ramp Rate function is fixed throughout the Time Horizon, for which they are submitted (either the 24 Trading Hours, for Day-Ahead, or single hour for the Hour-Ahead). In order to mitigate possible capacity withholding through submitting low Ramp Rates, SCUC uses the same Ramp Rates up as Ramp Rates down. The Ramp Rate changes as soon as the MW output ramps into a different operating level, (i.e., the Ramp Rate does not necessarily remain constant throughout a given range).



The CAISO Tariff already contains a definition for Operational Ramp Rates that states that it is: “A staircase function of up to 4 segments (in addition to Ramp Rate segments needed for modeling Forbidden Operating Regions). Operational Ramp Rates are submitted with Energy Bid data.” Also, old Section 30.10/new Section 30.7.6, provides that “The operating level entries must match exactly (in number, sequence, and value) the corresponding minimum and maximum operational ramp rate breakpoints, as registered in the Master File for the relevant resource.” And “The submitted operational ramp rate must be the same for each hour of the Trading Day, i.e., the operational ramp rate submitted for a given Trading Hour must be the same with the one(s) submitted earlier for previous Trading Hours in the same Trading Day.” Therefore, even the simple insertion of this single paragraph could create unnecessary redundancies and confusion. If WPTF believes there is specific material in these sections that the CAISO should have included in the Tariff, it should have stated so specifically.

**28. Attachment C (Entitled “Competitive Path Assessment”)**

WPTF acknowledges that it has not reviewed Attachment C to the BPM for Market Operations for MRTU Tariff impacts, but nevertheless WPTF states that it expects there are such impacts in Attachment C. WPTF also argues that the Commission should establish a mechanism for stakeholders to review the changes that the CAISO has made to its Competitive Path Assessment study methodology subsequent to its stakeholder process for MRTU Tariff impacts. WPTF, September 18 Comments, Attachment 1 at 27; Coral Power, September 18 Comments at 4.

Section 39.7.2 of the MRTU Tariff already contains the aspects of the Competitive Path Assessment that affect rates, terms, and conditions of service, and

Attachment C to the BPM for Market Operations merely provides additional Competitive Path Assessment study procedures. The CAISO only proposes to make certain changes to the BPM and the Tariff language that render the terms consistent with certain determinations made after it completed Release 2 of its CPA preliminary results. Following the rule of reason, the CAISO has determined that the appropriate level of detail was included in the tariff to describe the general principles for the study methodology, with additional detail provided in Appendix C of the BPM for Market Operations which describes the methodology of the study further. The CAISO does not believe it is appropriate for the details required to execute the study methodology to be included in the MRTU Tariff but has included the methodology in the BPM so that stakeholders are provided sufficient notice of the methodology the CAISO will apply in conducting its Competitive Path Assessments. Moreover, as they are included in the BPM the methodology will be subject to the BPM Change Management process, which provides stakeholders with notice, review and influence over any changes that will be made to the methodology.

**29. Attachment D (Entitled “Expected Energy Calculation”)**

WPTF argues that the MRTU Tariff contains virtually none of the information concerning Expected Energy calculation that is found in Attachment D to the BPM for Market Operations. WPTF requests that the CAISO be directed to incorporate a comprehensive discussion of the Expected Energy calculation into the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 26-27; Coral Power, September 18 Comments at 4.

As WPTF correctly notes, Section 11.23 of the MRTU Tariff already refers to the CAISO's Expected Energy calculation, and the definition of Expected Energy contained in the August 3 Filing explains that the term means "Integrated Energy in a Settlement Interval that includes scheduled Energy and Dispatch Instructions for Imbalance Energy as determined by RTM applications." In addition, Section 11.5.1.1 of the MRTU Tariff already provides the categories of Instructed Imbalance Energy and how it is settled. To supplement these MRTU Tariff provisions, the CAISO proposes to add language to various provisions in Section 11 of the MRTU Tariff as well as new defined terms to reflect how the CAISO calculates Expected Energy. This new MRTU Tariff language does not include the graphs contained in Attachment D to the BPM for Market Operations, however, because that is implementation detail that is appropriately reserved for a BPM.

### **30. Demand Response and Participating Load Issues**

The CPUC states that the BPM for Market Operations reflects an early vision of Demand Response participation in the CAISO Market, though the CPUC does not cite to any particular sections of the BPM for Market Operations. With regard to Demand Response, the CPUC notes that "[c]oncerns raised in this forum may be premature" and that "[t]hese issues are being addressed implicitly and explicitly within a separate stakeholder process with the CAISO." CPUC, September 18 Comments at 2-4.

As the CPUC correctly notes, any issues concerning Demand Response are outside the scope of the instant proceeding and instead are being addressed through a separate stakeholder process. Moreover, the CPUC does not describe any inconsistency between any BPM and the MRTU Tariff or identify any provisions that it asserts should

be moved from a BPM to the MRTU Tariff. Therefore, there are no Demand Response issues for the Commission to address in regard to the BPM for Market Operations or other BPM.

The CPUC also expresses concern that the CAISO's requirements for inclusion as a Market Participant and as a Participating Load, as described in the BPM for Market Operations, are overly burdensome and restrictive. Further, the CPUC asserts that the BPM for Market Operations defines Participating Load as an on/off pump, but that most Demand Response resources operate with greater functionality and flexibility. CPUC, September 18 Comments at 3.

As described above, the CPUC acknowledges that these issues will be addressed by the CAISO through the current stakeholder process, and therefore they should not be addressed here. Moreover, the CPUC seems to be confusing the requirements stated in the BPM for Market Operations. All Market Participants that want to purchase and sell Energy or Ancillary Services through the CAISO must either be or be represented by a Scheduling Coordinator. This is a long-standing principle of the CAISO's operations that is not changing under MRTU.

In addition, the CAISO notes that the MRTU Tariff enables participation of Demand Response in the CAISO Market. The CAISO recognizes that in reality Participating Load operates as more than simply an on/off pump, but as the CAISO has previously explained, limitations in the software functionality for Release 1 of MRTU require that each Participating Load be modeled as an on/off pump, at least initially.<sup>51</sup> As

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<sup>51</sup> See Dispatchable Demand Response Functionality in MRTU (paper available on the CAISO Website at <http://www.caiso.com/18a3/18a3a45825570.pdf>).

part of its Demand Response initiative, the CAISO is attempting to improve the modeling of Participating Load for Release 1A of MRTU.

**G. BPM for Outage Management**

**1. Section 2.6 (Entitled “CAISO Outage Coordination Office”)**

WPTF states that the statement in the footnote contained in Section 2.6 of the BPM for Outage Management (“Definition of the term ‘Reportable’ to be developed after stakeholder process”) needs to be resolved before MRTU Tariff impacts can be assessed. WPTF, September 18 Comments, Attachment 1 at 52.

At the September Technical Conference, the CAISO agreed to use the lower-case term “reportable” in Section 2.6, and explained that its intent was simply to refer to the Outages that were reportable under the MRTU Tariff and not to define a new or different class of reportable Outages. Therefore, this issue has been resolved.

**2. Sections 3.2.1 (Entitled “Long Range Outage Requests”) and 3.2.2 (Entitled “Quarterly Update to Planned Outages”)**

TANC, in its September 7 Comments, argues that certain language in Section 3.2.1 of the BPM for Outage Management is unclear as to its subject matter, whether there are data requirements of Market Participants, or whether it is just a process. TANC requests that the language either be explained or moved into the MRTU Tariff. TANC, September 7 Comments at 30-31. TANC included Section 3.2.1 in its list of sections for discussion during the September Technical Conference. TANC, September 18 Comments at 2.

The language contained in Section 3.2.1 of the BPM for Outage Management that TANC cites concerns the CAISO’s long-term outage reporting process and informational

requirements that have been in place for a number of years and were formerly contained in the CAISO's Outage Coordination Protocol. Much of the information set forth in Section 3.2.1 is also set forth in Section 9 of the MRTU Tariff, and specifically in Section 9.3.6. Section 9 of the MRTU Tariff is adapted with minor modifications, but no lack of detail, from Section 9 of the CAISO's current Tariff. The Commission approved Section 9 of the MRTU Tariff subject to certain compliance requirements, which the CAISO has fulfilled.<sup>52</sup> In essence, TANC is arguing that the level of detail in the CAISO's Tariff on outage management that has been accepted by the Commission for many years and implemented without stakeholder confusion is inconsistent with the Commission's rule of reason. TANC provides no evidence to suggest that the rule of reason should be applied differently to the MRTU Tariff than it is to the currently approved CAISO Tariff. Moreover, TANC's argument constitutes an untimely request for rehearing of, and collateral attack on, a prior Commission order which should be rejected.

WPTF states that Sections 3.2.1 and 3.2.2 of the BPM for Outage Management provide for the algorithms the CAISO uses for various types of Outage requests, but that Sections 9.1, 9.2, and 9.3.6 of the MRTU Tariff, which are cross-referenced in Sections 3.1.2 and 3.2.2, offer no guidance about the relative priority of requests as does the BPM. WPTF argues that the CAISO should revise the cross-referenced sections of MRTU Tariff to include the algorithms for prioritizing Outage requests. WPTF, September 18 Comments, Attachment 1 at 52.

WPTF's argument is without merit. Like TANC, WPTF seeks modifications to MRTU Tariff sections that the Commission has already approved. Therefore, WPTF's

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<sup>52</sup> See September 21 Order at PP 1335-36.

argument constitutes an untimely request for rehearing of, and collateral attack on, a prior Commission order; the argument is also outside the scope of this proceeding. In addition, the algorithms contained in Sections 3.2.1 and 3.2.2 are details concerning implementation of the more general Outage provisions in the above-cited MRTU Tariff sections that are appropriately included in a BPM rather than in the MRTU Tariff, pursuant to the rule of reason.

### **3. Section 4.2.1 (Entitled “Scheduling Requirements”)**

In its September 7 Comments, TANC requests that the Commission direct the CAISO to ensure that language in Section 4.2.1 of the BPM for Outage Management is consistent with the MRTU Tariff language pertaining to advance notification requirements for transmission Maintenance Outages. TANC, September 7 Comments at 31. TANC includes Section 4.2.1 in its list of sections for discussion during the September Technical Conference. TANC, September 18 Comments at 2.

The CAISO will ensure that the MRTU Tariff and Section 4.2.1 are consistent with regard to advance notification requirements for transmission Maintenance Outages. The CAISO notes that the inclusion in Section 4.2.1 of details concerning the specific information that will be included in an Outage request (*e.g.*, the name of line for which an Outage is requested, Outage dates, and personnel contact information) are appropriate to include in a BPM rather than the MRTU Tariff, pursuant to the Commission’s rule of reason.

PG&E argues that Section 4.2.1, as it read in the version of the BPM for Outage Management that was posted on the CAISO Website as of September 18, 2007, does not adequately define the term Significant Facilities for the purposes of identifying

Maintenance Outages that are to be scheduled 30 days prior to the calendar month of an Outage. PG&E, September 18 Comments at 2.

The CAISO included a definition of Significant Facilities in new Section 4.2.1.1 of the BPM for Outage Management, which was posted on the CAISO Website on September 5, 2007. In addition, the CAISO has now posted in its BPM for CRRs its proposed criteria for determining what facilities may be exempt from the 30-day reporting rule.

**4. Section 8 (Entitled “Reflecting Outage Data in Day-Ahead Market”)**

WPTF asserts that Section 8 of the BPM for Outage Management must be completed before MRTU Tariff impacts can be assessed. WPTF argues that the Commission should direct the CAISO to complete its policies concerning the incorporation of Outage information in the IFM DA market and in the HASP/RTM, and to augment the MRTU Tariff and BPM as necessary. WPTF, September 18 Comments, Attachment 1 at 52-53.

This issue is moot because the CAISO has deleted Section 8 from the BPM. Upon further review, the CAISO concluded that the subject that it originally intended to address in Section 8 will instead be sufficiently addressed in the BPM for Market Operations and the BPM for Managing FNM.

**H. BPM for Reliability Requirements**

**1. Section 4.3 (Entitled “Validation”)**

WPTF states that a particular sentence in Section 4.3 of the BPM for Reliability Requirements (“CAISO will report to the CPUC or the Local Regulatory Authority



whether a Scheduling Coordinator for the Resource Adequacy Resource has been confirmed the status of the resource”) is difficult to understand and has an unclear meaning. WPTF asserts that the CAISO should be directed to include this and other similar agency notification provisions in the MRTU Tariff and clearly state the implications. WPTF, September 18 Comments, Attachment 1 at 32.

The CAISO agrees with the comment that the sentence in BPM Section 4.3 was poorly drafted and has removed it from that section. The sentence cited by WPTF relates to the election of Reserve Sharing or Modified Reserve Sharing LSE status. This election process is described in Section 40.1.1 of the MRTU Tariff and in Section 3.1.2 of the BPM. The Tariff states that the CAISO “may confirm with the CPUC, Local Regulatory Authority, or federal agency, as applicable, the accuracy of the election.” The BPM provisions closely tracks this provision. Accordingly, the CAISO believes that the issue has been addressed and no additional modifications to either the Tariff or the BPM are necessary to address this issue.

The CAISO further notes that Sections 40.7, 40.7.1, and 40.7.2 of the MRTU Tariff address validation and compliance issues. These provisions, however, do not relate to the selection of Reserve Sharing or Modified Reserve Sharing status.

## **2. Section 5.1.3.3 (Entitled “Performance Criteria”)**

WPTF argues that provisions in Section 5.1.3.3 of the BPM for Reliability Requirements and Section 40.4.5 of the MRTU Tariff, which concern performance criteria and testing for Resource Adequacy Resources, are deficient in two respects: (1) Section 40.4.5 references a procedure in a BPM, but the BPM for Reliability Requirements states that the procedure will be developed within a year of MRTU start-

up, which means both documents are incomplete; and (2) the incomplete status of the documents means the CAISO cannot provide assurances to Local Regulatory Authorities or Generators that Generating Units with Resource Adequacy obligations are capable of meeting those obligations. WPTF asserts that the CAISO should be required to define the testing procedure and the general criteria it would use to determine reductions in NQC and include that information in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 33-34; Coral Power, September 18 Comments at 4.

As accepted by the Commission, the MRTU Tariff contains a commitment in Section 40.4.5 to develop performance criteria for Resource Adequacy Resources, “[n]o later than 12 months after the effective date of this Section 40.” The CAISO included this commitment in recognition of the importance of these criteria to a number of entities, including the CPUC. In Paragraph 1218 of the September 21 Order, the Commission stated: “Finally, we join with other commenters in urging the CAISO to develop performance criteria for RA requirements as soon as this task can be accomplished. Given that planning reserves margins depend on generation performance, Local Regulatory Authorities will have a better ability to determine adequate reserve margins once the performance criteria are in place.”

As the Commission recognized, the performance criteria can have significant economic ramifications on LSEs through impacts to reserve margins and on generators through potential payment conditions. Accordingly, the performance criteria must go through a thorough stakeholder process before being incorporated either into the MRTU Tariff or the BPM. WPTF’s objection to the accepted tariff language is not only untimely, but ignores this reality. WPTF will have additional opportunities to review any

tariff language and tariff/BPM split determinations related to these performance criteria when the CAISO comes forward with its proposal after the commencement of MRTU. The CAISO also notes that in the August 3 Filing it proposed to delete the sentence in Section 40.4.5 to the effect that the CAISO would begin to reduce Qualifying Capacity based on performance criteria after adoption of performance criteria by the CPUC and/or Local Regulatory Authorities and instead will collaborate with those entities in the development of the performance criteria *to be submitted to FERC*. Thus, this issue is not yet ripe and will be addressed in a future stakeholder process.

WPTF also asserts that a provision in Section 5.1.3.3 of the BPM for Reliability Requirements (“For the purpose of determining, developing or implementing such performance criteria, Scheduling Coordinators will need to provide any and all data requested by CAISO”) is overly broad. WPTF requests that the CAISO be directed to narrow the provision so that the information that Scheduling Coordinators are required to provide is limited to the relevant information required by the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 34-35.

The BPM closely tracks the language that the Commission has previously-approved for the MRTU Tariff. This is shown in the following table

<b>MRTU Tariff Section 40.4.5</b>	<b>BPM Section 5.1.3.3</b>
“The Scheduling Coordinator for a Resource Adequacy Resource shall provide or make available to the CAISO, subject to the confidentiality provisions of this CAISO Tariff, all documentation requested by the CAISO to determine, develop or implement the performance criteria, including, but not limited to, NERC Generating Availability Data System data.”	“For the purpose of determining, developing or implementing such performance criteria, Scheduling Coordinators will need to provide any and all data requested by CAISO. This includes, but is not limited to, NERC Generating Availability Data System data.”

The requested information is necessary to enable the CAISO to develop and implement the appropriate performance criteria. More importantly, the BPM does not, and cannot, modify the approved tariff provision, which does narrowly specify that the information is required to “determine, develop, or implement the performance criteria.” Given that the Tariff is superior to the BPM, such that the BPM must be interpreted consistent with the underlying tariff authority, the CAISO believes no change to either the BMP or the Tariff is warranted.

**3. Sections 5.1.3.4 (Entitled “Deliverability to Aggregate of Load”)**

WPTF asserts that a specified provision in Section 5.1.3.4 of the BPM for Reliability Requirements (“A resource whose output is subject to transmission constraints is not fully deliverable and the capacity that it may offer for resource adequacy purposes may be reduced”) does not correspond to any parallel requirement in the MRTU Tariff, and that Section 40 of the MRTU Tariff does not contain any new language that explains deliverability. WPTF argues that the CAISO should be required to add provisions to the MRTU Tariff that describe the deliverability criteria, and that the CAISO should be directed to include in the MRTU Tariff key details regarding the deliverability analysis

embodied in Section 5 of the BPM for Reliability Requirements. Further, WPTF asserts that the CAISO should be required to add a provision to the MRTU Tariff that links deliverability with the determinations under the deliverability study provisions of Appendix U to the MRTU Tariff (which contains the Large Generator Interconnection Procedures and is referenced in Section 5.1.3.4). WPTF, September 18 Comments, Attachment 1 at 29, 30-31.<sup>53</sup>

With respect to WPTF's concern relating to the deliverability criteria set forth in Section 5.1.3.4, the CAISO notes that MRTU Tariff Section 40.4.6.1 states:

To the extent the deliverability study shows that the Qualifying Capacity is not deliverable to the aggregate of Demand under the conditions studied, the Qualifying Capacity of the Resource Adequacy Resource will be reduced on a MW basis for the capacity that is undeliverable.

Thus, there is consistency between the Tariff and the BPM, and the tariff includes the requisite implementing language. The BPM merely adds additional explanation to make clear that the universe of non-deliverable output includes output that is subject to transmission constraints.

As to WPTF's statement that the CAISO should be directed to include key details regarding the deliverability analysis embodied in BPM section 5 in the Tariff, the Commission has already denied arguments to this effect:

We reject Cities/M-S-R's request to have the deliverability analysis made subject to Commission approval. Section 40.4.6.1 provides that documentation explaining that the CAISO will post its deliverability analysis on its website, while section 40.4.2 provides that any disputes are subject to the CAISO's alternative dispute resolution procedures. We find that this, together with our requirement that the deliverability analysis will only impact the subsequent compliance year, should mitigate any concerns about transparency.

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<sup>53</sup> WPTF makes each of the arguments above under section headings that list Section 5.1.3.5 of the BPM for Reliability Requirements as the relevant BPM section.

September 21 Order at P 1216.

The Commission has also ordered the CAISO not to refer to the interconnection study process in Section 40 but to rely on the existing pro forma interconnection process, procedures and tariff language:

We find that the interconnection process is already governed by MRTU Tariff section 25. Consistent with this finding and the IRRP Order, we direct the CAISO to make a compliance filing within 60 days of the date of this order, modifying section 40.4.6.1 to eliminate the apparent duty to prevent degradation of an existing unit's deliverability.

September 21 Order at P 1215 (citation omitted).

Under MRTU, the CAISO will complete a "baseline" deliverability study. The basic purpose of the baseline studies is to determine the deliverability of all existing and proposed Generating Units up to a certain date. These results will then form the baseline for performing the "Deliverability Assessment" included in Section 3.3.3 of the LGIP for each proposed Generating Unit going forward. The baseline studies have been broken up into "phases." Phase 1, which included all generation expected to be commercially operational by the summer of 2006" is complete. Phase 2 is also broken up into parts A and B. Part A is complete. The results and detailed methodology can be found at <http://www.caiso.com/181c/181c902120c80.html>.

Finally, the CAISO is confused as to the issues raised concerning the Large Generator Interconnection procedures in Appendix U. WPTF seems to imply that these should be included in the MRTU Tariff. However, pursuant to prior Commission orders the *pro forma* interconnection policy is already incorporated in the Tariff – it is Appendix U to the Tariff. Moreover, issues in dispute would be resolved in accordance with the alternative dispute resolution procedures identified in Section 13 of the tariff.

#### **4. Section 6.2.1 (Entitled “Day-Ahead Market Scheduling & Bid Requirements”)**

WPTF argues that several BPM and MRTU Tariff provisions relating to bid conversion – Section 6.2.1 of the BPM for Reliability Requirements and Sections 39.6.1.5 and 40.5.1(1)(ii) of the MRTU Tariff – are vague, inconsistent, and ambiguous. WPTF requests that the CAISO be directed to reconcile these BPM and MRTU Tariff provisions so that the Tariff includes details concerning bid conversion. WPTF, September 18 Comments, Attachment 1 at 32-33.

The CAISO agrees with WPTF that clarifications to both the MRTU Tariff and the BPM are warranted to address this issue. WPTF appears to question the relevance of the italicized sections of Section 6.2.1 of the BPM and Sections 40.5.1(1)(ii) and 39.6.1.5 of the Tariff as follows:

##### **Section 6.2.1 of BPM**

*If the Resource Adequacy Resource submits a Bid for Ancillary Service(s), the Energy Bid associated with the Resource Adequacy Resource and the bid for Ancillary Service will be optimized by the CAISO to determine if energy should be schedule or ancillary service should be awarded. However, pursuant to an entities right to self-provide, to the extent the Local Capacity Area Resource self-provides Ancillary Services and local constraints result in a solution in the MPM-RRD that involves Load reduction, then Self-Provided Ancillary Service from the Local Capacity Area Resource is converted into Ancillary Service Bids based on the submitted Energy Bid associated with the Ancillary Services.*

##### **MRTU Tariff Section 40.5.1(1)(ii)**

*If the Resource Adequacy Resource submits a Bid for Ancillary Services, the Energy Bid associated with the Bid for Ancillary Services will be optimized by the CAISO. However, pursuant to Section 8.6.2, to the extent the Local Capacity Area Resource Self-Provides Ancillary Services and local Constraints result is in a solution in the MPM-RRD that involves Load reduction, then Self-Provided AS from the Local Capacity Area Resource will be converted into Ancillary Service Bids at the Minimum Bid Price for Ancillary Services as prescribed in Section 39.6.1.5.*

**MRTU Tariff Section 39.6.1.5 – Minimum Bid Price for Ancillary and RUC Bids.**

*Ancillary Service Bids and RUC Availability Bids submitted into CAISO markets must have Bid prices not less than \$0/MW/h.*

BPM Section 6.2.1 and Section 40.5.1(1)(ii) are intended to support the LAP clearing 3-step process in which Step 1 allows the CAISO to convert self-provided AS to energy for those resources that are required to also offer Energy Bids in the DAM. The CAISO implemented this by allowing resources with an Energy Bid offer obligation (from RA resources) to be optimized such that the CAISO can access either the Energy or the AS capacity, rather than making the self-provided portion of AS capacity unavailable by effectively taking the capacity out of the market completely. In order to achieve this functionality, the CAISO must put a price on the self-provided AS instead of considering it as a hard constraint. The price the CAISO will put on the self-provided AS will be at or more probably well below the AS bid floor established in Section 39.6.1.5 of the MRTU Tariff. This “penalty” price will be a large enough negative value such that the CAISO would only convert the AS to Energy in the situation where it has local deficiencies that may require the CAISO to curtail Load.

The CAISO proposed to clarify some of the language in Section 6.2.1 of the BPM and Section 40.5.1(1)(ii) of the MRTU Tariff as follows:

**Section 6.2.1 of BPM**

If the Resource Adequacy Resource submits a Bid for Ancillary Service(s), the Energy Bid associated with the Resource Adequacy Resource and the bid for Ancillary Service will be optimized by the CAISO to determine if energy should be schedule or ancillary service should be awarded. However, pursuant to an entities right to self-provide, to the extent the Local Capacity Area Resource self-provides Ancillary Services and local constraints result in a solution in the MPM-RRD that



involves Load reduction, then Self-Provided Ancillary Service from the Local Capacity Area Resource is converted into Energy Ancillary Service Bids based on the submitted Energy Bid associated with the Ancillary Services and set of protection level Ancillary Service Bid that is at or below the Minimum Bid Price for Ancillary Services as prescribed in Section 39.6.1.5 of the Tariff.

**Section 40.5.1(1)(ii)**

If the Resource Adequacy Resource submits a Bid for Ancillary Services, the Energy Bid associated with the Bid for Ancillary Services will be optimized by the CAISO. However pursuant to Section 8.6.2 to the extent the Local Capacity Area Resource Self-Provides Ancillary Services and local Constraints result is in a solution in the MPM-RRD that involves Load reduction, the Self-Provided AS from the Local Capacity Area Resource will be converted into Ancillary Service Bids at the Minimum Bid Price for Ancillary Services as prescribed in Section 39.6.1.5. Energy based on the submitted Energy Bid and set of protection level Ancillary Service Bid that is at or below the Minimum Bid Price for Ancillary Services as prescribed in Section 39.6.1.5.

**5. Section 6.2.3 (Entitled “System Emergencies”)**

WPTF asserts that Section 6.2.3 of the BPM for Reliability Requirements lists categories of resources that Scheduling Coordinators must make available to the CAISO in System Emergencies, but that not all of these categories are included in the corresponding section of the MRTU Tariff, Section 40.5.4 (which is erroneously cross-referenced in Section 6.2.3 of the BPM for Reliability Requirements as Section 40.5.3 of the MRTU Tariff). WPTF argues that the CAISO should be required to include in the MRTU Tariff all of the categories listed in the BPM. WPTF, September 18 Comments, Attachment 1 at 35-36; Coral Power, September 18 Comments at 4.

First, the CAISO notes that the citation to Section 40.5.3 is correct. Second, as illustrated in the following table, the tariff and the BPM are consistent.

<b>MRTU Tariff 40.5.3</b>	<b>BPM Section 6.2.3</b>
Scheduling Coordinators for all other Modified Reserve Sharing LSEs shall make available to the CAISO upon a warning or emergency notice of an actual or imminent System Emergency all resources that have not submitted a Self-Schedule or Economic Bid in the IFM that were listed in the Modified Reserve Sharing LSE’s monthly Resource Adequacy Plan that are physically capable of operating without violation of any applicable law.	Scheduling Coordinators for all other modified Reserve Sharing LSEs (non-MSS operators) that receive a warning or emergency notice of an actual or imminent System Emergency from the CAISO must make available to the CAISO all resources that have: (1) Have not submitted a Self-Schedule or Economic Bid in IFM; (2) Are physically capable of operating without violation of any applicable law, and (3) Are listed in the LSE’s Modified Reserve Sharing monthly Resource Adequacy Plan.

The only difference is the order of the three qualifications. The CAISO does not believe that this difference is material. Accordingly, the CAISO does not believe further modifications to the BPM or the Tariff are necessary to address this issue.

**6. Section 7.1 (Entitled “Local Capacity Technical Study”)**

TANC, in its September 7 Comments, requests that it reserve the right to comment on Section 7.1 of the BPM for Reliability Requirements, which describes the criteria for the technical study for local capacity under Section 40.3.1 of the MRTU Tariff, either at the September Technical Conference or at a later date when the criteria in Section 7.1 are completely incorporated into the MRTU Tariff. TANC, September 7 Comments at 29-30.

The criteria referenced by TANC were included in Sections 4.3.1.1 and 4.3.1.2 of the MRTU Tariff in the August 3 Filing. The CAISO will update the BPM for Reliability Requirements to reflect the revised provisions.

**7. Section 7.2 (Entitled “Allocation of Local Capacity Area Resource Obligations”)**

WPTF states that Section 7.2 of the BPM for Reliability Requirements seems to provide for self-provision of Local Capacity Area Resources that can span local areas across a TAC area, but that the CAISO has apparently not considered all the implications of self-providing Local Capacity Area Resources described in Section 7.2. WPTF asserts that the CAISO should be directed to incorporate the rules for allocating Local Capacity Area Resources into the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 29-30.

The BPM for Reliability Requirements has not yet been updated to reflect changes made to the Tariff in the August 3 Filing. As revised in that submission, Section 40.3.2 sets forth the specific formula for allocating Local Capacity Resource obligations. It is a mathematical formula that leads to verifiable, objective results. The CAISO believes that the section of the MRTU Tariff as filed on August 3 is appropriately detailed and that further changes are unnecessary.

All Local Capacity Resources are self-provided. The CAISO does not compel procurement by any LSE. The CAISO has considered the implications of allowing LSEs to meet their aggregate obligation by procuring the appropriate quantity of capacity in any Local Area within the TAC Area in which the LSE serves load. It was decided that, prior to the commencement of a capacity market, it was too burdensome and impractical for smaller LSEs to buy a small quantity of MW in each Local Area and that it was more commercially reasonable to allow the LSE to enter into a transaction in one Load Pocket that meets its capacity obligation.

**8. Section 7.4.4 (Entitled “Other Contract to Ensure Reliability Criteria”)**

WPTF argues that Section 7.4.4 of the BPM for Reliability Requirements, which describes and provides implementation detail with regard to the provisions of Section 42.1.5 of the MRTU Tariff, extends the CAISO’s authority to areas that influence the bilateral market and the CAISO’s contracts with capacity providers. WPTF asserts that the CAISO should be directed to clarify and add to the MRTU Tariff the means of oversight and approval for any contract it makes directly with Generators. WPTF, September 18 Comments, Attachment 1 at 31-32.

Most backstop issues are premature given the CAISO’s intention to submit the Interim Capacity Procurement Mechanism (“ICPM”) filing in January. However, the CAISO agrees to include the requested reference to capacity in Section 42.1.5. This is a clarification and not new authority. This is existing tariff language pursuant to which the CAISO has already entered into capacity contracts during the 2000-2001 California Energy Crisis. The CAISO would propose to make the following revision to 42.1.5:

Notwithstanding the foregoing, if the CAISO concludes that it may be unable to comply with the Applicable Reliability Criteria, the CAISO shall, acting in accordance with Good Utility Practice, take such steps as it considers to be necessary to ensure compliance, including the negotiation of contracts through processes other than competitive solicitations. These steps can include the negotiation of contracts for capacity on a forward basis as well as Generation; or Ancillary Services on a Real-Time basis.

**9. Attachment B (Entitled “Reliability Requirements Information Submittal Timelines”)**

WPTF argues that Attachment B to the BPM for Reliability Requirements contains many timelines that are yet to be determined or that differ from the MRTU Tariff. WPTF asserts that the BPM timelines need to be completed and that the

Commission should establish a mechanism for allowing stakeholders to revisit BPM provisions, like this one, which the CAISO will provide only after the Commission completes its review of the August 3 Filing and August 10 Filing and stakeholders' comments. WPTF, September 18 Comments, Attachment 1 at 35.

The CAISO agrees that the BPM timelines for RA have not yet been finalized and must be documented. The CAISO recognizes this task must be completed. The CAISO is working to finalize the Reliability Requirements BPM to incorporate these timelines. Moreover, the CAISO understands that the parties will be permitted to revisit this issue to address any BPM revisions in a process following the commencement of MRTU.

**10. Attachment C (Entitled “Local Capacity Technical Study”)**

WPTF argues that there is no information in the BPM for Reliability Requirements or the MRTU Tariff concerning the provisions in Attachment C to the BPM for Reliability Requirements permitting proposals for operating procedures and solutions to reduce local area needs. WPTF asserts that the CAISO should be directed to develop the process by which Market Participants propose the solutions set forth in the BPM, and then the CAISO should include the fundamental elements of the process in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 33.

The CAISO published a LCR Study Manual in preparation for a stakeholder meeting held on October 11 that sets forth the Local Capacity Technical Study process. (<http://www.caiso.com/18a3/18a3d40d1d990.html>.) The presentation for the October 11 stakeholder meeting set forth the schedule and process for addressing operating procedures. As noted above, the dates for activities related to the Local Capacity Technical Study will be incorporated into the revised BPM for Reliability Requirements.

**11. Sections 40.3.1.1 (Entitled “Local Capacity Technical Study Criteria”) and 40.3.1.2 (Entitled “Local Capacity Technical Study Contingencies”) of the MRTU Tariff**

The CPUC states that the notes in the table in proposed Section 40.3.1.2 of the MRTU Tariff appear to conflict with the provisions of proposed Section 40.3.1.1 of the MRTU Tariff. The CPUC requests that the notes in the table be eliminated and that the table be limited to a list of contingencies consistent with the structure and language of Sections 40.3.1.1 and 40.3.1.2, in order to avoid potential conflict between those sections and to clarify Section 40.3.1.2. CPUC, September 18 Comments at 4-5.

The CAISO notes that this does not appear to be a comment related to whether or not certain information is contained in the Tariff or the BPM for Reliability Requirements. Rather, it is a question directed at the Tariff itself and has been addressed in the CAISO’s October 5 Reply Comments (at 26). In that filing, the CAISO proposed to modify Section 40.3.1.2 by deleting the notes from that section and, instead, incorporating those substantive elements of the notes that related to “criteria” into Section 40.3.1.1 as follows:

**40.3.1.1 Local Capacity Technical Study Criteria.**

The Local Capacity Technical Study will determine the minimum amount of Local Capacity Area Resources needed to address the Contingencies identified in Section 40.3.1.2 of this appendix. In performing the Local Capacity Technical Study, the CAISO will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided for in , NERC Reliability Standards, TPL-001-0, TPL-002-0, TPL-003-0 and TPL-004-0 ~~the version of the WECC Reliability Criteria, NERC/WECC Planning Standard I.A, in effect as of the date that the Local Capacity Technical Study is commenced, as augmented by CAISO Reliability Criteria to the extent such application will not result in a violation of Reliability Criteria adopted by the CAISO in accordance with Section 5.1.5 of the Transmission Control Agreement and Section 24.1.2 of the CAISO Tariff as may be included in the Business Practice Manual~~

developed pursuant to Section 40.3.1 of the CAISO Tariff. The CAISO Reliability Criteria shall include:

(1) Time Allowed for Manual Readjustment: This is the amount of time required for the operator to take all actions necessary to prepare the system for the next contingency. This time should not be less than 30 minutes.

(2) No voltage collapse or dynamic instability shall be allowed for the Category D event any B1-4 system readjusted (Common Mode) L-2, as listed in Section 40.3.1.2.

## **I. BPM for Managing Full Network Model**

### **1. Section 2.3 (Entitled “Access to the CRR Full Network Model”)**

PG&E asserts that the CAISO should modify Section 2.3 of the BPM for Managing FNM and Section 6.5.1.4 of the MRTU Tariff to reflect the directives in the June 25 Order concerning the security check procedures for release of the CRR FNM. PG&E, September 18 Comments at 1.<sup>54</sup>

In the August 3 Filing, the CAISO included modifications to Section 6.5.1.4 of the MRTU Tariff to comply with the above-referenced directives in the June 25 Order. Also, on July 25, 2007, the CAISO filed a request for clarification or, in the alternative, rehearing of the June 25 Order. *Inter alia*, the CAISO requested clarification that it will be in compliance with the June 25 Order if it elects to revise its proposed process for distributing the CRR FNM by eliminating security check procedures applicable to a consultant of a Market Participant that wishes to obtain the CRR FNM for use off-site from the Market Participant's location. In the alternative, the CAISO requested rehearing of the June 25 Order to allow the CAISO to eliminate the proposed security check

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<sup>54</sup> See also June 25 Order at PP 36-43.

procedure and to file MRTU Tariff sheets on compliance that do not include provisions concerning a security check procedure.

On October 15, 2007, the Commission issued an order that granted rehearing and accepting the CAISO's proposal to eliminate the security check procedure.<sup>55</sup> Therefore, this issue is moot.

In a related filing, the CPUC, in its September 7 comments, requested that a revision be made to Section 6.5.1.4(d) of the MRTU Tariff to permit access to the CRR FNM by demonstration of a legitimate "governmental" – as well as "business" – interest. CPUC, September 7 Comments at 5-6. The CAISO proposes to make that revision to Section 6.5.1.4(d).

**2. Sections 3.1.4 (Entitled “External Systems”) and 3.1.5 (Entitled “Other Control Areas”)**

WPTF states that Sections 3.1.4 and 3.1.5 of the BPM for Managing FNM contain details concerning the modeling of external control areas and contends that the MRTU Tariff should state the specific lines that control loops, should include information indicating that these lines are not radial, and should detail how Market Participants will be notified of upcoming modeling changes and the resulting physical changes. WPTF, September 18 Comments, Attachment 1 at 45-46; Coral Power, September 18 Comments at 4.

As WPTF acknowledges, details concerning the modeling of external control areas are contained in the BPM for Managing FNM. Pursuant to the rule of reason, it is appropriate to include all such details, including the details that WPTF seeks to include in the MRTU Tariff, in a BPM rather than in the Tariff. At the September Technical

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<sup>55</sup> *California Independent System Operator Corp.*, 121 FERC ¶ 61,030, at PP 11-13 (2007).



Conference, the CAISO agreed to add further details to the BPM that concern how external control areas are modeled and that do not violate any confidentiality agreements.

**3. Section 4.2.2.1 (Entitled “Load Aggregation and Load Distribution Factors”)**

WPTF argues that the CAISO should be required to clarify Section 4.2.2.1 of the BPM for Managing FNM regarding whether RUC commitments are based on one set of Load Distribution Factors and the IFM and HASP are based on a different set of Load Distribution Factors; if two different sets of Load Distribution Factors are used, the CAISO should be directed to file MRTU Tariff revisions detailing the relationship between the two types and indicating why they will not produce inconsistent market results. WPTF, September 18 Comments, Attachment 1 at 49-50.

There is no need for CAISO to file MRTU Tariff revisions as WPTF proposes. Section 27.5.5 of the MRTU Tariff already describes the different types of Load Distribution Factors and their applications.

**4. Section 4.2.3.2 (Entitled “Generation Aggregation”)**

WPTF argues that, to the extent the CAISO intends to describe the general requirements of modeling station Loads in Section 4.2.3.2, the CAISO should revise the BPM for Managing FNM to indicate such requirements; but if there are specific implications for Combined-Cycle units described in the BPM, then the CAISO should be directed to include these specific requirements and implications related to Combined-Cycle units in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 46-47; Coral Power, September 18 Comments at 4.

In Section 4.2.3.2, the CAISO intends to describe the general requirements of modeling station Loads. “Permitted netting” is provided for in Section 10.1.3 of the

MRTU Tariff and the CAISO's Station Power program. To address the WPTF issue described above, the CAISO will modify the BPM for Managing FNM to indicate that units will be modeled differently depending on whether they are participating in the Station Power program or are engaged in "permitted netting."

**5. Section 4.2.3.2.1 (Entitled "Combined Cycle Generating Unit")**

WPTF argues that a particular sentence in Section 4.2.3.2.1 of the BPM for Managing FNM ("It is the responsibility of the SC that represents the combined cycle Generating Unit to select the operating mode and submit appropriate three-part Bids and inter-temporal constraints for the corresponding resource ID") should be included in the MRTU Tariff and the implications of the section should be made more explicit. WPTF, September 18 Comments, Attachment 1 at 46; Coral Power, September 18 Comments at 4.

Section 4.5.3 of the MRTU Tariff requires Scheduling Coordinators to submit Bids and Outage information that are consistent the operating limitations of their Generating Units. The above-quoted statement in Section 4.2.3.2.1 concerning the Scheduling Coordinator's responsibility with regard to the submission of Bids and constraints is consistent with these MRTU Tariff requirements. Further, the above-quoted statement is implementation detail that is appropriately included in a BPM rather than the MRTU Tariff, pursuant to the rule of reason.

That said, the CAISO explained at the September Technical Conference that the BPM for Managing FNM is not intended to impose obligations on Market Participants that are not already contained in the MRTU Tariff, but rather the BPM for Managing FNM is only intended to be descriptive. Market Participant information that is used in

the FNM is obtained from Market Participants through the MRTU Tariff. Therefore, the CAISO will modify Section 4.2.3.2.1 to eliminate any suggestion that it imposes an obligation on Market Participants that is not already in the MRTU Tariff.

**6. Section 4.2.3.5 (Entitled “System Resources and Inerties”)**

WPTF states that Section 4.2.3.5 of the BPM for Managing FNM is currently a placeholder and that WPTF cannot assess the MRTU Tariff impact without the provisions being included in Section 4.2.3.5. WPTF, September 18 Comments, Attachment 1 at 47.

At the September Technical Conference, the CAISO agreed to add detail in Section 4.2.3.5 concerning the modeling of System Resources. Therefore, this WPTF issue will become moot.

**7. Section 4.2.3.7 (Entitled “Aggregated Participating Loads”)**

WPTF asserts that the MRTU Tariff should include the alternative approaches available to Aggregated Participating Loads, which are described in Section 4.2.3.7 of the BPM for Managing FNM. WPTF, September 18 Comments, Attachment 1 at 47-48.

The discussion of alternative approaches in the BPM for Managing FNM is informational in nature, and is based on provisions to be added to the MRTU Tariff to address the bidding, scheduling, and settlement of Aggregated Participating Load. The provisions in the BPM concerning alternative approaches do not establish requirements outside of the MRTU Tariff requirements. Therefore, the provisions in Section 4.2.3.7 do not need to be included in the MRTU Tariff. The CAISO will, however, add bidding rules for Aggregated Participating Loads to the BPM for Market Instruments.

WPTF also argues that the description of an Aggregated Participating Load provided in Section 4.2.3.7 should be clarified and added to the MRTU Tariff as a defined term. WPTF, September 18 Comments, Attachment 1 at 50.

Appendix A to the MRTU Tariff already contains a definition of Aggregated Participating Load. The description of an Aggregated Participating Load in Section 4.2.3.7 provides detail concerning the same concept that is more appropriately included in a BPM than in the MRTU Tariff. WPTF does not specify why it proposes that the description should be clarified, and no clarification of that description is required.

**8. Section 4.2.3.8 (Entitled “Point of Receipt”)**

WPTF argues that Section 4.2.3.8 of the BPM for Managing FNM contains detail about how generators are modeled and that the MRTU Tariff should incorporate a high-level version of this information. WPTF, September 18 Comments, Attachment 1 at 48.

There is no need to add any language to the MRTU Tariff, because Section 10 of the MRTU Tariff already contains relevant information. Further, Section 4.2.3.8 addresses how to model losses within a Market Participant’s internal network when a generator’s Point of Receipt is not the same as the Generation terminal where the Energy is produced. This type of implementation detail is appropriate to include in a BPM rather than the MRTU Tariff, pursuant to the rule of reason.

**9. Section 4.2.5.3 (Entitled “Designated Congestion Area”)**

WPTF states that Section 4.2.5.3 of the BPM for Managing FNM refers to Designated Congestion Areas but that it is unclear how the Designated Congestion Areas relate to the MRTU Tariff provisions on market power mitigation concerning competitive and non-competitive constraints. WPTF argues that the CAISO should eliminate the

Designated Congestion Area language from the BPM or otherwise file MRTU Tariff provisions related to the development and use of Designated Congestion Areas. WPTF, September 18 Comments, Attachment 1 at 48-49.

At the September Technical Conference, the CAISO agreed to remove references to Designated Congestion Areas from the BPM for Managing FNM, as Designated Congestion Areas are not used under MRTU.

**10. Section 4.2.6.2 (Entitled “Modeling Approach”)**

WPTF cites the following provisions in Section 4.2.6.2 of the BPM for Managing FNM:

The base case Generation pattern in the Forward Markets is obtained by scaling the Generators according to GDFs to meet the Load and net-interchange values between the ECA/ACA and external Control Areas. The detailed manner in which modeling is handled on any particular ECA [or] ACA is set forth in an agreement between the CAISO and the ECA or ACA.

WPTF argues that the CAISO should be directed to update Section 4.2.6.2 to remove inaccurate information or otherwise file more flexible provisions in the MRTU Tariff (and reflect such in the BPM) that provide for the use of the information described in Section 4.2.6.2 (as updated) if and when it is available, and that the CAISO should file provisions that make the disclosure of such information available under the network model release process. WPTF, September 18 Comments, Attachment 1 at 50-51.

At the September Technical Conference, the CAISO agreed to resolve this WPTF issue by updating the information in Section 4.2.6.2 concerning how an Embedded Control Area (“ECA”) or Adjacent Control Area (“ACA”) is to be modeled. The CAISO will update this information. Further, as WPTF notes, during the stakeholder process the CAISO provided a separate response to WPTF on this issue. That response still stands:

Pursuant to Section 4.2.6.2, the CAISO will receive information from an ECA or ACA concerning conditions within an area that is not part of the CAISO Control Area, subject to non-disclosure agreements that protect the information from being publicly revealed. Otherwise, it is unlikely that an ECA or ACA would be amenable to providing the information.

#### **11. Section 5.2.3 (Entitled “Transmission Registry”)**

WPTF asserts that Section 5.2.3 of the BPM for Managing FNM is not clear as to the level of access that non-PTO Market Participants will have to information about transmission. WPTF argues that the CAISO should be directed to clarify the MRTU Tariff and the BPM regarding how a Market Participant, especially a non-PTO Market Participant can obtain the information. WPTF, September 18 Comments, Attachment 1 at 45.

The CAISO is still in the process of developing the new interface to the web-enabled database described in Section 5.2.3 and will provide the requested clarification when it revises the BPM, upon completion of the interface, to update the description of the business processes. However, non-PTO Market Participants with a demonstrated, legitimate business need for access to transmission information may submit a request to the CAISO to view such information, subject to the execution of a non-disclosure agreement and other requirements, in accordance with procedures described on the CAISO Website which were directed to be implemented in prior Commission orders cited in those procedures.<sup>56</sup>

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<sup>56</sup> See <http://www.caiso.com/docs/2005/09/28/200509281729045775.html>.

**12. Section 5.3 (Entitled “Market Participant Data Requirements”)**

WPTF notes that Section 5.3 of the BPM for Managing FNM describes the data and process that are expected from Market Participants to support the FNM, and argues that any data requirements should be specified in the MRTU Tariff. WPTF, September 18 Comments, Attachment 1 at 51.

At the September Technical Conference, the CAISO explained that the BPM for Managing FNM is intended to be descriptive only and that any data or other information that the CAISO receives from Market Participants that is used for the FNM are obtained pursuant to provisions of the MRTU Tariff. The CAISO also notes that its pro forma agreements with relevant Market Participants also in many cases provide authority for the CAISO to obtain information from the signatories. To resolve the issue that WPTF raises, the CAISO agreed to revise the BPM for Managing FNM to remove any suggestion that the BPM imposes a separate obligation on Market Participants. The CAISO has made this revision to the BPM.

**13. Provisions in the BPM for Managing FNM Concerning Updates to Reflect Upcoming Additions and Modification to the CAISO Controlled Grid**

PG&E asserts that the BPM for Managing FNM should be modified to include additional detail concerning the process for updating the FNM to reflect upcoming additions and modifications to the CAISO Controlled Grid. PG&E states that the BPM mentions the need for such updates but lacks detail regarding the frequency, timelines, and format of the updates. PG&E, September 18 Comments at 2.

At the September Technical Conference, the CAISO agreed to include additional detail in the BPM for Managing FNM concerning how the FNM is updated. The CAISO has revised the BPM to provide this additional detail.

#### **IV. MATERIALS INCLUDED WITH THE INSTANT RESPONSE**

In addition to the instant Response, the CAISO includes in Attachment A to this filing its proposed changes to the CAISO Tariff, which are described in Section III, above.<sup>57</sup> The CAISO also includes as Attachment B to this Response a listing of all postings of Charge Code updates since July 2007. Further, the CAISO includes as Attachment C to this Response a “roadmap” document describing changes to Section 8 of the CAISO Tariff.

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<sup>57</sup> The CAISO provides these proposed changes in red-line format only. The CAISO will file clean MRTU Tariff sheets containing these proposed changes in a compliance filing after the Commission acts on this filing.



**V. CONCLUSION**

For the foregoing reasons, the CAISO requests that the Commission accept the instant Response and, subject to the commitments provided herein, find that the CAISO has complied with the Commission's rule of reason and otherwise addressed comments related to Business Practice Manuals.

Respectfully submitted,

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Dated: November 15, 2007

**Attachment A – Blacklines**

**Business Practice Manuals Technical Conference Compliance Filing**

**November 15, 2007**

#### **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 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.

\* \* \*

**6.5.3.1.3** Between 5:00 am and 10:00 am, the CAISO will provide feedback to Scheduling Coordinators about their validated ETC and TOR quantities, and calculated Default Energy Bids curves provided by Independent Entities. In addition, default Minimum Load and Start-Up Cost Bid curves for RMR Units, as provided by Independent Entities.

\* \* \*

**6.5.3.1.7** The results of the Day-Ahead Market will be published by 1:00 pm and will include:

- (a) Unit commitment status for resources committed in the IFM;
- (b) Day-Ahead Schedules and prices;
- (c) Day-Ahead AS Awards and prices;
- (d) RUC Awards and RUC Capacity and resource-specific RUC Prices;
- (e) RUC Start-Up Instructions; ~~and~~
- (f) Start-Up Instructions resulting from the ELC Process;
- (g) Post-market summary of Day-Ahead and Real-Time Energy Schedules, Ancillary Service Awards, RMR Dispatches, and CCR results of RMR Units;

(f)(h) Day-Ahead final resource Bid mitigation results; and

(i) Day-Ahead finally qualified Load following capacity.

**6.5.3.1.8** All Expected Energy results will be published at T+1 day after the Trading Day and will include post-market Energy accounting results for settlement calculations.

**6.5.3.2 Public Market Information.**

**6.5.3.2.1** Before 10:00 am (one day before the target Operating Day) the CAISO will publish updated Outage information regarding the transmission system on OASIS. The updated Outage information will include planned and actual Outage events per Transmission Interface, including Outage description, Outage start-time and end time, and rating of the curtailed line.

**6.5.3.2.2** The results of the Day-Ahead Market will be published on OASIS by 1:00 pm and will include:

- (a) Total Day-Ahead Schedules (MWh) by Generator, Demand and Scheduling Point for the CAISO Control Area;
- (b) Total Day-Ahead AS Awards by AS Region;
- (c) RUC Prices by bus PNode, RUC Forecast Demand and Day-Ahead Schedules, for each RUC Zone, plus CAISO total for each Operating Hour, hourly RUC Capacity from Generation, and hourly RUC Capacity from imports;
- (d) Day-Ahead LMP for Energy, including the Energy, MCC and MCL components;
- (e) Day-Ahead ASMP by bus by PNode;
- (f) Day Ahead mitigation indicator;
- (g) CAISO Forecast of CAISO Demand;
- (h) Shadow Prices; and
- (i) Total Day-Ahead system Marginal Cost of Losses in MWh for each Trading Hour of the next Operating Day.

\* \* \*

**6.5.4.2.2** At T-30, on an hourly basis, the CAISO will publish on OASIS the following:

- (a) HASP Intertie Schedules;
- (b) Total HASP advisory Schedules (MWh) by Scheduling Point;
- (c) HASP AS Awards by Scheduling Point;
- (d) HASP LMPs for Scheduling Points;
- (e) HASP advisory LMPs by PNode and APNode;
- (f) HASP Intertie ASMP for AS by bus PNode;
- (g) HASP advisory ASMP for AS by bus PNode;
- (h) HASP Shadow Prices; and
- (i) Total HASP system losses in MWh for the next Operating Hour.

\* \* \*

## **8. ANCILLARY SERVICES.**

### **8.1 Scope.**

The CAISO shall be responsible for ensuring that there are sufficient Ancillary Services available to maintain the reliability of the CAISO Controlled Grid consistent with WECC and NERC Reliability Standards, WECC Reliability Criteria, and other WECC and NERC criteria. The CAISO's Ancillary Services requirements may be self-provided by Scheduling Coordinators as further provided in the Business Practice Manuals. Those Ancillary Services which the CAISO requires to be available but which are not being self-provided will be competitively procured by the CAISO from Scheduling Coordinators in the Day-Ahead Market, the Hour Ahead Scheduling Process (the hourly HASP Ancillary Service Awards) and the RTM consistent with Section 8.3. The provision of Ancillary Services from the Interties with interconnected Control Areas is limited to Ancillary Services bid into the competitive procurement processes in the IFM, HASP and RTM. The CAISO will not accept Submissions to Self-Provide Ancillary Services that are imports to the CAISO Control Area over the Interties with interconnected Control Areas, except from Dynamic System Resources certified to provide Ancillary Services or if provided pursuant to ETCs, TORs or Converted Rights. ~~The amount of Ancillary Services procured in the IFM and HASP and in the Real Time Market is based upon the CAISO Forecast of CAISO Demand plus HASP Intertie~~

~~Schedule for the Operating Hour net of (i) Self-Provided Ancillary Services from Generating Units internal to the CAISO Control Area and Dynamic System Resources certified to provide Ancillary Services and (ii) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right. The CAISO will manage both CAISO-procured and Self-Provided Ancillary Services as part of the Real-Time Dispatch. The CAISO will calculate payments for Ancillary Services supplied by Scheduling Coordinators and charge the cost of Ancillary Services to Scheduling Coordinators based on their Ancillary Service Obligations.~~

For purposes of this CAISO Tariff, Ancillary Services are: (i) Regulation Up and Regulation Down, (ii) Spinning Reserve, (iii) Non-Spinning Reserve, (iv) Voltage Support, and (v) Black Start capability. These services will be procured as stated in Section 8.3.5. Bids for Non-Spinning Reserve may be submitted by Scheduling Coordinators for Curtailable Demand as well as for Generation. Identification of specific services in this CAISO Tariff shall not preclude development of additional interconnected operation services over time. The CAISO and Market Participants will seek to develop additional categories of these unbundled services over time as the operation of the CAISO Controlled Grid matures or as required by regulatory authorities.

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#### **8.2.3.5 Ancillary Service Substitution.**

The CAISO, whenever possible, will increase its purchases of an Ancillary Service that can substitute for another Ancillary Service, when doing so is expected to reduce its total cost of procuring Ancillary Services while meeting reliability requirements. The substitution described in this section can only occur with the purchase of bid-in Ancillary Services; substitution may not involve Self-Provided Ancillary Services. The CAISO will make such adjustments in accordance with the following principles:

- (a) The Regulation requirement must be satisfied only by Regulation Bids for Resources qualified to provide Regulation;
- (b) Additional Regulation Up capacity can be used to satisfy requirements for Spinning Reserve, or Non-Spinning Reserve;
- (c) Regulation Up and Spinning Reserve requirements must be collectively satisfied by the combination of Regulation Up and Spinning Reserve Bids. Spinning

Reserve and Regulation may be provided as separate services from the same Generating Unit, provided that the sum of Spinning Reserve and Regulation Up provided is not greater than the maximum Ramp Rate of the Generating Unit (MW/minute) times ten (10);

- (d) Additional Regulation Up and Spinning Reserve capacity can be used to satisfy requirements for Non-Spinning Reserve.
- (e) Regulation Up, Spinning Reserve, and Non-Spinning Reserve requirements must be collectively satisfied by the combination of Regulation Up, Spinning Reserve and Non-Spinning Reserve Bids; ~~and~~
- (f) Total MW purchased from the Regulation Up, Spinning Reserve, and Non-Spinning Reserve markets will not be changed by this Section 8.2.3.5; and
- (g) Regulation Energy resulting from Regulation that substituted for another Ancillary Service continues to be treated as Regulation Energy regardless of for what service it substituted.

\* \* \*

### **8.3 Procurement of Ancillary Services, Certification and Testing Requirements for Providers of Ancillary Services, and Time-frame For Contracting for Ancillary Services.**

#### **8.3.1 Procurement of Ancillary Services.**

The CAISO shall operate competitive Day-Ahead, HASP, and Real-Time Markets to procure Ancillary Services. The Security Constrained Unit Commitment (SCUC) and Security Constrained Economic Dispatch (SCED) applications used in the Integrated Forward Market (IFM), HASP, and the Real-Time Market (RTM) shall calculate optimal resource commitment, Energy, and Ancillary Services Awards and Schedules at least cost to End-Use Customers consistent with maintaining System Reliability. Any Scheduling Coordinator representing Generating Units, System Units, Loads or imports of System Resources may submit Bids into the CAISO's Ancillary Services markets provided that it is in possession of a current certificate for the Generating Units, System Units, imports of System Resources or Loads concerned. Regulation Up, Regulation Down, and Operating Reserves necessary to meet CAISO



requirements not met by self-provision will be procured by the CAISO as described in this CAISO Tariff.

The amount of Ancillary Services procured in the IFM and HASP and in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand plus HASP Intertie Schedule for the Operating Hour net of (i) Self-Provided Ancillary Services from Generating Units internal to the CAISO Control Area and Dynamic System Resources certified to provide Ancillary Services and (ii) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right. The CAISO will manage both CAISO procured and Self-Provided Ancillary Services as part of the Real-Time Dispatch. In the Day-Ahead Market, the CAISO procures one-hundred percent (100%) ~~percent~~ of its Ancillary Service requirements based on the Day-Ahead Demand Forecast net of Self-Provided Ancillary Services. After the Day-Ahead Market, the CAISO procures additional Ancillary Services needed to meet system requirements from: (a) imports or System Resources in the HASP, and (b) generation internal to the CAISO Control Area in the Real-Time Market. The amount of Ancillary Services procured in the HASP and in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand for the Operating Hour net of Self-Provided Ancillary Services.

The CAISO procurement of Ancillary Services from imports or System Resources in the HASP is for the entire Operating Hour. The procurement of Ancillary Services from generation internal to the CAISO Control Area for the Real-Time Market is for a fifteen (15) minute time period. The CAISO's procurement of Ancillary Services from imports or System Resources in the HASP and from Generating Units for the Real-Time Market is based on the Ancillary Service Bids submitted in the HASP.

As of the CAISO Operations Date, the CAISO will contract for long-term Voltage Support service with Owners of Reliability Must-Run Units under Reliability Must-Run Contracts. Black Start capability will initially be procured by the CAISO through individual contracts with Scheduling Coordinators for Reliability Must-Run Units and other Generating Units which have Black Start capability. These requirements and standards apply to all Ancillary Services whether self-provided or procured by the CAISO.

### **8.3.2 Procurement Not Limited to CAISO Control Area.**

The CAISO will procure Spinning Reserves and Non-Spinning Reserves from Generating Units operating within the CAISO Control Area and from imports of System Resources. Scheduling Coordinators are allowed to bid Regulation from resources located outside the CAISO Control Area by dynamically

scheduling such resources. Each System Resource used to bid Regulation must comply with the Dynamic Scheduling Protocol in Appendix X. When bidding to supply Ancillary Services in the IFM, HASP or RTM, imports compete for use of intertie transmission capacity when the requested use is in the same direction, e.g., imports of Ancillary Services compete with Energy on interties in the import direction and exports of Ancillary Services (*i.e.*, on demand obligations) compete with Energy on interties in the export direction. To the extent there is Congestion, imports of Ancillary Services will pay Congestion costs in the IFM, HASP and RTM markets pursuant to Section 11.

\* \* \*

### **8.3.3.1 Use of Ancillary Service Regions and Ancillary Service Limits.**

Within the Expanded System Region, the System Region, and the Sub-Regions, the CAISO may establish limits on the amount of Ancillary Services that can be provided from each region or can be provided within each region. When used, these limits identify either a maximum or a minimum (or both a maximum and a minimum) amount of Ancillary Services to be obtained within the region. The minimum Ancillary Service limit in the Expanded System Region shall be the quantities of each Ancillary Service required to meet the WECC and NERC requirements for the CAISO Control Area. The CAISO may establish a restriction on the amount of Ancillary Services to be procured from outside the CAISO Control Area by establishing a minimum limit for the System Region. ~~The CAISO may also establish a maximum limit for Ancillary Services procured at any single import Scheduling Point.~~

\* \* \*

### **8.3.6 Market-Based Prices.**

Public utilities under the FPA must submit Bids for Ancillary Services capped at FERC authorized cost-based rates unless and until FERC authorizes different pricing. Public utilities under the FPA shall seek FERC Ancillary Services rate approval on bases consistent with the CAISO time-frame for contracting for each Ancillary Service (hourly rate for some Ancillary Services, annual rate or otherwise for other Ancillary Services) so that cost-based Bids and market-based Bids for each service shall be on comparable terms. All other entities may use market-based rates not subject to any restrictions apart from those found in this CAISO Tariff. Public utilities under the FPA which have not been approved to bid at market-based rates will not be paid above their cost-based Bid for the Ancillary Service concerned even if the relevant Market Clearing Price is higher.

### **8.3.7 Bidding Requirements, Including Submission to Self-Provide an Ancillary Service.**

Scheduling Coordinators may submit Bids or Submissions to Self-Provide an Ancillary Service consistent with the rules specified in Section 30 and any further requirements in this Section 8.3.7. Scheduling Coordinators may submit Bids or Submissions to Self-Provide an Ancillary Service from resources located within the CAISO Control Area or Dynamic System Resources certified to provide Ancillary Services, submit Bids for Ancillary Services from resources located outside the CAISO Control Area, or specify Inter-SC Trades of Ancillary Services. Ancillary Services in the Day-Ahead Market, in the HASP, and in the Real-Time Market are comprised of the following: Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve. Each Generating Unit (including Physical Scheduling Plants), System Unit, Participating Load, or System Resource for which a Scheduling Coordinator wishes to submit Ancillary Service Bids must meet the requirements set forth in this CAISO Tariff. The same resource capacity may be offered into more than one CAISO Ancillary Service auction at the same time. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Service can be submitted up to seven (7) days in advance. Ramp Rates will be only used by the CAISO for procuring capacity associated with the specific Ancillary Services. The CAISO will issue Real-Time Dispatch Instructions in the Real-Time Market for the Energy associated with the awarded capacity based upon the applicable Operational Ramp Rate submitted with the single Energy Bid Curve in accordance with Section 30.10. There is no ability to procure Ancillary Services for export. To the extent a Scheduling Coordinator has an on-demand obligation to serve loads outside the CAISO Control Area, it can do so provided that (1) it is using export transmission capacity available in Real-Time, (2) the resource capacity providing Energy to satisfy the on-demand obligation is not under an RMR Contract or Resource Adequacy Capacity obligation, and has not been paid a RUC Availability Payment for the Trading Hour.

#### **8.3.7.1 Requirement for Imports of Spinning or Non-Spinning Reserves.**

Scheduling Coordinators may submit Bids for imports of Spinning Reserve, or Non-Spinning Reserve from System Resources located outside the CAISO Control Area including Dynamic System Resources, where technically feasible and consistent with WECC criteria; and provided that such Scheduling Coordinators have certified to the CAISO their ability to deliver the service to the point of interchange with the CAISO Control Area (including with respect to their ability to make changes, or cause such changes

to be made, to interchange schedules during any interval of a Settlement Period at the discretion of the CAISO).

### **8.3.7.2 Requirement for Imports of Regulation.**

Scheduling Coordinators may bid imports of Regulation from System Resources located outside the CAISO Control Area, where technically feasible and consistent with WECC criteria by dynamic scheduling; provided that the operator of the Control Area in which the System Resources are located has entered into an agreement with the CAISO for interconnected Control Area operations; and provided that such Scheduling Coordinator and the operator of the Control Area in which the resources are located have been certified by the CAISO as to their ability to dynamically adjust interchange schedules based on control signals issued by the CAISO anytime during a Settlement Period at the discretion of the CAISO. Such certification shall include a demonstration of their ability to support the dynamic interchange of Regulation service based on CAISO control signals received on dedicated communications links (either directly or through EMS computers) for CAISO computer control and telemetry to provide this function in accordance with CAISO standards and procedures posted on the CAISO Website.

### **8.3.8 Procurement of Voltage Support.**

As of the CAISO Operations Date, the CAISO will contract for Voltage Support service with the owners of Reliability Must-Run Units. Payments for public utilities under the FPA shall be capped at the FERC authorized cost-based rates unless and until FERC authorizes different pricing. The CAISO shall pay owners of Reliability Must-Run Units for long-term Voltage Support through their Scheduling Coordinators.

In addition, any Participating Generator who is producing Energy shall, upon the CAISO's specific request, provide reactive energy output outside the Participating Generator's Voltage Support obligation defined in Section 8.2.3.3.

The CAISO shall select Participating Generator's Generating Units which have been certified for Voltage Support to provide this additional Voltage Support. Subject to any locational requirements, the CAISO shall select the least costly Generating Units from a computerized merit order stack to back down to produce additional Voltage Support in each location where Voltage Support is needed.

The CAISO shall pay to the Scheduling Coordinator for that Participating Generator the opportunity cost of reducing Energy output to enable reactive energy production. This opportunity cost shall be:

Max {0, LMP - Generating Unit Bid price } x reduction in Energy output (MW).

If necessary, the CAISO shall develop a regulatory cost-based determination of marginal operating cost to be used in place of the Generating Unit Bid price.

### **8.3.9 Black Start Capability and Energy Output.**

As of the CAISO Operations Date, the CAISO will contract for Black Start capability and Energy with owners of Reliability Must-Run Units and Black Start Generators. Public utilities under the FPA will be paid rates capped at the FERC authorized cost base rates unless and until FERC authorizes different pricing.

The CAISO shall pay owners of Reliability Must-Run Units for Black Start Energy output through their Scheduling Coordinators. The CAISO shall pay Black Start Generators for Black Start Energy output directly.

\* \* \*

### **8.4.7 Methodology For Procurement of Ancillary Services**

#### **8.4.7.1 Market-Based Prices.**

Public utilities under the FPA must submit Bids for Ancillary Services capped at FERC authorized cost-based rates unless and until FERC authorizes different pricing. Public utilities under the FPA shall seek FERC Ancillary Services rate approval on bases consistent with the CAISO time frame for contracting for each Ancillary Service (hourly rate for some Ancillary Services, annual rate or otherwise for other Ancillary Services) so that cost-based Bids and market-based Bids for each service shall be on comparable terms. All other entities may use market-based rates not subject to any restrictions apart from those found in this CAISO Tariff. Public utilities under the FPA which have not been approved to bid at market-based rates, will not be paid above their cost-based Bid for the Ancillary Service concerned even if the relevant Market Clearing Price is higher.

#### **8.4.7.2 Bidding and Self-Provision of Ancillary Services.**

~~Scheduling Coordinators may bid or self provide Ancillary Services from resources located within the CAISO Control Area or Dynamic System Resources certified to provide Ancillary Services, submit Bids for Ancillary Services from resources located outside the CAISO Control Area, or specify Inter-SC Trades of Ancillary Services. Ancillary Services in the Day Ahead Market, in the HASP, and in the Real Time Market are comprised of the following: Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve. Each Generating Unit (including Physical Scheduling Plants), System Unit, Participating Load, or System Resource for which a Scheduling Coordinator wishes to submit Ancillary Service Bids must meet the requirements set forth in this CAISO Tariff. The same resource capacity may be offered into more than one CAISO Ancillary Service auction at the same time. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Service can be submitted up to seven (7) days in advance. Ramp Rates will be only used by the CAISO for procuring capacity associated with the specific Ancillary Services. The CAISO will issue Real Time Dispatch Instructions in the Real Time Market for the Energy associated with the awarded capacity based upon the applicable Operational Ramp Rate submitted with the single Energy Bid Curve in accordance with Section 30.10. There is no provision for exports with regard to Ancillary Services Bids. The functionality necessary to accept such Bids does not exist in the CAISO scheduling software. To the extent a Scheduling Coordinator has an on-demand obligation to serve loads outside the CAISO Control Area, it can do so provided that (1) it is using export transmission capacity available in Real Time, (2) the resource capacity providing Energy to satisfy the on-demand obligation is not under an RMR Contract or Resource Adequacy Capacity obligation, and has not been paid a RUC Availability Payment for the Trading Hour.~~

**8.4.7.2.1** ~~Scheduling Coordinators may submit Bids for imports of Spinning Reserve, or Non-Spinning Reserve from System Resources located outside the CAISO Control Area including Dynamic System Resources, where technically feasible and consistent with WECC criteria; and provided that such Scheduling Coordinators have certified to the CAISO their ability to deliver the service to the point of interchange with the CAISO Control Area (including with respect to their ability to make changes, or cause such changes to be made, to interchange schedules during any interval of a Settlement Period at the discretion of the CAISO).~~

~~**8.4.7.2.2** Scheduling Coordinators may bid imports of Regulation from System Resources located outside the CAISO Control Area, where technically feasible and consistent with WECC criteria by dynamic scheduling; provided that the operator of the Control Area in which the System Resources are located has entered into an agreement with the CAISO for interconnected Control Area operations; and provided that such Scheduling Coordinator and the operator of the Control Area in which the resources are located have been certified by the CAISO as to their ability to dynamically adjust interchange schedules based on control signals issued by the CAISO anytime during a Settlement Period at the discretion of the CAISO. Such certification shall include a demonstration of their ability to support the dynamic interchange of Regulation service based on CAISO control signals received on dedicated communications links (either directly or through EMS computers) for CAISO computer control and telemetry to provide this function in accordance with CAISO standards and procedures posted on the CAISO Website.~~

~~**8.4.7.2.3** Scheduling Coordinators' bidding or self-provision of Ancillary Services according to this Section 8.4.7.2 shall be consistent with the CAISO Tariff, Protocols, and Business Practice Manuals.~~

## ~~**8.5 The Bidding Process.**~~

~~The CAISO shall operate a competitive Day Ahead, HASP, and Real Time Markets to procure Ancillary Services. The Security Constrained Unit Commitment (SCUC) and Security Constrained Economic Dispatch (SCED) applications used in the Integrated Forward Market (IFM), HASP, and the Real Time Market (RTM) shall calculate optimal resource commitment, energy, and Ancillary Services Awards and Schedules at least cost to End Use Customers consistent with maintaining System Reliability. Any Scheduling Coordinator representing Generating Units, System Units, Loads or imports of System Resources may submit Bids into the CAISO's Ancillary Services markets provided that it is in possession of a current certificate for the Generating Units, System Units, imports of System Resources or Loads concerned.~~

### ~~**8.5.1 Provision of System Information to Scheduling Coordinators.**~~

~~By 6:00 p.m. two days prior to the Trading Day, the CAISO shall make available to Scheduling Coordinators general system information including those items of information set forth in Section 6. This~~

~~information shall be provided at the same time as the CAISO provides general system information to all Scheduling Coordinators wishing to transmit power on the CAISO Controlled Grid.~~

## **8.5.2 Time Frame for Submitting And Evaluating Ancillary Services Bids.**

~~All Ancillary Services Bids must be submitted pursuant to the rules provided in Section 30.5.~~

### **8.5.2.1 Day-Ahead Market.**

~~Bids for the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve service in the Day Ahead Market must be received by Market Close for the Day Ahead Market. The Bids shall include information for each of the twenty four (24) Settlement Periods of the Trading Day. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO.~~

### **8.5.2.2 HASP.**

~~The CAISO will require Scheduling Coordinators to honor their Day Ahead Ancillary Services Awards when submitting Ancillary Services Bids in the HASP. Bids for Regulation Up Regulation Down, Spinning Reserve, and Non-Spinning Reserve service for each Settlement Period must be received at least seventy five minutes prior to the commencement of that Settlement Period. The Bids shall include information for only the relevant Settlement Period. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO.~~

## **8.5.3 Information to Be Submitted By Bidders.**

### **8.5.3.1 Information for Use in Day-Ahead Market, HASP and Real-Time Market.**

~~Bids shall be submitted by Scheduling Coordinators acting for Participating Generators, and owners or operators of Loads. Bids must be in the format specified by the CAISO and include the Bid information for each service described in Section 30 and such other information as the CAISO may determine it requires to evaluate Bids as published from time to time in this CAISO Tariff. The CAISO will verify and respond to submitted Bid data in accordance with Appendix E and the CAISO Protocols. Bidders may submit new Bids on a daily basis (or hourly basis for the HASP and RT Market).~~

### **8.5.3.2 Information for Use in Real-Time Dispatch of Ancillary Services.**



~~Scheduling Coordinators must submit Energy Bids for resources providing Spinning and Non-Spinning Reserves.~~

#### ~~**8.5.4 Bid Evaluation Rules.**~~

~~Bid evaluation Ancillary Services Bids shall be pursuant to Section 30.7. The following principles will apply in the treatment of Ancillary Services Bids in the CAISO Markets:~~

- ~~(a) not differentiate between bidders for Ancillary Services and Energy other than through cost, price, effectiveness, and capability to provide the Ancillary Service or Energy, and the required locational mix of Ancillary Services;~~
- ~~(b) select the bidders with most cost effective Bids for Ancillary Service capacity which meet its technical requirements, including location and operating capability to minimize the costs to users of the CAISO Controlled Grid;~~
- ~~(c) evaluate the Day Ahead Bids over the 24 Settlement Periods of the following Trading Day along with Energy, taking into transmission constraints and AS Regional limits;~~
- ~~(d) evaluate Bids in the HASP and establish Ancillary Service Awards from Imports at approximately 65 minutes prior to the hour of operation;~~
- ~~(e) evaluate import Bids along with internal resource Bids and establish hourly Ancillary Service Awards in the HASP; and~~
- ~~(f) establish Real Time Ancillary Service Awards from generation internal to the CAISO Control Area at 15 minutes intervals to the hour of operation; and~~
- ~~(g) procure sufficient Ancillary Services in the Day Ahead, HASP, and Real Time Markets to meet its forecasted requirements.~~

#### ~~**8.5.5 Evaluation of Ancillary Services Bids.**~~

~~When Scheduling Coordinators bid into the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve markets, they may submit Bids for the same capacity into as many of these markets as desired at the same time by providing the appropriate Bid information to the CAISO. The CAISO optimization will evaluate AS Bids simultaneously with Energy Bids. A Scheduling Coordinator may specify that its Bid applies only the markets it desires. A Scheduling Coordinator shall also have the~~

~~ability to specify different capacity prices for the Spinning Reserve, Non-Spinning Reserve, and Regulation markets. The Bid information set forth below shall be used in the Day Ahead, HASP and Real Time procurement of Regulation Up, Regulation Down Spinning Reserve, and Non-Spinning Reserve.~~

~~A Scheduling Coordinator providing one or more Regulation Up, Regulation Down, Spinning Reserve or Non-Spinning Reserve services may not change the identification of the Generating Units offered in the Day Ahead Market, HASP or in the Real Time Market for such services unless specifically approved by the CAISO (except with respect to System Units, if any, in which case Scheduling Coordinators are required to identify and disclose the resource specific information for all Generating Units and Curtailable Demands constituting the System Unit for which Bids and Submissions to Self Provide Ancillary Services are submitted into the CAISO's Day Ahead Market and HASP and Real Time Market.~~

#### ~~**8.5.6 Submission of Ancillary Services Bids.**~~

##### ~~**8.5.6.1 Submission of Bids for Regulation Reserves and Operating Reserves.**~~

~~Scheduling Coordinators must submit Bids for Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve in accordance with the requirements of Section 30.~~

##### ~~**8.5.6.2 Voltage Support.**~~

~~As of the CAISO Operations Date, the CAISO will contract for Voltage Support service with the owners of Reliability Must-Run Units. Payments for public utilities under the FPA shall be capped at the FERC authorized cost-based rates unless and until FERC authorizes different pricing. The CAISO shall pay owners of Reliability Must-Run Units for long-term Voltage Support through their Scheduling Coordinators.~~

~~In addition, any Participating Generator who is producing Energy shall, upon the CAISO's specific request, provide reactive energy output outside the Participating Generator's Voltage Support obligation defined in Section 8.2.3.3.~~

~~The CAISO shall select Participating Generator's Generating Units which have been certified for Voltage Support to provide this additional Voltage Support. Subject to any locational requirements, the CAISO~~

~~shall select the least costly Generating Units from a computerized merit order stack to back down to produce additional Voltage Support in each location where Voltage Support is needed.~~

~~The CAISO shall pay to the Scheduling Coordinator for that Participating Generator the opportunity cost of reducing Energy output to enable reactive energy production. This opportunity cost shall be:~~

~~Max{0, LMP - Generating Unit Bid price } x reduction in Energy output (MW).~~

~~If necessary, the CAISO shall develop a regulatory cost-based determination of marginal operating cost to be used in place of the Generating Unit Bid price.~~

### **8.5.6.3 Black Start Capability and Energy Output.**

~~As of the CAISO Operations Date, the CAISO will contract for Black Start capability and Energy with owners of Reliability Must-Run Units and Black Start Generators. Public utilities under the FPA will be paid rates capped at the FERC authorized cost base rates unless and until FERC authorizes different pricing.~~

~~The CAISO shall pay owners of Reliability Must-Run Units for Black Start Energy output through their Scheduling Coordinators. The CAISO shall pay Black Start Generators for Black Start Energy output directly.~~

\* \* \*

### **8.6.4.1 Day-Ahead Schedule.**

At the Day-Ahead Market, Scheduling Coordinators shall be required to submit information on Self-Provided Ancillary Services within the time frame stated in Section 30.18-5.2.4. Failure to submit the required information within the stated time frame for any hour shall lead to the self-provision for that hour being declared invalid by the CAISO.

### **8.6.4.2 HASP.**

In the HASP, Scheduling Coordinators shall be required to submit information on Self-Provided Ancillary Services within the time frame stated in Section 30.18-5.2.2. Failure to submit the required adjusted

information within the stated time frame shall lead to the self-provision being declared invalid by the CAISO.

\* \* \*

## **11.2.1 IFM Settlements.**

### **11.2.1.1 IFM Payments For Supply of Energy.**

For each Settlement Period for which the CAISO clears Energy transactions in the IFM, the CAISO shall pay the relevant Scheduling Coordinator for the MWh quantity of Supply of Energy from all Generating Units, Participating Loads, and System Resources in an amount equal to the IFM LMP at the applicable PNode multiplied by the MWh quantity specified in the Day-Ahead Schedule for Supply (which consists of the Day-Ahead Scheduled Energy).

\* \* \*

### **11.2.1.3 IFM Charges for Demand by Participating Loads, Including Aggregated Participating Load.**

For each Settlement Period that the CAISO clears Energy transactions in the IFM for Demand by Participating Loads, the CAISO shall charge the Scheduling Coordinators an amount equal to the MWh quantity of Demand scheduled in the Day-Ahead Schedule for the relevant Participating Load at the PNode (or Custom LAP, in the case of Aggregated Participating Load), multiplied by the IFM LMP at that PNode (or Custom LAP, in the case of Aggregated Participating Load).

\* \* \*

## **11.5.1 Instructed Imbalance Energy Settlements.**

For each Settlement Interval, IIE consists of the following types of Energy: (1) ~~Energy dispatched through the Real-Time Market optimization process~~ Optimal Energy; (2) ~~Energy from HASP Intertie Schedules as defined in Section 11.4~~ HASP Scheduled Energy; (3) Residual Imbalance Energy; (4) Real-Time Minimum Load Energy from units Dispatched in Real-Time; (5) ~~Energy related to Exceptional Dispatches~~ Energy; (6) Regulation Energy from Regulation; (7) Standard Ramping Energy; (8) Ramping Energy Deviation; (9) RDerate Energy; (10) Real-Time Self-Schedule Energy; (11) MSS Load ~~f~~ Following Energy; (12) Real-Time Pumping Energy; and (13) Operational Adjustments for the Day-Ahead and Real-Time. Payments

and charges for IIE attributable to each resource in each Settlement Interval shall be settled by debiting or crediting, as appropriate, the specific Scheduling Coordinator's IIE Settlement Amount. The IIE Settlement Amounts for the Standard Ramping Energy shall be zero. The IIE Settlement Amounts for Optimal Energy dispatched through the Real-Time Market optimization, Real-Time Minimum Load Energy from units Dispatched in the Real-Time, Regulation Energy from Regulation, Ramping Energy Deviation, RDerate Energy, Real-Time Pumping Energy, and Real-Time Self-Scheduled Energy shall be calculated as the product of the sum of all of these types of Energy and the Resource-Specific Settlement Interval LMP. For MSS Operators that have elected net Settlement, the IIE Settlement Amounts for Energy dispatched through the Real-Time Market optimization, Minimum Load Energy from System Units dispatched in Real-Time, Regulation Energy from Regulation, Ramping Energy Deviation, RDerate Energy, MSS Load Following Energy, Real-Time Pumping Energy, and Real-Time Self-Schedule Energy shall be calculated as the product of the sum of all of these types of Energy and the Real-Time Settlement Interval MSS Price. For MSS Operators that have elected gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the IIE for such entities is settled similarly to non-MSS entities as provided in this Section 11.5.1. The remaining IIE Settlement Amounts are determined as follows: (1) IIE Settlement Amounts for the Energy from the HASP Intertie Schedules is settled per Section 11.4; (2) IIE Settlement Amounts for Residual Imbalance Energy are determined pursuant to Section 11.5.5.; and (3) IIE Settlement Amounts for Exceptional Dispatches are settled pursuant to Section 11.5.6.

#### **11.5.1.1 Total IIE Settlement Amount.**

The total IIE Settlement Amount (\$) per Settlement Interval for each Scheduling Coordinator is the sum of the IIE Settlement Amounts for the Standard Ramping Energy, MSS Load Following Energy, Optimal Energy Dispatched through the Real-Time Market optimization, the Real-Time Minimum Load Energy from units Dispatched in the Real-Time, HASP Scheduled Energy, Regulation Energy from Regulation, Ramping Energy Deviation, RDerate Energy, Real-Time Self-Schedule Energy, Residual Imbalance Energy, and the portion of IIE Settlement Amounts for Exceptional Dispatches Energy, Real-Time Pumping Energy and Operational Adjustments for the Day-Ahead and Real-Time pursuant to Sections 11.5.6.

### **11.5.1.2 Total IIE Quantity.**

The total IIE quantity (MWh) per Settlement Interval for each Scheduling Coordinator is the sum of Standard Ramping Energy, MSS Load ~~f~~Following Energy, Optimal Energy dispatched through the Real-Time Market optimization, Real-Time Minimum Load Energy from units Dispatched in the Real-Time, Regulation Energy from Regulation, Ramping Energy Deviation, ~~R~~Derate Energy, Real-Time Self-Schedule Energy, Residual Imbalance Energy, ~~and Energy from Exceptional Dispatches Energy~~, Real-Time Pumping Energy, and Operational Adjustments for the Day-Ahead and Real-Time.

\* \* \*

### **11.5.6.1 Settlement for IIE from Exceptional Dispatches used for System Emergency Conditions, to Avoid Market Interruption, Overgeneration Conditions or to Prevent or Relieve Imminent System Emergencies.**

The Exceptional Dispatch Settlement price for incremental IIE that is delivered as a result of an Exceptional Dispatch for System Emergency conditions, to avoid a Market Interruption, to mitigate Overgeneration conditions, or to prevent or relieve an imminent System Emergency, including forced Start-Ups and Shut-Downs, is the higher of the (a) Resource-Specific Settlement Interval LMP, (b) the Energy Bid ~~p~~Price, ~~or~~ (c) the Default Energy Bid if the resource has been mitigated through the MPM-RRD, price, if applicable and the Energy that does not have an Energy Bid price, or (d) the negotiated price as applicable to System Resources. Costs for incremental Energy for this type of Exceptional Dispatch are settled in two payments: (1) incremental Energy is first settled at the Resource-Specific Settlement Interval LMP and included in the total IIE Settlement Amount described in Section 11.5.1.1; and (2) ~~second~~, the incremental Energy Bid Cost in excess of the applicable LMP at the relevant Location is settled pursuant to Section 11.5.6.1.1. The Exceptional Dispatch Settlement price for decremental IIE not associated with an Energy Bid that is delivered as a result of an Exceptional Dispatch instruction to avoid a Market Interruption, or to prevent or relieve a System Emergency is the minimum of the Resource-Specific Settlement Interval LMP, the Energy Bid price, or the negotiated price, if applicable and the Energy that does not have an Energy Bid price. All Energy costs for decremental IIE associated

with this type of Exceptional Dispatch are included in the total IIE Settlement Amount described in Section 11.5.1.1.

**11.5.6.1.1 Settlement of Excess Cost Payments for Exceptional Dispatches used for Emergency Conditions, to Avoid Market Interruption, and Avoid an Imminent System Emergency.**

The Excess Cost Payment for incremental Exceptional Dispatches used for emergency conditions, to avoid Market Interruption, or to avoid an imminent System Emergency is calculated for each resource for each Settlement Interval as the cost difference between the Settlement amount calculated pursuant to Section 11.5.6.1 for the applicable Exceptional Dispatch at the Resource-Specific Settlement Interval LMP and delivered Exceptional Dispatch quantity at one of the following three costs: (1) the resource's Energy Bid Cost, (2) the Default Energy Bid cost, or (3) the Energy cost at the negotiated price, if as applicable for System Resources, for the relevant Exceptional Dispatch.

**11.5.6.2 Settlement of IIE from Exceptional Dispatches caused by Modeling Limitations.**

**11.5.6.2.1 Exceptional Dispatches Not Associated with an Energy Bid for Transmission-Related Modeling Limitations.**

The Exceptional Dispatch Settlement price for IIE not associated with an Energy Bid that is consumed or delivered as a result of an Exceptional Dispatch to mitigate or resolve Congestion as a result of a transmission-related modeling limitation in the FNM as described in Section 34.9.3 is the maximum of the (a) Resource-Specific Settlement Interval LMP, (b) Energy Bid Price or (c) the Default Energy Bid price if the resource has been mitigated through the MPM-RRD, if applicable and the Energy that does not have an Energy Bid Price, or (d) the negotiated price as applicable to System Resources. Costs for incremental Energy for this type of Exceptional Dispatch are settled in two ~~P~~payments: (1) incremental Energy is first settled at the Resource-Specific Settlement Interval LMP and included in the total IIE Settlement Amount described in Section 11.5.1.1; and (2) ~~second~~, the incremental Energy Bid costs in excess of the applicable LMP at the relevant Location are settled per Section 11.5.6.2.3. The Exceptional Dispatch Settlement price for decremental IIE for this type of Exceptional Dispatch is the minimum of the (a) Resource-Specific Settlement Interval LMP (b) Energy Bid Price, (c) or the Default

Energy Bid price if the resource has been mitigated through the MPM-RRD, if applicable and the Energy that does not have an Energy Bid Price, or (d) the negotiated price as applicable to System Resources.

Costs for decremental IIE associated with this type of Exceptional Dispatch are settled in two ~~P~~payments:

(1) decremental Energy is first settled at the Resource-Specific Settlement Interval LMP and included in the total IIE Settlement Amount described in Section 11.5.1.1; and (2) ~~second~~, the decremental Energy Bid costs in excess of the applicable LMP at the relevant Location are settled per Section 11.5.6.2.3.

#### **11.5.6.2.2 Exceptional Dispatches Associated with an Energy Bid for Transmission-Related Modeling Limitations.**

The Exceptional Dispatch Settlement price for incremental IIE associated with an Energy Bid that is consumed or delivered as a result of an Exceptional Dispatch to mitigate or resolve Congestion as a result of a transmission-related modeling limitation in the CAISO FNM as described in Section 34.9.3 is the maximum of the Resource-Specific Settlement Interval LMP or the Energy Bid ~~P~~price. Costs for incremental Energy for this type of Exceptional Dispatch are settled in two ~~P~~payments: (1) incremental Energy is first settled at the Resource-Specific Settlement Interval LMP and included in the total IIE Settlement Amount described in Section 11.5.1.1; and (2) ~~second~~, the incremental Energy Bid ~~e~~Costs in excess of the applicable LMP at the relevant Location are settled per Section 11.5.6.2.3. The Exceptional Dispatch Settlement price for decremental IIE for this type of Exceptional Dispatch is the minimum of the Resource-Specific Settlement Interval LMP or the Energy Bid price. Costs for decremental IIE associated with this type of Exceptional Dispatch are settled in two ~~P~~payments: (1) decremental Energy is first settled at the Resource-Specific Settlement Interval LMP and included in the total IIE Settlement Amount described in Section 11.5.1.1; and (2) ~~second~~, the decremental Energy Bid costs in excess of the applicable LMP at the relevant Location is settled per Section 11.5.6.2.3.

#### **11.5.6.2.3 Settlement of Excess Cost Payments for Exceptional Dispatches used for Transmission-Related Modeling Limitations.**

The Excess Cost Payment for Exceptional Dispatches used for transmission-related modeling limitations as described in Section 34.9.3 is calculated for each resource for each Settlement Interval as the cost difference between the Settlement amount calculated pursuant to Section 11.5.6.2.1 or 11.5.6.2.2 for the



applicable Exceptional Dispatch at the Resource-Specific Settlement Interval LMP and one of the following three costs: (1) the resource's Energy Bid Cost, 2) the Default Energy Bid cost, or 3) the Energy cost at the negotiated price, ~~if applicable for System Resources~~, for the relevant Exceptional Dispatch.

#### **11.5.6.2.4 Exceptional Dispatches for Non-Transmission-Related Modeling Limitations.**

The Exceptional Dispatch Settlement price for incremental IIE that is consumed or delivered as a result of an Exceptional Dispatch to mitigate or resolve Congestion that is not a result of a transmission-related modeling limitation in the FNM as described in Section 34.9.3 is the maximum of the (a) Resource-Specific Settlement Interval LMP, (b) Energy Bid Price, or (c) the Default Energy Bid price if the resource has been mitigated through the MPM-RRD, if applicable and the Energy that does not have an Energy Bid Price, or (d) the negotiated price as applicable to System Resources. All costs for incremental Energy for this type of Exceptional Dispatch will be included in the total IIE Settlement Amount described in Section 11.5.1.1. The Exceptional Dispatch Settlement price for decremental IIE for this type of Exceptional Dispatch is the minimum of the (a) Resource-Specific Settlement Interval LMP, (b) Energy Bid Price, or (c) the Default Energy Bid price if the resource has been mitigated through the MPM-RRD, if applicable and the Energy does not have an Energy Bid Price, or (d) the negotiated price as applicable to System Resources. All costs for decremental IIE associated with this type of Exceptional Dispatch are included in the total IIE Settlement Amount described in Section 11.5.1.1.

\* \* \*

#### **11.5.8.1 Settlement for Energy Purchased by the CAISO for System Emergency Conditions, to Avoid Market Interruption, or to Prevent or Relieve Imminent System Emergencies, Other than Energy from Exceptional Dispatches Energy.**

The Settlement price for Energy that is delivered to the CAISO from a utility in another Control Area as a result of a CAISO request pursuant to Section 42.1.5 or any other provision for assistance in System Emergency conditions, to avoid a Market Interruption, or to prevent or relieve an imminent System Emergency, other than Energy from an Exceptional Dispatch, shall be either (i) a negotiated price agreed upon by the CAISO and the seller or (ii) a price established by the seller for such emergency assistance in advance, as may be applicable. In the event no Settlement price is established prior to the delivery of

the emergency Energy, the default Settlement price shall be the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point, plus all other charges applicable to imports to the CAISO Control Area, as specified in the CAISO Tariff. If the default Settlement price is determined by the seller not to compensate the seller for the value of the emergency Energy delivered to the CAISO, then the seller shall have the opportunity to provide the CAISO with cost support information demonstrating that a higher price is justified. The cost support information must be provided in writing to the CAISO within thirty (30) days following the date of the provision of emergency assistance. The CAISO shall have the discretion to pay that higher price based on the seller's justification of this higher price. The CAISO will provide notice of its determination whether to pay such a higher price within thirty (30) days after receipt of the cost support information. Any dispute regarding the CAISO's determination whether to pay a higher price for emergency assistance based on cost support information shall be subject to the CAISO ADR Procedures. Payment by the CAISO for such emergency assistance will be made in accordance with the Settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff. The costs for such emergency assistance, including the payment of a price based on cost support information, will be settled in two payments: (1) the costs will first be settled at the simple average of the relevant Dispatch Interval LMPs and included in the total IIE Settlement Amount as described in Section 11.5.1.1; and (2) costs in excess of the simple average of the relevant Dispatch Interval LMPs plus other applicable charges will be settled in accordance with Section 11.5.8.1.1. The allocation of the amounts settled in accordance with Section 11.5.1.1 will be settled according to Section 11.5.4.2.

**11.5.8.1.1 Settlement and Allocation of Excess Costs Payments for Emergency Energy Purchases, Other than ~~Energy from Exceptional Dispatches~~ Energy, to Scheduling Coordinators.**

The Excess Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 is calculated for each purchase for each Settlement Interval as the cost difference between the Settlement amount calculated pursuant to Section 11.5.8.1 for the purchase and the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point. The Excess Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 shall be allocated in the

same manner as specified in Section 11.5.6.2.5.2 for the allocation of the Excess Cost Payments portion of payments for Exceptional Dispatches for emergency conditions.

\* \* \*

#### **11.8.2.1.5 IFM Energy Bid Cost.**

For any Settlement Interval, the IFM Energy Bid Cost for Bid Cost Recovery Eligible resources, except Participating Loads, shall be the integral of the relevant Energy Bid submitted to the IFM, if any, from the higher of the registered Bid Cost Recovery Eligible Resource's Minimum Load and the Day-Ahead Total Self-Schedule up to the relevant MWh scheduled in the Day-Ahead Schedule, divided by the number of Settlement Intervals in a Trading Hour. The IFM Energy Bid Cost for Bid Cost Recovery Eligible Resources, except Participating Loads, for any Settlement Interval is set to zero for any portion of the Day-Ahead Schedule that is not delivered from the otherwise Bid Cost Recovery Eligible Resource that has metered Generation below its Day-Ahead Schedule; any portion of the Day-Ahead Schedule that is actually delivered remains eligible for IFM Energy Bid Cost Recovery.

\* \* \*

#### **11.8.4 RTM Bid Cost Recovery Amount.**

For purposes of determining the RTM Unrecovered Bid Cost Uplift Payments as determined in Section 11.8.5, and for the purposes of allocation of Net RTM Bid Cost Uplift as described in Section 11.8.6.6 the CAISO shall calculate the RTM Bid Cost Shortfall or the RTM Bid Cost Surplus as the algebraic difference between the RTM Bid Cost and the RTM Market Revenues for each Settlement Interval. The RTM Bid Costs shall be calculated pursuant to Section 11.8.4.1 and the RTM Market Revenues shall be calculated pursuant to Section 11.8.4.2. The Energy subject to RTM Bid Cost Recovery is the actual Energy delivered in the Real-Time associated with Instructed Imbalance Energy described in Section 11.5.1, excluding Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, ~~R~~Derate Energy, Ramping Energy Deviation, Regulation Energy and MSS Load ~~f~~Following Energy.

\* \* \*

#### **11.8.4.1.5 RTM Energy Bid Cost.**

For any Settlement Interval, the RTM Energy Bid Cost for the Bid Cost Recovery Eligible Resource except Participating Loads shall be computed as the sum of the products of each Instructed Imbalance Energy (IIE) portion, except Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, RDerate Energy, MSS Load Following Energy, Ramping Energy Deviation and Regulating Energy, with the relevant Energy Bid prices, if any, for each Dispatch Interval in the Settlement Interval. The RTM Energy Bid Cost for a Bid Cost Recovery Eligible Resource except Participating Loads for a Settlement Interval is set to zero for any undelivered Real-Time Instructed Imbalance Energy by the Bid Cost Recovery Eligible Resource. Any Uninstructed Imbalance Energy in excess of Instructed Imbalance Energy is also not eligible for Bid Cost Recovery.

\* \* \*

#### **11.8.4.2 RTM Market Revenue Calculations.**

**11.8.4.2.1** For each Settlement Interval in a CAISO Real-Time Market Commitment period, the Real-Time Market Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the following:

- a) The sum of the products of the Instructed Imbalance Energy (including Energy from Minimum Load of Bid Cost Recovery Eligible Resources committed in RUC where for Pumped Storage Hydro Units and Participating Load operating in the pumping mode or serving Load, the MWh is negative), except Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch, RDerate Energy, MSS Load Following Energy, Ramping Energy Deviation and Regulating Energy, with the relevant Real-Time Market LMP, for each Dispatch Interval in the Settlement Interval;
- b) The product of the Real-Time Market AS Award from each accepted Real-Time Market AS Bid in the Settlement Interval with the relevant ASMP, divided by the number of fifteen (15)-minute Commitment Intervals in a Trading Hour (4), and prorated to the duration of the Settlement Interval.

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

**11.8.4.2.2** For each Settlement Interval in a non-CAISO Real-Time Market Commitment period, the Real-Time Market Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the following:

- a) The sum of the products of the Instructed Imbalance Energy (excluding the Energy from Minimum Load of Bid Cost Recovery Eligible Resources committed in RUC), except, HASP Self-Scheduled Energy, Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, R<sub>D</sub>erate Energy, MSS Load f<sub>E</sub>ollowing Energy, Ramping Energy Deviation and Regulating Energy, with the relevant Real-Time Market LMP, for each Dispatch Interval in the Settlement Interval;
- b) The product of the Real-Time Market AS Award from each accepted Real-Time Market AS Bid in the Settlement Interval with the relevant ASMP, divided by the number of fifteen (15)-minute Commitment Intervals in a Trading Hour (4), and prorated to the duration of the Settlement Interval.
- c) The relevant Tier-1 No Pay charges for that Bid Cost Recovery Eligible Resource in that Settlement Interval.

\* \* \*

**11.10.7 Voltage Support.**

Payments by the CAISO for short-term and long-term Voltage Support shall be charged to the Participating TO in whose PTO Service Territory the resource providing the Voltage Support is located.The short-term market Voltage Support user rate for Settlement Period t for Zone x shall be calculated as follows:

$$VSSTRate_{xt} = \frac{\sum_{i,j} VSST_{xijt}}{\sum_j QChargeVS_{xjt}}$$

~~$VSST_{xijt}$  = Voltage Support payment to Scheduling Coordinator j in respect of Generating Unit i in Zone x in the short term market applicable to Settlement Period t.~~

~~—————  $QChargeVS_{xjt}$  = charging quantity for Voltage Support for Scheduling Coordinator j for Settlement Period t in Zone x equal to the total metered Demand in Zone x (including exports to neighboring Control Areas and excluding metered Demand inside an MSS) by Scheduling Coordinator j for Settlement Period t.~~

~~The monthly long term Voltage Support contract user rate for Settlement Period t for Zone x shall be calculated as follows:~~

$$VSLTRate_{xm} = \frac{\sum_{i,j} VSLT_{xijm}}{\sum_{jm} QChargeVS_{xjt}}$$

~~where:~~

~~$VSLT_{xijm}$  = long term Voltage Support contract payment to Scheduling Coordinator j for owner of Reliability Must Run Unit i in Zone x for month m.~~

~~The short term market Voltage Support charges for Settlement Period t payable by Scheduling Coordinator j will be calculated as follows:~~

$$VSSTCharge_{jt} = VSSTRate_t * QChargeVS_{jt}$$

~~where  $VSSTCharge_{jt}$  is the amount payable by Scheduling Coordinator j for short term market Voltage Support for Settlement Period t.~~

~~VSLTRate<sub>t</sub> is the short term market Voltage Support user rate for Settlement Period t. The monthly long term Voltage Support contract charge for month m payable by Scheduling Coordinator j will be calculated as follows:~~

$$\frac{VSLTCharge_m}{m} = VSLTRate_m * \sum_m QChargeVS_{jt}$$

~~where VSLTCharge<sub>m</sub> is the amount payable by Scheduling Coordinator j for long term Voltage Support for month m.~~

~~VSLTRate<sub>m</sub> is the monthly long term Voltage Support contract user rate charged by the CAISO to Scheduling Coordinators for month m.~~

\* \* \*

### **11.23 Penalties for Uninstructed Imbalance Energy.**

Effective December 1, 2004, the CAISO shall not charge any Uninstructed Deviation Penalties pursuant to this Section 11.23 until FERC issues an order authorizing the CAISO to charge Uninstructed Deviation Penalties pursuant to this section. Beginning with Settlement Statements for the first Trading Day for which FERC authorizes the CAISO to charge Uninstructed Deviation Penalties pursuant to this section, the CAISO shall charge Scheduling Coordinators Uninstructed Deviation Penalties for Uninstructed Imbalance Energy resulting from resource deviations outside a Tolerance Band from their Dispatch Operating Point, for dispatched resources, or their Day-Ahead Schedule otherwise. The Uninstructed Deviation Penalty will be applied as follows:

- a) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be calculated and assessed in each Settlement Interval. The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be calculated and assessed in each Settlement Interval in which the CAISO has not declared a staged System Emergency;
- b) The Uninstructed Deviation Penalty will apply to pre-Dispatched Bids from ~~a~~ Non-dynamically scheduled System Resources identified, when such a pre-Dispatch

Instruction is issued more than forty (40) minutes prior to the relevant Operating Hour, subject to the following conditions: i) ~~T~~he Uninstructed Deviation Penalty will only apply to the pre-Dispatched amount of the ~~b~~id that is declined or not delivered, ii) the Uninstructed Deviation Penalty will not apply to a portion of a pre-Dispatched ~~b~~id that is subsequently not delivered at the direction of a Control Area, including the CAISO, due to a curtailment of transmission capability or to prevent curtailment of native firm load occurring subsequent to issuing the pre-Dispatch Instruction, iii) the Uninstructed Deviation Penalty will not apply to ~~u~~Uninstructed Imbalance eEnergy resulting from declining subsequent intra-hour Dispatch Instructions. Dynamically scheduled Dynamic System Resources, to the extent they deviate from their Day-Ahead Schedule plus any Dispatch Instructions, will be subject to the Uninstructed Deviation Penalty;

- c) The Uninstructed Deviation Penalty will not apply to Load or Curtailable Demand;
- d) **[NOT USED]**
- e) The Uninstructed Deviation Penalty will not apply to Regulatory Must-Run Generation or Participating Intermittent Resources that meet the scheduling obligations established in the Eligible Intermittent Resources Protocol in Appendix Q. No other applicable charges will be affected by this exemption. The Uninstructed Deviation Penalty also will not apply to Qualifying Facilities (QFs), including those that are dynamically scheduled, that have not executed and are not required pursuant to this CAISO Tariff to execute a Participating Generator Agreement (PGA) or Qualifying Facility Participating Generator Agreement, ~~pending resolution of QF-PGA issues at FERC~~;
- f) All MSS resources designated as Load-following resources pursuant to Section 4.9.13.2 (regardless of gross or net settlement election) are exempt from Uninstructed Deviation Penalties in this Section 11.23. All MSS resources not designated as Load-following resources pursuant to Section 4.9.13.2 (regardless



of gross or net settlement election) are subject to Uninstructed Deviation Penalties in this Section 11.23.

- g) The Uninstructed Deviation Penalty will apply to Generating Units providing Regulation and dynamically scheduled Dynamic System Resources providing Regulation to the extent that ~~u~~Uninstructed ~~d~~Deviations from such resources exceed each resource's actual Regulation range plus the applicable Tolerance Band. Resources providing Regulation and generating within their relevant Regulating range (or outside their relevant Regulating range as a direct result of CAISO control or instruction) will be deemed to have zero (0) deviations for purposes of the Uninstructed Deviation Penalty.
- h) The Uninstructed Deviation Penalty will be calculated and assessed for each resource individually, except ~~that~~ as specified in Appendix R, which specifies when ~~u~~Uninstructed ~~d~~Deviations from individual resources may be aggregated.
- i) **[NOT USED]**
- j) **[NOT USED]**
- k) The Uninstructed Deviation Penalty will not apply when the applicable LMP is negative or zero.;
- l) The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to one hundred percent (100%) of the corresponding LMP. The relevant LMP will be calculated for each UDP Location as the ten-minute weighted average price of two five-minute Dispatch Interval LMPs and the two five-minute optimal Instructed Imbalance Energy quantities. The net effect of the Uninstructed Deviation Penalty and the Settlement for positive Uninstructed Imbalance Energy beyond the Tolerance Band will be that the CAISO will not pay for such Energy.;

- m) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to fifty percent (50%) of the corresponding Resource-Specific Settlement Interval LMP or, in the case of aggregated resources, the Settlement Interval Penalty Location Real-Time LMP;
- n) The Uninstructed Deviation Penalty will not apply to deviations from Energy delivered as part of a scheduled test so long as the test has been scheduled by the Scheduling Coordinator with the CAISO or the CAISO has initiated the test for the purposes of validating unit performance;
- o) The Uninstructed Deviation Penalty shall not apply to any excess Energy delivered from or any shortfall of Energy not delivered from an Exceptional Dispatch, involving a Generating Unit or a System Unit unless the CAISO and the supplier have agreed upon the time of, duration of, and ~~the~~ amount of Energy to be delivered in the out-of-market transaction and the CAISO reflects the out-of-market transaction in its Real-Time Expected Energy calculations. The Uninstructed Deviation Penalty shall apply to Energy outside the Tolerance Band from out-of-market transactions with dynamically scheduled Dynamic System Resources to the extent the agreed-to Energy is not delivered or over-delivered, and to any Energy from ~~a Non-dynamically scheduled~~ Non-dynamically scheduled System Resources to the extent the agreed-to Energy is not delivered if that over- or under-delivery was due to action taken by or not taken by the System Resource and not the result of action taken by a Control Area ~~o~~Operator due to a curtailment of firm transmission capability or to prevent curtailment of native firm load occurring subsequent to the out-of-market transaction;
- p) The Uninstructed Deviation Penalty shall not apply to Generating Units and dynamically scheduled Dynamic System Resources with Uninstructed Imbalance Energy ~~will be exempted from the Uninstructed Deviation Penalty~~ if the Generating Unit or dynamically scheduled Dynamic System Resource was

physically incapable of delivering the expected Energy or if systems malfunctions prevent receipt of Dispatch Instructions, provided that the Generating Unit or dynamically scheduled Dynamic System Resource had notified the CAISO within thirty (30) minutes of the onset of an event that prevents the resource from performing its obligations. A Generating Unit or dynamically scheduled Dynamic System Resource must notify CAISO operations staff of its reasons for failing to deliver the eExpected Energy in accordance with Section 9.3.10.5 and must provide information to the CAISO that verifies the reason the resource failed to comply with the Dispatch Instruction within forty-eight (48) hours of the eOperating hHour in which the instruction is issued.;

- q) Adjustments to any Generating Unit, Curtailable Demand and System Resource Day-Ahead Schedules or HASP Intertie Schedules made in accordance with the terms of TRTC Instructions for Existing Contracts or TORs shall not be subject to Uninstructed Deviation Penalties. Valid changes to ETC Self-Schedules or TOR Self-Schedules submitted after the close of the HASP or the RTM shall not be subject to Uninstructed Deviation Penalties.
- r) Any changes made to Schedules prior to the CAISO issuing HASP Intertie Schedules shall not be subject to Uninstructed Deviation Penalties.
- s) Uninstructed Deviation Penalties shall not be charged to any deviation from a Dispatch Instruction that does not comply with the requirements set forth in this CAISO Tariff.
- t) Amounts collected as Uninstructed Deviation Penalties shall first be assigned to reduce the portion of above-LMP costs that would otherwise be assigned pro rata to all Scheduling Coordinators in that Settlement Interval. Any remaining portion of amounts collected as Uninstructed Deviation Penalties after satisfying these sequential commitments shall be treated in accordance with Section 11.29.9.6.3.
- u) Condition 2 RMR Units shall be exempt from Uninstructed Deviation Penalties.

- v) The Uninstructed Deviation Penalty shall not apply to positive Uninstructed Imbalance Energy attributable to operation below the Generating Unit's ~~Minimum~~ Operating Level from the time the Generating Unit synchronizes to the grid to the earlier of (1) the Settlement Interval in which the Generating Unit produces a quantity of Energy that represents an average rate of delivery over such Settlement Interval in excess of the Generating Unit's ~~Minimum~~ Operating Level plus the applicable Tolerance Band, or (2) the first Settlement Interval after the expiration of a period of time that begins at the end of the Settlement Interval in which the Generating Unit synchronizes to the grid and ends after the Generating Unit's maximum Start-Up ~~Time~~ as specified in the Master File. The Uninstructed Deviation Penalty shall not apply to any positive Uninstructed Imbalance Energy attributable to operation below the Generating Unit's ~~Minimum~~ Operating Level for a duration equal to the minimum of two Settlement Intervals or the time specified in the ~~Generating Unit's Resource Data Template Master File~~ for the Generating Unit to disconnect from the grid after reaching its ~~Minimum~~ Operating Level following either (1) the last Settlement Interval of an hour in which the Generating Unit had a non-zero Day-Ahead Schedule or (2) the Settlement Interval in which the Generating Unit is expected to reach its ~~Minimum~~ Operating Level based on the applicable ~~Ramp Rate~~ when the CAISO instructed the Generating Unit to Shut-Down. The amount of Uninstructed Imbalance Energy exempted from the Uninstructed Deviation Penalty shall not exceed the amount of the Generating Unit's ~~Minimum~~ Operating Level plus the applicable Tolerance Band. This exception from the application of the Uninstructed Deviation Penalty does not apply to Dynamic System Resources.
- (w) UDP shall not apply to deviations by a Generating Unit that are attributable to any automatic response to a system disturbance in accordance with Applicable Reliability Criteria for the duration of the system disturbance, and for an

additional five (5) minutes when a Generating Unit's deviation is in the same direction as the mitigating frequency response.

- (x) The Uninstructed Deviation Penalty shall not apply in the event that a malfunction in a CAISO system application causes an infeasible Dispatch Instruction to be communicated or prevents timely communication of a Dispatch Instruction or a SLIC malfunction prevents a resource from reporting an event that affects the resource's ability to deliver Energy.
- (y) The Uninstructed Deviation Penalty shall not apply to a failure to comply with a manual Dispatch Instruction that is not confirmed by a Dispatch Instruction transmitted through the CAISO's automated Dispatch system.
- (z) The Uninstructed Deviation Penalty shall not apply if a Dispatch Instruction is validated after the start time of the instruction from the Settlement Interval in which the Dispatch Instruction was first effective to the earliest Settlement Interval, inclusive, in which the resource is able to respond to the Dispatch Instruction.

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### **22.4.3 Notice of Changes in Operating Procedure and Business Practice Manuals.**

The CAISO will issue notice of any proposed changes to any Operating Procedure or Business Practice Manual. The effective date of any change or proposed change in any Operating Procedure or Business Practice Manual shall be established as part of the change management process set forth in Section 22.11 but will be no earlier than at least thirty (30) days from the date of publication of a Market Notice describing the change or proposed change, unless: (1) a different notice period is specified by state or Federal law, (2) the change is reasonably required to address an emergency affecting the CAISO Controlled Grid or its operations, or (3) the change is to a provision of a Business Practice Manual that is necessitated by emergency circumstances specific to that Business Practice Manual. Such circumstances include, but are not limited to, any change necessary to ensure that the Business Practice Manual is consistent with the CAISO Tariff or any applicable law, regulation, NERC or WECC operating

policies, guidelines and standards, or FERC order, in which case the CAISO shall give Market Participants as much notice as is reasonably practicable. Any notices issued under this provision shall be ~~delivered~~ issued in accordance with the procedures set out in Section 22.11.

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#### **22.11.1.1 BPM Proposed Revision Request Submittal.**

A request to make any change to a BPM, including any attachments thereto that are incorporated by reference, and any changes to the BPM PRR must be initiated through a submittal of a BPM PRR, except as provided in Section 22.4.3 or 22.11.1.2.

The following entities may submit a BPM PRR:

- (1) Any Market Participant;
- (2) Local Regulatory Authority;
- (3) CAISO management; and
- (4) Any other entity that meets the following qualifications:
  - (a) The entity must represent a Market Participant in dealings with the CAISO or operate in the CAISO Markets, and
  - (b) The entity must demonstrate that the entity (or those it represents) is affected by the subject section(s) of the BPM.

BPM PRRs shall be submitted electronically to the CAISO in the form and manner described in the Business Practice Manual for BPM change management. ~~The CAISO shall post each BPM PRR on the CAISO Website and publish a Market Notice of such posting.~~ The BPM PRR shall include a description of the requested revision, the reason for the suggested change, the impacts and benefits of the suggested change, a list of affected BPM sections and subsections, general administrative information, suggested language for the requested revision, and for BPM PRRs submitted by CAISO management, a BPM PRR impact analysis. ~~The CAISO may, as appropriate, prepare an impact analysis for BPM PRRs submitted by other entities eligible to submit BPM PRRs.~~

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### **22.11.1.3 BPM PRR Coordinator.**

The consideration and disposition of BPM PRRs shall be led by a BPM change management coordinator. The BPM change management coordinator shall be an identified employee of the CAISO with responsibility for ensuring that BPM PRRs are processed and reviewed in accordance with the provisions of the Business Practice Manual for BPM change management. The BPM change management coordinator shall also be responsible for submitting a reports to the CAISO Governing Board at each regularly scheduled CAISO Governing Board meeting that includes (1), indicating the status of pending BPM PRRs, (2) including a summary of proposed revisions that have been accepted, and (3) a summary of proposed revisions that have been rejected and the reason(s) that for any the proposed revisions that have been rejected, including the positions of stakeholders, and any decision on appeal as provided in Section 22.11.1.6.

### **22.11.1.4 Types and Treatment of BPM PRRs.**

Each BPM PRR shall be preliminarily classified into one of the following categories by the BPM change management coordinator in consultation with internal CAISO business units, the submitter, and representatives from potentially affected stakeholders for purposes of review in accordance with its scope and significance.

- (a) Category A – Clarifications of existing BPM language, grammatical errors, and revisions with minor significance, ~~that will be subject to the PRR review and action process described in Section 22.11.1.5 and in a Business Practice Manual, unless urgent or emergency circumstances exist pursuant to Section 22.4.3 or 22.11.1.7;~~
- (b) Category B – Revisions that may be substantial significance, including changes to the CAISO or Market Participants' systems ~~that will be subject to the BPM PRR review and action process described in Section 22.11.1.5 and in a Business Practice Manual, unless urgent or emergency circumstances exist pursuant to Section 22.4.3 or 22.11.1.7.~~ In the case of a proposed change affecting the CAISO's systems, the CAISO will prepare a BPM PRR impact analysis, if not already prepared, in accordance with the procedures set forth in the Business

Practice Manual. The CAISO shall post the completed BPM PRR impact analysis to the CAISO Website and publish a Market Notice of such posting. Comments may be filed concerning the BPM PRR impact analysis. The comments must be delivered electronically to the CAISO within ten (10) Business Days or otherwise as specified in a Market Notice. Comments shall be posted to the CAISO Website. and

- (c) Category C – ~~For~~ Revisions that are beyond the scope of the BPM or that may require revisions to the CAISO Tariff. For such proposed revisions, the CAISO will identify additional processes that may need to be undertaken in the consideration of the requested change beyond the BPM PRR process.

#### **22.11.1.5 BPM PRR Review and Action.**

Any interested stakeholder or CAISO management may comment on a posted BPM PRR in accordance with the process set forth in the Business Practice Manual for BPM change management. To receive consideration, comments must be delivered electronically to the CAISO within ten (10) Business Days or otherwise as specified in a Market Notice. Comments shall be posted to the CAISO Website. After their comment periods have expired, Pending BPM PRRs shall be considered by the CAISO at a regularly established monthly public meeting or specially-noticed meeting dedicated to that purpose.

Following any meeting to consider pending BPM PRRs and subject to the standards set forth in Section 22.11.1.4, the BPM change management coordinator shall issue a recommendation for action on each pending BPM PRR and shall publish for public comment a report on the recommendation in accordance with the procedures set forth in the Business Practice Manual for BPM change management. The report shall be sufficiently detailed and shall be published in a timeframe that allows interested stakeholders a meaningful opportunity to provide written comment. The BPM change management coordinator shall, publish a final decision on any BPM PRR after considering stakeholder comments and all relevant impacts on their business needs and, publish a final decision on any BPM PRR after a the PRR recommendation report and comments concerning it have been discussed at a BPM change management meeting ~~at which comments received on the PRR recommendation report were discussed,~~ in accordance with procedures set forth in the Business Practice Manual for BPM change management.



#### **22.11.1.6 Right to Appeal to CAISO.**

Any entity eligible to submit a BPM PRR under Section 22.11.1.1 may, within ten (10) Business Days, appeal in writing the outcome of any BPM PRR to a committee comprising at least three CAISO executives established in accordance with procedures set forth in the Business Practice Manual for BPM change management. The CAISO will establish a standing meeting time for the BPM appeals committee to be used if needed and will establish the composition of the BPM appeals committee, including alternates in the case of schedule or other conflicts. Standing meeting dates and the BPM appeals committee composition will be established at least three months in advance. The CAISO may change the meeting time with ten (10) Business Days notice if required to accommodate schedules of the members of the BPM appeals committee. ~~The CAISO committee shall meet in public at the regularly scheduled monthly BPM PRR meeting or specially noticed meeting to consider public comment by the appellant and any interested stakeholder.~~ The executive sponsor of a BPM PRR may not sit in review of any appeal of a final decision regarding that same BPM PRR but may participate in and be present during the public discussion of any appeal. The CAISO committee will review the appeal and publish its decision to the appealing party and to the CAISO Website. If not satisfied with the decision on appeal, the appellant may raise concerns it may have with the Board of Governors at the next regularly scheduled Board meeting through the public comment period or through prior letter to the Governing Board.

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#### **22.11.1.8 Urgent Requests by Entities for BPM Revisions.**

An entity submitting a BPM PRR may request that the BPM PRR be considered on an urgent basis and may be required to show reasonable necessity for such an urgent request. The BPM change management coordinator may designate a BPM PRR for urgent consideration if the BPM change management coordinator determines that such BPM PRR (1) requires immediate attention due to (i) serious concerns about CAISO System Reliability or market operations under the unmodified language or (ii) the crucial nature of Settlement activity conducted pursuant to any Settlement formula, and (2) is of a nature that allows for rapid implementation without negative consequences to the reliability and integrity of the CAISO's system or market operations. The BPM change management coordinator shall consider the urgent BPM PRR at its next regularly scheduled meeting, or at a special meeting called by the BPM

change management coordinator to consider the urgent BPM PRR. Any revisions to a BPM that take effect pursuant to an urgent BPM PRR shall be subject to a BPM PRR impact analysis.

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#### **28.1.6.4 Inter-SC Trades of Energy at Aggregated Pricing Nodes.**

Inter-SC Trades of Energy at Aggregated Pricing Nodes that are also defined Trading Hubs or Default LAPs are subject to the general validation procedures in Section 28.1.5 but are not subject to the three-stage physical validation procedures for Physical Trades described in Section 28.1.6 above.

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### **30. BIDS, INCLUDING SELF-SCHEDULES, SUBMISSION FOR ALL CAISO MARKETS**

#### **30.1 Bids, Including Self-Schedules.**

Scheduling Coordinators shall submit Bids to participate in the CAISO Markets, as well as any Self-Schedules, ETC Self-Schedules, TOR Self-Schedules, or Self-Provision of Ancillary Services. Bidding rules for each type of resource are contained in this Section 30 and additional specifications regarding bidding practices are contained in the Business Practice Manuals posted on the CAISO Website. Bids will consist of various components described in this Section 30 through which the Scheduling Coordinator provides information regarding the parameters and conditions pursuant to which the Bid may be optimized by the CAISO Markets.

##### **30.1.1 Day-Ahead Market.**

Bids submitted in the DAM apply to the twenty-four (24) hours of the next Trading Day (23 or 25 hours on the Daylight Savings transition days) and are used in both the IFM and RUC. Bids for the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve service in the Day Ahead Market must be received by Market Close for the Day-Ahead Market. The Bids shall include information for each of the twenty-four (24) Settlement Periods of the Trading Day. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO. Scheduling Coordinators may submit Bids for the DAM as early as seven (7) days ahead of the targeted Trading Day.

##### **30.1.2 HASP and Real-Time Market.**

Bids submitted in the HASP apply to a single Trading Hour and are used in the HASP and the RTM. The CAISO will require Scheduling Coordinators to honor their Day-Ahead Ancillary Services Awards when

submitting Ancillary Services Bids in the HASP. Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve service for each Settlement Period must be received at least seventy-five minutes prior to the commencement of that Settlement Period. The Bids shall include information for only the relevant Settlement Period. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO. ~~Bidding rules for each type of resource are contained in this Section 30 and additional specifications regarding bidding practices are contained in the Business Practice Manuals posted on the CAISO Website. Bids will consist of various components described in this Section 30 through which the Scheduling Coordinator provides information regarding the parameters and conditions pursuant to which the Bid may be optimized by the CAISO Markets.~~

\* \* \*

### **30.5.1 General Bidding Rules.**

- (a) All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the DAM for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day, but no sooner than 7 days prior to the Trading Day. All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the HASP for the following Trading Day shall be submitted starting from the time of publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day, and ending seventy-five (75) minutes prior to each applicable Trading Hour in the RTM. The CAISO will not accept any Energy or Ancillary Services Bids for the following Trading Day between 10:00 a.m. on the day preceding the Trading Day and the publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day;
- (b) Bid prices submitted by Scheduling Coordinator for Energy accepted and cleared in the IFM and scheduled in the Day-Ahead Schedule cannot be decreased. Bid prices for Energy submitted but not scheduled in the Day-Ahead Schedule may be increased or decreased in the HASP. Incremental Bid prices for Energy

associated with Day-Ahead AS or RUC Awards in Bids submitted to the HASP may be revised. Scheduling Coordinators may revise ETC Self-Schedules for Supply only in the HASP to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Participating TO in accordance with Section 16. Scheduling Coordinators may revise TOR Self-Schedules for Supply only in the HASP to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Non-Participating TO in accordance with Section 17. Energy associated with awarded Ancillary Services capacity cannot be offered in the HASP or Real-Time Market separate and apart from the awarded Ancillary Services capacity;

- (c) Scheduling Coordinators may submit Energy, AS and RUC Bids in the DAM that are different for each Trading Hour of the Trading Day;
- (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). Supply Bids for Physical Scheduling Plants and System Units must include the Generation Distribution Factors. 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 and 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, ~~shall contain~~ 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 ~~that choose to submit a Supply Bid~~ may only do so by using ~~submitting a Supply Bid as a Generating Unit or Physical Scheduling Plant Resource ID~~ for the Demand reduction capacity represented by ~~of~~ the Aggregated Participating Load as set forth in a Business Practice Manual.

The CAISO will use ~~Load-Generation~~ Distribution Factors provided by the CAISO has created 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~~may also contain: the relevant Ramp Rate; Start-Up Costs; and Minimum Load Costs. ~~Start-Up Costs and Minimum Load Costs for System Resources, except for Resource-Specific System Resources, must be zero.~~ 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 participate in the Day-Ahead Market on an equivalent basis as Generating Units and are not obligated to participate in RUC or the RTM if the resource did not receive a Day-Ahead Schedule unless the resource is a Resource Adequacy Resource. If the Resource-Specific System Resource is a Resource Adequacy Resource, the Scheduling Coordinator for the resource is obligated to make it available to the CAISO Market as prescribed by Section 40.6. Dynamic Resource-Specific System Resources are also eligible to participate in the HASP and RTM on an equivalent basis as Generating Units. Non-Dynamic Resource-Specific System Resources will be treated like other System Resources in the HASP and RTM. The quantity (in MWh) of Energy categorized as Interruptible Imports (non-firm imports) can only be submitted through Self-Schedules in the Day-Ahead Market and cannot be incrementally increased in the HASP or RTM. Bids submitted to the Day-Ahead Market for ELS Resources will be applicable for two days after they have been submitted and cannot be changed the day after they have been submitted.

\* \* \*

#### **30.5.2.6 Ancillary Services Bids.**

There are four distinct Ancillary Services: Regulation-Up, Regulation-Down, Spinning Reserve and Non-Spinning Reserve. Participating Generators are eligible to provide all Ancillary Services. Dynamic System Resources are eligible to provide Operating Reserves and Regulation. Non-Dynamic System Resources are eligible to provide Operating Reserves only. No System Resource, including Dynamic and Non-Dynamic Resource Specific System Resources, can be used for self-provision of Ancillary Services.

All System Resources, including Dynamic and Non-Dynamic Resource Specific System Resources, will be charged the Shadow Price as prescribed in Section 11.10 of the CAISO Tariff. Participating Loads are eligible to provide Non-Spinning Reserve only. A Scheduling Coordinator may submit Ancillary Services Bids for Regulation-Up, Regulation-Down, Spinning, and Non-Spinning Reserve for the same capacity by providing a separate price in \$/MW per hour as desired for each Ancillary Service. The Bid for each Ancillary Services is a single Bid segment. Only resources certified by the CAISO as capable of providing Ancillary Services are eligible to provide Ancillary Services. In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; ~~(2) an Energy Bid associated with capacity Bid before the close of the Real-Time Market (submitting an Energy Bid associated with a Ancillary Service Bid in the Day-Ahead Market is optional);~~ (2) Ramp Rate (Operating Reserve Ramp Rate and regulating Ramp Rate, if applicable); (3) Distribution Curve for Physical Scheduling Plant or System Unit; and ~~(4) Maximum Operating level Limit (MOLmax) and Minimum Operating level Limit (MOLmin).~~ An Ancillary Services Bid submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but is not required to be, accompanied by an Energy Bid that covers the capacity offered for the Ancillary Service. Submissions to Self-Provide an Ancillary Services submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but are not required to be, accompanied by an Energy Bid that covers the capacity to be self-provided; provided, however, that such an Energy Bid shall be submitted prior to the close of the Real-Time Market for the day immediately following the Day-Ahead Market in which the Ancillary Service Bid was submitted if the Submission to Self-Provide an Ancillary Service is qualified as specified in Section 8.6. Submissions to Self-Provide an Ancillary Services submitted in the Day-Ahead Market must be accompanied by a Self-Schedule. When submitting Ancillary Service Bids in the Real-Time, Scheduling Coordinators for resources that either have been awarded or self-provide Spinning Reserve or Non-Spinning Reserve capacity in the Day-Ahead Market must submit an Energy Bid for at least the awarded or self-provided Spinning Reserve or Non-Spinning Reserve capacity, otherwise the CAISO will apply the Bid validation rules described in Section 30.9. As provided in Section 30.5.2.6.4, A Submission to Self Provide an Ancillary Service shall contain all of the requirements of a Bid for Ancillary Services with the exception of Ancillary Service Bid

price information. In addition, Scheduling Coordinators must comply with the Ancillary Services requirements of Section 8.5 of the CAISO Tariff.

#### **30.5.2.6.1 Regulation Up or Down Bid Information.**

In the case of Regulation Up or Down, the Ancillary Services Bid must also contain: (a) the upward and downward range of generating capacity over which the resource is willing to provide Regulation within a range from a minimum of ten (10) minutes to a maximum of thirty (30) minutes; and (b) the bid price of the capacity reservation, stated separately for Regulation Up and Regulation Down (\$/MW). In the case of Regulation Up or Down from Dynamic System Resources, the Ancillary Services Bid must also contain: (a) the Scheduling Point (the name), (b) Interchange ID code of the selling entity, (c) external Control Area ID, (d) Schedule ID (NERC ID number), and (e) the Contract Reference Number, if applicable.

Ancillary Services Bids submitted to the Real-Time Market for Regulation need not be accompanied by an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

#### **30.5.2.6.2 Spinning Reserve Capacity Bid Information.**

In the case of Spinning Reserve capacity, the Ancillary Services Bid must also contain: (a) MW of additional capability synchronized to the system, immediately responsive to system frequency, and available within ten (10) minutes; (b) Bid price of capacity reservation, and (c) an indication whether the capacity reserved would be available to supply Imbalance Energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag).

In the case of Spinning Reserve capacity from System Resources, the Ancillary Services Bid must also contain: (a) Interchange ID code of the selling entity, (b) Schedule ID (NERC ID number, and (c) a Contract Reference Number, if applicable. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

#### **30.5.2.6.3 Non-Spinning Reserve Capacity.**

In the case of Non-Spinning Reserve, the Ancillary Service Bid must also contain: (a) the MW capability available within 10 minutes; (b) the Bid price of the capacity reservation; (c) time of synchronization following notification (min); and (d) an indication whether the capacity reserved would be available to



supply Imbalance Energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag). In the case of Non-Spinning Reserve Capacity from System Resources, the Ancillary Services Bid must also contain: (a) Interchange ID code of the selling entity, (b) Schedule ID (NERC ID number); and (c) a Contract Reference Number, if applicable. In the case of Non-Spinning Reserve Capacity from Participating Load within the CAISO Control Area, the Ancillary Service Bid must also contain: (a) a Load identification name and Location Code, (b) Demand reduction available within ten (10) minutes, (c) time to interruption following notification (min), and (d) maximum allowable curtailment duration (hr). In the case of An Aggregated Participating Load, Scheduling Coordinators must submit Bids using a Generating Unit or Physical Scheduling Plant Resource ID for ~~may only participate as a Generating Unit offering Non-Spinning Reserve capacity from~~ the Demand reduction capacity of the Aggregated Participating Load through a Bid to provide Non-Spinning Reserve or a Submission to Self-Provide an Ancillary Service for Non-Spinning Reserve. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Non-Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

#### **30.5.2.6.4      Additional Rules For Self-Provided Ancillary Services.**

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

#### **30.5.2.7      RUC Availability Bids.**

Scheduling Coordinators may submit RUC Availability Bids for specific Generating Units in the DAM. Capacity that does not have Bids for Supply of Energy in the IFM will not be eligible to participate in the RUC process. The RUC Availability Bid component a-is MW-quantity of non-RA Capacity in \$/MW per hour, and \$0/MW for RA Capacity.

\* \* \*

### **30.5.3.1 Demand Bids Components.**

Demand Bids must have the following components: Scheduling Coordinator ID code; a Demand Bid Curve that is a monotonically decreasing staircase function of no more than 10 segments defined by 11 ordered pairs of MW and \$/MWh; Location Code for the LAP, Custom LAP or PNode, as applicable; and hourly scheduled MWh within the range of the Bid curve, including any zero values, for each Settlement Period of the Trading Day.

### **30.5.3.2 Exceptions to Requirement for Submission of Demand Bids and Settlement at the LAP.**

The following are exceptions to the requirement that Demand Bids be submitted and settled at the LAP:

- (a) ETC or TOR Self-Schedules submitted consistent with the submitted TRTC Instructions;
- (b) ~~Except for Aggregated Participating Loads, which may only participate as Non-~~ Participating Load, and Aggregated Participating Load Bids for Supply and Demand may be submitted and settled at a PNode or Custom LAP, as appropriate; and
- (c) Export Bids are submitted and settled at Scheduling Points, which do not constitute a LAP.

\* \* \*

### **30.5.4 Wheeling Through Transactions.**

A Wheeling Through transaction consists of an Export Bid and an Import Bid that includes: matching Self-Schedules or Economic Bids (i.e. the Export and Import Bid pair must have matching MW quantities for each Trading Hour) and the same Wheeling reference (a unique identifier for each Wheeling Through

transaction). If the Wheeling reference does not match at the time the relevant market closes, the Wheeling Through transaction will be treated as separate Export and Import Bids, as appropriate. If the MW quantities of the Wheel Through transaction do not match at the time the relevant market closes, the Wheel Through transaction will be considered the minimum of the import and export MW quantities submitted.

\* \* \*

### **30.7.2 Timing of CAISO Validation.**

Once a Bid is submitted to the CAISO Markets, the Bid is available for validation, which is conducted in multiple steps. ~~All validation processes and default modifications are performed after Bids are submitted but prior to the Market Close for the relevant Trading Day or Trading Hour.~~ Clean Bids will be generated after Market Close.

### **30.7.3 DAM Validation.**

#### **30.7.3.1 Validation Prior to Market Close and Master File Update.**

The CAISO conducts Bid validation in three steps:

Step 1: The CAISO will validate all Bids after submission of the Bid for content validation which determines that the Bid adheres to the structural rules required of all Bids as further described in the Business Practices Manuals. If the Bid fails any of the content level rules the CAISO shall assign it a rejected status and the Scheduling Coordinator must correct and resubmit the Bid.

Step 2: After the Bids are successfully validated for content, but prior to the Market Close of the DAM, the Bids will continue through the second level of validation rules to verify that the Bid adheres to the applicable CAISO Market rules and if applicable, limits based on Master File data. If the Bid fails any level two validation rules, the CAISO shall assign the Bid as invalid and the Scheduling Coordinator must either correct or resubmit the Bid.

Step 3: If the Bid successfully passes validation in Step 2, it will continue through the third level of validation where the Bid will be analyzed based on its contents to identify any missing Bid components that must be either present for the Bid to be valid consistent with the market rules contained in Article III of this CAISO Tariff and as reflected in the Business Practice Manuals. At this stage the Bid will either be

automatically modified for correctness and assigned a status of conditionally modified or modified, or if it can be accepted as is, the Bid will be assigned a status of conditionally valid, or valid.

~~Some examples of when a~~ Bid will be automatically modified and assigned a status of modified or conditionally modified Bids, whenever the CAISO inserts or modifies a Bid component. The CAISO will insert or modify a Bid component whenever (1) a Self-Schedule quantity is less than the lowest quantity specified as an Economic Bid for either an Energy Bid or Demand Bid, in which case the CAISO extends the Self-Schedule to cover the gap; (2) for non-Resource Adequacy Resources, the CAISO will extend the Energy Bid Curve to cover any capacity in a RUC Bid component, if necessary; and (3) for a Resource Adequacy Resource, the CAISO will extend the Energy Bid Curve to cover any capacity in a RUC Bid component and, if necessary, up to the full registered Resource Adequacy Capacity. The CAISO will generate a Self-Schedule to cover any RUC Award or Day-Ahead Schedule in the absence of any Self-Schedule or Economic Bid components, or to fill in any gaps between any Self-Schedule Bid and any Economic Bid components to cover a RUC Award or Day-Ahead Schedule. To the extent that an Energy Bid to the HASP/RTM is not accompanied by an Ancillary Services Bid, the CAISO will insert an Ancillary Services Bid at \$ 0/MW for any certified Ancillary Services capacity. The CAISO will also generate a Self-Schedule Bid for any Generating Unit that has a Day-Ahead Schedule but has not submitted Bids in HASP/RTM, up to the quantity in the Day-Ahead Schedule.~~include but are not limited to, extension of: (1) a Self-Schedule to the first Energy Bid point in cases where the total Self-Schedule quantity specified in a Bid is lower than the first Energy Bid quantity of the Energy Bid curve; or (2) an Energy Bid Curve range where the Energy Bid Curve submitted does not cover other commodities such as RUC or Ancillary Services for the same resource.~~ Throughout the Bid evaluation process, the Scheduling Coordinator shall have the ability to view the Bid and may choose to ~~either~~ cancel the Bid, modify and re-submit the Bid, or leave the modified, conditionally modified or valid, conditionally valid Bid as is to be processed in the designated CAISO Market.

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### **30.7.3.3 Validation Prior to Market Close and After Master File Update.**

Prior to the Market Close of the DAM, after the Master File data has been updated, all Bids must be re-validated using the same process as described in Section 30.7.3.1 to produce either Valid Bids or

Modified Bids. Throughout this process the Scheduling Coordinator shall have the ability to view the Bid and may choose to re-submit (at which point the Bid would undergo the Bid validation process described in this Section 30.7 again), cancel, or modify the Bid. Valid or Modified Bids that are not re-submitted or cancelled become Clean Bids after the Market Close of the DAM. Modified Bids for Resource Adequacy Resources will reflect the full capability of the resource as defined in the Master File.

#### **30.7.3.4 Validation after Market Close.**

To the extent that Scheduling Coordinators fail to enter a Bid for resource that is required to submit Bids in the full range of available Capacity consistent with the Resource Adequacy provisions of Section 40, the CAISO will create a Bid for the Scheduling Coordinator, which is referred to as the Generated Bid. This does not apply to Load-following MSSs. The Generated Bid will be created only after the Market Close for the DAM and will be based ~~entirely~~ on data registered in the Master File, and, if applicable, published natural gas pricing data. The Scheduling Coordinator may view Generated Bids, but may not modify such Bids. The CAISO will provide notice to the Scheduling Coordinator of the use of a Generated Bid prior to Market Clearing of the IFM. In addition validation of export priority pursuant to Sections 31.4 and 34.10.1 and Wheeling Through transactions pursuant to Section 30.5.4 occur after the Market Close for the DAM.

#### **30.7.4 HASP and RTM Validation.**

The HASP and RTM Bids will ~~follow~~ include the same validation process implemented in the DAM except that the CAISO will not validate the Bid before and again after the Master File Data update. HASP and RTM Bids are only validated based on the current Master File Data on the relevant Trading Day.

#### **30.7.58 Validation of ETC Self-Schedules.**

ETC Self-Schedules shall be validated pursuant to the procedures set forth in Section 16.6.

#### **30.7.69 Validation and Treatment of Ancillary Services Bids.**

##### **30.7.6.1 Validation of Ancillary Services Bids.**

Throughout the validation process described in Section 30.7, the CAISO will verify that each Ancillary Services Bid conforms to the content, format and syntax specified for the relevant Ancillary Service. If the Ancillary Services Bid does not so conform, the CAISO will send a notification to the Scheduling

Coordinator notifying the Scheduling Coordinator of the errors in the Bids as described in Section 30.7. When the Bids are submitted, a technical validation will be performed to verify that the bid quantity of Regulation, Spinning Reserve, or Non-Spinning Reserve does not exceed the available capacity for Regulation, or Operating Reserves on the Generating Units, System Units, Participating Loads and external imports/exports bid. The Scheduling Coordinator will be notified within a reasonable time of any validation errors. For each error detected, an error message will be generated by the CAISO in the Scheduling Coordinator's notification screen, which will specify the nature of the error. The Scheduling Coordinator can then look at the notification messages to review the detailed list of errors, make changes, and resubmit if it is still within the CAISO's timing requirements. The Scheduling Coordinator is also notified of successful validation. If a resource is awarded or has qualified Self-Provided Ancillary Services in the Day-Ahead Market, if no Energy Bid is submitted to cover the awarded or Self-Provided Ancillary Services, the CAISO will generate or extend an Energy Bid as necessary to cover the awarded or Self-Provided Ancillary Services capacity using the registered values in the Master File and relevant fuel prices as described in the Business Practices Manuals. If an AS Bid or Submission to Self-Provide an AS is submitted in the Real-Time for Spinning or Non-Spinning Reserve without an accompanying Energy Bid at all, the AS Bid or Submission to Self-Provide an Ancillary Service will be erased. If an AS Bid or Submission to Self-Provide an AS is submitted in the Real-Time Market for Spinning and Non-Spinning Reserves with only a partial Energy Bid for the AS capacity, the CAISO will generate an Energy Bid for the uncovered portions.

#### **30.7.6.2 Treatment of Ancillary Services Bids.**

When Scheduling Coordinators bid into the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve markets, they may submit Bids for the same capacity into as many of these markets as desired at the same time by providing the appropriate Bid information to the CAISO. The CAISO optimization will evaluate AS Bids simultaneously with Energy Bids. A Scheduling Coordinator may specify that its Bid applies only the markets it desires. A Scheduling Coordinator shall also have the ability to specify different capacity prices for the Spinning Reserve, Non-Spinning Reserve, and Regulation markets. A Scheduling Coordinator providing one or more Regulation Up, Regulation Down, Spinning Reserve or Non-Spinning Reserve services may not change the identification of the Generating

Units offered in the Day-Ahead Market, HASP or in the Real-Time Market for such services unless specifically approved by the CAISO (except with respect to System Units, if any, in which case Scheduling Coordinators are required to identify and disclose the resource specific information for all Generating Units and Participating Loads constituting the System Unit for which Bids and Submissions to Self-Provide Ancillary Services are submitted into the CAISO's Day-Ahead Market and HASP and Real-Time Market.

The following principles will apply in the treatment of Ancillary Services Bids in the CAISO Markets:

- (a) not differentiate between bidders for Ancillary Services and Energy other than through cost, price, effectiveness, and capability to provide the Ancillary Service or Energy, and the required locational mix of Ancillary Services;
- (b) select the bidders with most cost effective Bids for Ancillary Service capacity which meet its technical requirements, including location and operating capability to minimize the costs to users of the CAISO Controlled Grid;
- (c) evaluate the Day-Ahead Bids over the twenty-four (24) Settlement Periods of the following Trading Day along with Energy, taking into transmission constraints and AS Regional Limits;
- (d) evaluate Bids in the HASP and establish Ancillary Service Awards from imports at approximately sixty-five (65) minutes prior to the hour of operation;
- (e) evaluate Import Bids along with internal resource Bids and establish hourly Ancillary Service Awards in the HASP;
- (f) establish Real-Time Ancillary Service Awards from generation internal to the CAISO Control Area at fifteen (15) minutes intervals to the hour of operation; and
- (g) procure sufficient Ancillary Services in the Day-Ahead, HASP, and Real-Time Markets to meet its forecasted requirements.

**30.7.740 Format and Validation of Operational Ramp Rates.**

The submitted  $\theta$ Operational Ramp Rate expressed in megawatts per minute (MW/min) as a function of the operating level, expressed in megawatts (MW), must be a staircase function with up to four segments.

There is no monotonicity requirement for the  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$ . The submitted  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  shall be validated as follows:

- (a) The range of the submitted  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  must cover the entire capacity of the resource, from the minimum to the maximum operating capacity, as registered in the Master File for the relevant resource.
- (b) The operating level entries must match exactly (in number, sequence, and value) the corresponding minimum and maximum  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  breakpoints, as registered in the Master File for the relevant resource.
- (c) If a Scheduling Coordinator does not submit an  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  for a  $g_{\text{Generating}}$   $u_{\text{Unit}}$  for a day, the CAISO shall use the maximum  $f_{\text{Ramp}}$   $f_{\text{Rate}}$  for each operating range set forth in the Master File as the  $f_{\text{Ramp}}$   $f_{\text{Rate}}$  for that unit for that same operating range for the Trading Day.
- (d) The last  $f_{\text{Ramp}}$   $f_{\text{Rate}}$  entry shall be equal to the previous  $f_{\text{Ramp}}$   $f_{\text{Rate}}$  entry and represent the maximum operating capacity of the resource as registered in the Master File. The resulting  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  segments must lie between the minimum and maximum  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$ s, as registered in the Master File.
- (e) The submitted  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  must be the same for each hour of the Trading Day, i.e., the  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  submitted for a given Trading Hour must be the same with the one(s) submitted earlier for previous Trading Hours in the same Trading Day.
- (f) Outages that affect the submitted  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  must be due to physical constraints, reported in SLIC and are subject to CAISO approval. All approved changes to the submitted  $e_{\text{Operational}}$   $f_{\text{Ramp}}$   $f_{\text{Rate}}$  will be used in determination of Dispatch Instructions for the shorter period of the balance of the Trading Day or duration of reported Outage.



- (g) If an Operational Ramp Rate is derated in SLIC, the Ramp Rate will only be to four segments. Ramping capability through Forbidden Operating Regions are not affected by derates entered in SLIC.
- (h) For all CAISO Dispatch Instructions of Reliability Must-Run resources/Units, the Operational Ramp Rate will be the Ramp Rate declared in the Reliability Must-Run Contract Schedule A.

**30.7.844 Format and Validation of Start-Up and Shut-Down Times.**

For a Generating Unit, the submitted Start-Up Time expressed in minutes (min) as a function of down time expressed in minutes (min) must be a staircase function with up to three (3) segments defined by a set of 1 to 4 down time and Start-Up Time pairs. The Start-Up Time is the time required to start the resource if it is offline longer than the corresponding down time. The last segment will represent the time to start the unit from a cold start and will extend to infinity. The submitted Start-Up Time function shall be validated as follows:

- (a) The first down time must be 0 min.
- (b) The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the maximum Start-Up Time function, as registered in the Master File for the relevant resource.
- (c) The Start-Up Time for each segment must not exceed the Start-Up Time of the corresponding segment of the maximum Start-Up Time function, as registered in the Master File for the relevant resource.
- (d) The Start-Up Time function must be strictly monotonically increasing, i.e., the Start-Up Time must increase as down time increases.

For Participating Load, a single Shut-Down time in minutes is the time required for the resource to Shut-Down after receiving a Dispatch Instruction.

**30.7.942 Format and Validation of Start-Up Costs and Shut-Down Costs.**

For a Generating Unit, the submitted Start-Up Cost expressed in dollars (\$) as a function of down time expressed in minutes must be a staircase function with up to three (3) segments defined by a set of 1 to 4

down time and Start-Up Cost pairs. The Start-Up Cost is the cost incurred to start the resource if it is offline longer than the corresponding down time. The last segment will represent the cost to start the resource from cold Start-Up and will extend to infinity. The submitted Start-Up Cost function shall be validated as follows:

- (a) The first down time must be 0 min.
- (b) The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the Start-Up Cost function, as registered in the Master File for the relevant resource as either the Proxy Cost or Registered Cost.
- (c) The Start-Up Cost for each segment must not be negative and must be equal to the Start-Up Cost of the corresponding segment of the Start-Up Cost function, as registered in the Master File for the relevant resource. If a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Master File value as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4. If no value for Start-Up Cost is submitted in a Bid, the CAISO will insert the Master File value, as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4.
- (d) The Start-Up Cost function must be strictly monotonically increasing, i.e., the Start-Up Cost must increase as down time increases.

For Participating Loads, a single Shut Down Cost in dollars (\$) is the cost incurred to Shut-Down Cost the resource after receiving a Dispatch Instruction. The submitted Shut-Down Cost must not be negative.

**30.7.1013      Format and Validation of Minimum Load Costs.**

For a Generating Unit, the submitted Minimum Load Cost expressed in dollars per hour (\$/hr) is the cost incurred for operating the unit at ~~the~~ Minimum Load. The submitted Minimum Load Cost must not be negative and must be equal to the Minimum Load Cost under the Proxy Cost option or Registered Cost option, as registered in the Master File for the relevant resource.

For Participating Loads, the submitted Minimum Load Cost (\$/hr) is the cost incurred while operating the resource at reduced consumption after receiving a Dispatch Instruction. The submitted Minimum Load Cost must not be negative.

**30.814 Prohibition on Bidding Across Out-of-Service Transmission Paths at Scheduling Points.**

Scheduling Coordinators shall not submit any Bids or ETC Self-Schedules at Scheduling Points using a transmission path for any Settlement Period for which the Operating Transfer Capability for that path is zero (0) MW. The CAISO shall reject Bids or ETC Self-Schedules submitted at Scheduling Points where the Operating Transfer Capability on the transmission path is zero (0) MW. If the Operating Transfer Capability of a transmission path at the relevant Scheduling Point is reduced to zero (0) after Day-Ahead Schedules have been issued, then, if time permits, the CAISO shall direct the responsible Scheduling Coordinators to reduce all MWh associated with the Bids on such zero-rated transmission paths to zero (0) in the HASP. As necessary to comply with Applicable Reliability Criteria, the CAISO shall reduce any non-zero HASP Bids across zero-rated transmission paths to zero (0) after the Market Close for the HASP.

\* \* \*

**31.1 Bid Submission and Validation in the Day-Ahead Market.**

Bids, including Self-Schedules and Ancillary Services Bids, and Submissions to Self-Provide an Ancillary Service shall be submitted pursuant to the submission rules specified in Section 30. Scheduling Coordinators submit a single Bid to be used in the DAM, which includes the MPM-RRD, the IFM and RUC. Scheduling Coordinators may submit Bids for the DAM as early as seven (7) days ahead of the targeted Trading Day and up to Market Close of the DAM for the target Trading Day. The CAISO will validate all Bids submitted to the DAM pursuant to the procedures set forth in Section 30.7. Scheduling Coordinators must submit Bids for participation in the IFM for RA Capacity as required in Section 40. ~~Bids for Ancillary Services that are not Submissions to Self-Provide an Ancillary Service in the DAM must also contain a Bid for Energy.~~

**31.2 Market Power Mitigation and Reliability Requirement Determination (MPM-RRD).**

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM-RRD procedures in a series of processing runs that occur prior to the IFM Market-Clearing run. The MPM process determines which Bids need to be mitigated in the IFM. The RRD process is the automated process for determininges RMR requirements for RMR Units. The MPM-RRD process optimizes resources using the same optimization used in the IFM, but instead of using Demand Bids as in the IFM the MPM-RRD process optimizes resources to meet one hundred percent of the CAISO Demand Forecast and Export Bids to the extent the Export Bids are selected in the MPM-RRD process, and meet one hundred percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. The pool of resources committed in the MPM-RRD process is then passed to the IFM to constitute the pool of resources available for commitment in the IFM. The CAISO performs the MPM-RRD for the DAM for the twenty-four (24) hours of the next Trading Day.

\* \* \*

### **31.3 Integrated Forward Market.**

After the MPM-RRD and prior to RUC, the CAISO shall perform the IFM. The IFM performs Unit Commitment and Congestion Management, clears the Energy Bids as modified and in the MPM-RRD, taking into account transmission limits and honoring technical and inter-temporal operating constraints, such as Minimum Run Times, and procures~~ensures that adequate~~ Ancillary Services ~~are procured in the CAISO Control Area~~ to meet one hundred percent (100%)~~percent~~ of the CAISO Forecast of CAISO Demand requirements. The IFM utilizes a set of integrated programs that: (1) determine Day-Ahead Schedules and AS Awards, and related LMPs and ASMPs; and (2) optimally commits resources that are bid in to the DAM. The IFM utilizes a SCUC algorithm that optimizes Start-Up Costs, based on multi-part supply Bids (including a Start-Up Bid, Minimum Load Bid, Costs, and Energy Bids along with any Curve), and a capacity reservation Bids for Ancillary Services as well as Self-Schedules submitted by Scheduling Coordinators. The IFM also provides for the optimal management of Use-Limited Resources. The ELS Resources committed through the ELC Process conducted two days before the day the IFM process is conducted for the next Trading Day as described in Section 31.7 ~~of the CAISO Tariff~~ are binding and the IFM process will model such capacity as capacity that is under a contractual obligation to provide.

#### **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.

### **31.3.1.2 Treatment of Ancillary Services Bids in IFM.**

As provided in Section 8.x.x the CAISO shall co-optimize the Energy and Ancillary Services Bids in clearing the IFM. If an Ancillary Services Bid submitted in the Day-Ahead Market is not accompanied with an Energy Bid for all or part of the Ancillary Services capacity being offered in the Day-Ahead Market, the CAISO shall use either all or part of the Ancillary Services Bid to use the available capacity that is not covered by an Energy Bid and the no opportunity cost is assumed in the co-optimization of Energy and Ancillary Services and for the purposes of calculating the Ancillary Services Marginal Price as specified in Section x.x.x. When the capacity associated with the Energy Bid overlaps with the quantity submitted in the Ancillary Services Bid, then the Energy Bid will be used to determine the opportunity cost, if any, in the co-optimization. In the event that an Energy Bid does accompany an Ancillary Services Bid, to the extent that the Energy Bid does not cover the entire capacity of the resource's output, the Ancillary Services capacity starts at the end of the Energy Bid Curve and the optimization make use of the full

capacity of the resource. Therefore, the capacity that will be considered when co-optimizing the procurement of Energy and Ancillary services from available capacity is any capacity up to the total capacity of the resource offered in the Ancillary Services Bid as derated through SLIC, if at all. In the case of Regulation, the capacity that will be considered is be the capacity of the resource offered in the Ancillary Services Bid up to the upper Regulation limit of the highest Regulating Range as contained in the Master File.

### **31.3.1.32 Reduction of LAP Demand.**

To the extent the CAISO cannot resolve a non-competitive transmission constraint utilizing effective Economic Bids such that Load at the LAP level in the pre-IFM Pass 2 (ACR) would otherwise be adjusted to relieve the constraint, the CAISO will take the following actions in sequence:

1) Step 1: Schedule the Energy from Self-provided Ancillary Service Bids from capacity that is obligated to offer an Energy Bid under a must-offer obligation such as RMR or Resource Adequacy.

Since the otherwise Self-Provided Ancillary Services capacity in question is under a must offer obligation, the associated Energy Bid prices will be either: (a) submitted Energy Bids; or (b) Default Energy Bids to the extent an Energy Bid was not submitted for the Self-Provided Ancillary Services capacity, but not lower than any Energy Bids from the same resource that may have cleared Pre-IFM Pass 1 (ACR).

2) Step 2: In case the measure in Step 1 is insufficient to avoid adjustment of Load at the LAP level, the CAISO will evaluate the validity of the binding transmission constraint and if it is determined that the constraint can be relaxed based on the operating practices, will relax the constraint consistent with operating practices. The CAISO will use the following rules in relaxing the transmission constraints in this step 2:

- (a) No constraints on WECC Rated Paths or interties with adjacent Control Areas would be relaxed.
- (b) Only the transmission constraints that can be mitigated in the Real-Time Market or Real-Time operation are candidates for constraint relaxation. The criteria used to assess whether or not the constraint can be mitigated in Real-Time can include, but are not limited to, the following: (1) there is a Submission to Self-

Provide an Ancillary Service for Operating Reserves from non-RA Resources or non-RMR Units within the transmission constrained Load pocket constrained by the transmission path in question; provided, however, such Submissions to Self- Provide an Ancillary Service cannot be used in Step 1, but is available in Real-Time; (2) Scheduling Coordinators have submitted Self- Schedules for Participating Load in the constrained Load pocket; or (3) there are non-RA Resources and non-RMR Units within the constrained Load pocket that did not participate in the Day-Ahead Market but can be called upon under their Participating Generator Agreement before CAISO curtails firm Load.

- (c) Candidate constraints will be relaxed by assigning a high penalty for constraint violation (as opposed to enforcing them as hard constraints) in this Step 2. Such penalty will be lower than the penalty for curtailing firm (Price Taker) Load.
- (d) The higher of the facility rating or the pre-IFM flows through the facility with relaxed constraints in this Step 2 will be used as hard limits in IFM.
- (e) To avoid unwarranted price impact in IFM, a constraint violation penalty equal to three times the prevailing Energy Bid cap as specified in Section 39.6 will be applied to the constraints relaxed in Step 2 between their operating limit and the relaxed limit determined.
- (f) The information relating to the relaxed constraints will be forwarded to CAISO Operator together with the necessary mitigating measures.

3) ————— Step 3: In case the measures in Step 1 and Step 2 are insufficient, the CAISO may “soften” the LDF constraints on a Node or sub-LAP basis, i.e., adjust Load at individual Nodes or, in aggregate, a group of Nodes to relieve the constraint in such a way that minimizes the quantity of load curtailed. The adjustment to Load at individual Nodes shall be facilitated by adjustment and renormalization of applicable LDFs.

\* \* \*

### **31.5.1 RUC Participation.**

### **31.5.1.1 Capacity Eligible for RUC Participation.**

RUC participation is voluntary for capacity that has not been designated as Resource Adequacy Capacity. Scheduling Coordinators may make such capacity available for participation in RUC by submitting a RUC Availability Bid, provided the Scheduling Coordinator has also submitted an Energy Bid for such Capacity into the IFM. Capacity from Non-Dynamic System Resources that has not been designated Resource Adequacy Capacity is not eligible to participate in RUC. Capacity from resources including System Resources that has been designated as qualified Resource Adequacy Capacity must participate in RUC. RUC participation is required for Resource Adequacy Capacity to the extent that Resource Adequacy Capacity is not committed following the IFM. System Resources eligible to participate in RUC will be considered on an hourly basis; that is, RUC will not observe any multi-hour block constraints and the Energy Limits that may have been submitted in conjunction with Energy Bids to the IFM. RMR Unit capacity will be considered in RUC in accordance with Section 31.5.1.3. MSS resources may participate in RUC in accordance with Section 31.5.2.3. COG resources are accounted for in RUC, but may not submit or be paid RUC Availability Payments. The ELS Resources committed through the ELC Process conducted two days before the day the RUC process is conducted for the next Trading Day as described in Section 31.7 of the CAISO Tariff are binding and the RUC process will model such capacity as capacity that is under a contractual obligation to provide.

\* \* \*

### **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:

To ensure that sufficient RUC Capacity is procured to meet 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.



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 Generation Units, net imports and Participating Loads plus the Minimum Load Energy committed by RUC is not greater than a configurable percentage of the system CAISO Forecast of CAISO Demand.

The CAISO can limit the amount of RUC Capacity it will procure from resources that could otherwise be started during the Operating Day based on operational factors such as: 1) historical confidence that a Short Start Unit actually starts when needed based on the assessment of the CAISO Operators of the historical performance of Short Start Units; 2) need to conserve the number of run-hours and number of starts per year for critical loading periods; and 3) seasonal constraints such as Overgeneration.

The CAISO will verify that the total Day-Ahead Schedules and RUC Capacity from such resources is not greater than a configurable percentage of the total available capacity of all such resources.

\* \* \*

### **33.1 Submission of Bids for the HASP and RTM.**

Scheduling Coordinators may submit Bids that will be used for the HASP and the RTM processes starting from the time Day-Ahead Schedules have been posted until seventy-five (75) minutes prior to each applicable Trading Hour in the Real-Time. The HASP and RTM processes do not accept Demand Bids for CAISO Demand, or Self-Schedules for exports other than those utilizing ETC or TOR rights. Export Bids that are not Self-Schedules may be submitted in HASP. The rules for submitted Bids specified in Section 30 apply to Bids submitted to the HASP and RTM. After the Market Close of the HASP and the RTM the CAISO performs a validation process consistent with the provisions set forth in Section 30.7- and the following additional rules. The CAISO will generate a Self-Schedule to cover any RUC Award or Day Ahead Schedule in the absence of any Self-Schedule or Economic Bid components, or to fill in any gaps between any Self-Schedule Bid and any Economic Bid components to cover a RUC Award or Day-Ahead Schedule. Bids submitted to the HASP and the RTM to supply Energy and Ancillary Services will be considered in the various HASP and RTM processes, including the MPM-RRD process, the HASP optimization, the STUC, the RTUC and the RTD.

\* \* \*

### **34.1 Inputs to the Real-Time Market.**

The RTM utilizes results produced by the DAM and HASP for each Trading Hour of the Trading Day, including the combined commitments contained in the Day-Ahead Schedules, Day Ahead AS Awards, RUC Awards, HASP Intertie Schedules, HASP Self-Schedules, HASP Intertie AS Awards and the MPM-RRD that is run as part of the HASP to determine reliability needs and mitigated bids for each relevant Trading Hour. These results, plus the short-term Demand Forecast, Real-Time Energy Bids, Real-Time Ancillary Service Bids, updated FNM, State-Estimator output, resource outage and de-rate information constitute the inputs to the RTM processes. Bids submitted in HASP for all Generating Units and Participating Load shall be used in the Real-Time Market.

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### **34.2.2 Real-Time Ancillary Services Procurement.**

If the CAISO determines that additional Ancillary Services are required, other than those procured in the DAM and the HASP, the RTUC will procure Ancillary Services on a 15-minute basis as necessary to meet reliability requirements and will determine Real-Time Ancillary Service Interval ASMPs for such AS for the next Commitment Period. All Operating Reserves procured in the RTM are considered Contingency Only Operating Reserves. All Ancillary Service awarded in RTUC will be taken as fixed for the three 5-minute RTD intervals of its target 15-minute interval. In the RTUC, all resources certified and capable of providing Operating Reserves that have submitted Real-Time Energy Bids shall also submit applicable Spin or Non-Spin Reserves Bids, respectively, depending on whether the resource is online or offline. The CAISO will utilize the RTUC to procure Operating Reserves to restore its Operating Reserve requirements in cases when: (1) Operating Reserves awarded in DAM or HASP have been dispatched to provide Energy, (2) resource(s) awarded to provide Operating Reserves in the DAM or HASP or no longer capable of providing such awarded Operating Reserves, or (3) the Operator determines that additional Operating Reserves are necessary to maintain Operating Reserves within WECC/MORC criteria. ~~All resources certified and capable of providing Regulation that have submitted Real Time Energy bids shall also submit applicable Regulation Bids.~~ The CAISO will utilize the RTUC to procure additional Regulation capacity in real-time in cases when: (1) resource(s) awarded to provide Regulation in the DAM or HASP

are no longer capable of providing such awarded Regulation, or (2) the Operator determines that additional Regulation is necessary to maintain sufficient control consistent with NERC/WECC criteria and good utility practice.

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#### **34.3.1 Real-Time Economic Dispatch.**

RTED mode of operation for RTD normally runs every 5 minutes starting at approximately 7.5 minutes prior to the start of the next Dispatch Interval and produces a binding Dispatch Instruction for energy for the next Dispatch Interval and advisory Dispatch Instructions for as many as twelve future Dispatch Intervals over the RTD optimization Time-Horizon of sixty-five (65) minutes. After being reviewed by CAISO Operator, only binding Dispatch Instructions are communicated for the next Dispatch Interval in accordance with Section 6.3. RTED will produce a Dispatch Interval LMP for each PNode for the Dispatch Interval associated with the binding Dispatch Instructions. The RTED dispatch target is the middle of the interval between five (5) minutes boundary points.

\* \* \*

#### **34.8 Dispatch of Energy From Ancillary Services.**

The CAISO may issue Dispatch Instructions to Participating Generators, Participating Loads, System Units and System Resources contracted to provide Ancillary Services (either procured through the CAISO Markets, Self-Provided by Scheduling Coordinators, or dispatched in accordance with the RMR Contract) for the Supply of Energy. During normal operating conditions, the CAISO shall Dispatch those Participating Generators, Participating Loads, System Units and System Resources that have contracted to provide Spinning and Non-Spinning Reserve, except for those reserves designated as Contingency Only, in conjunction with the normal Dispatch of Energy. Contingency Only reserves are Operating Reserve capacity that have been designated, either by the Scheduling Coordinator or the CAISO, as available to supply Energy in the Real-Time only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency. The CAISO may designate any reserve not previously identified as Contingency Only by Scheduling Coordinator as Contingency Only reserves, as necessary to maintain WECC MORC requirements. In the event of an unplanned Outage, a Contingency

or a threatened or actual System Emergency, the CAISO may dispatch Contingency Only reserves. ~~If in such cases the Contingency Only reserves will be~~ are dispatched through the RTCD, which as described in Section 34.3.2 only Dispatches in the event of a Contingency. Such Dispatch and pricing will be based on the original Energy Bids. If Contingency Only reserves are dispatched in response to a System Emergency that has occurred because the CAISO has run out of Economic Bids when no Contingency event has occurred, the RTED will Dispatch such Contingency Only reserves using Maximum Bid Prices as provided in Section 36.9.1 as the Energy Bids for such reserves and will set prices accordingly. If a Participating Generator, Participating Load, System Unit or System Resource that is supplying Operating Reserve is dispatched to provide Energy, the CAISO shall replace the Operating Reserve as necessary to maintain WECC MORC criteria. If the CAISO uses Operating Reserve to meet Real-Time Energy requirements, and if the CAISO needs Operating Reserves to satisfy MORC requirements the CAISO shall restore the Operating Reserves to the extent necessary to meet MORC requirements through either the procurement of additional Operating Reserve in the RTM or the Dispatch of other Energy Bids in SCED to allow the resources that were providing Energy from the Operating Reserve to return to their Dispatch Operating Point. The Energy Bid Curve is not used by the AGC system when Dispatching Energy from Regulation. The upper portion of the resource capacity from its Regulation limit is allocated to Regulation regardless of its Energy Bid Curve. Ffor a resource providing Regulation Up or Operating Reserves the remaining Energy Bid Curve shall be allocated to any RTM AS Awards in the following order from higher to lower capacity where applicable: (a) ~~Regulation Up;~~ (b) Spinning Reserve; and (c) Non-Spinning Reserve. For resources providing Regulation-Up, the applicable upper regulating limit shall be used as the basis of allocation if it is lower than the upper portion of the energy curve. The remaining portion of the Energy Bid Curve, if there is any, shall constitute a Bid for RTM Energy.

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### **34.11.2 Failure to Conform to Dispatch Instructions.**

In the event that, in carrying out the Dispatch Instruction, an unforeseen problem arises (relating to plant operations or equipment, personnel or the public safety), the recipient of the Dispatch Instruction must notify the CAISO or, in the case of a Generator, the relevant Scheduling Coordinator immediately. The relevant Scheduling Coordinator shall notify the CAISO of the problem immediately. If a resource is

unavailable or incapable of responding to a Dispatch Instruction, or fails to respond to a Dispatch Instruction in accordance with its terms, the resource shall be considered to be non-conforming to the Dispatch Instruction unless the resource has notified the CAISO of an event that prevents it from performing its obligations within thirty (30) minutes of the onset of such event through a SLIC log entry. Notification of non-compliance via the Automated Dispatch System (ADS) will not supplant nor serve as the official notification mechanism to the CAISO. If the resource is considered to be non-conforming as described above, the Scheduling Coordinator for the resource concerned shall be subject to Uninstructed Imbalance Energy as specified in Section 11.5.2 and Uninstructed Deviation Penalties as specified in Section 11.23. This applies whether any Ancillary Service concerned are contracted or self-provided. For a Non-Dynamic System Resource Dispatch Instruction prior to the Trading Hour, the Scheduling Coordinator shall inform the CAISO of its ability to conform to a Dispatch Instruction via ADS. The Non-Dynamic System Resource has the option to accept, partially accept, or decline the Dispatch Instruction, but in any case must respond within the timeframe specified in a Business Practice Manual. The Non-Dynamic System Resource can change its response within the indicated timeframe. If a Non-Dynamic System Resource does not respond within the indicated timeframe, the Dispatch Instruction will be considered declined. A decline of such a Non-Dynamic System Resource for a Dispatch Instruction received at least forty (40) minutes prior to the Trading Hour will be subject to Uninstructed Deviation Penalties as specific in Section 11.23. A decline of such a Non-Dynamic System Resource for a Dispatch Instruction received less than forty (40) minutes prior to the Trading Hour will not be subject to Uninstructed Deviation Penalties. A Non-Dynamic System Resource that only partially accepts a Dispatch Instruction is subject to Uninstructed Deviation Penalties for the portion of the Dispatch Instruction that is declined.

When a resource demonstrates that it is not following Dispatch Instructions, the RTM will no longer assume that the resource will ramp from its current output level. The RTM assumes the resource to be "non-compliant" if it is deviating its five (5)-minute ramping capability for more than N intervals by a magnitude determined by the CAISO based on its determination that it is necessary to improve the calculation of the expected Imbalance Energy as further defined in the BPM. When a resource is identified as "non-compliant," RTM will set the Dispatch Operating Target for that resource equal to its

actual output in the Market Clearing software such that the persistent error does not cause excessive AGC action and consequently require CAISO to take additional action to comply with reliability requirements. Such a resource will be considered to have returned to compliance when the resource's State Estimator or Telemetry value (which ever is applicable) is within the above specified criteria. During the time when the resource is "non-compliant", the last applicable Dispatch target shall be communicated to the Scheduling Coordinator as the Dispatch Operating Target. The last applicable Dispatch target may be (i) the last Dispatch Operating Target within the current Trading Hour that was instructed prior to the resource becoming "non-compliant," or (ii) the Day-Ahead Schedule, or (iii) the HASP Self-Schedule depending on whether the resource submitted a Bid and the length of time the resource was non-compliant.

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### **34.13 Treatment of Resource Adequacy Capacity in the Real-Time Market**

#### **Submission.**

~~Bids submitted in HASP for all Generating Resources and Participating Load shall be used in the Real-Time Market. 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.~~ Resource Adequacy

Resources required to offer their Resource Adequacy Capacity in accordance with Section 40 shall be required to submit Energy Bids for: (1) all such Resource Adequacy Capacity and (2) any Ancillary Services capacity awarded or self-provided in the Day-Ahead, the HASP or RTM. In the absence of submitted Bids, as part of the validation described in 30.7, Generated Bids will be used for Resource Adequacy Resources required to offer their Resource Adequacy Capacity in accordance with Section 40.

For any capacity from a Resource Adequacy Resources not required to offer their Resource Adequacy Capacity in accordance with Section 40 that were awarded or self-provided ~~Operating Reserves~~ Ancillary Services capacity must submit an Energy Bid for no less than the amount of awarded or self-provided ~~Ancillary Services~~ Operating Reserve capacity above their Day-Ahead Schedule. Resource Adequacy Resource not required to offer their Resource Adequacy Capacity in accordance with Section 40 may voluntarily submit Energy Bids. Submitted Energy Bids shall be subject to the maximum and minimum Bid requirements and Mitigation Measures as set forth in Section 39.

### **34.15 Rules For Real-Time Dispatch of Imbalance Energy Resources.**

#### **34.15.1 Resource Constraints.**

The SCED shall enforce the following resource physical constraints:

- (a) Minimum and maximum operating resource limits. Outages and limitations due to transmission clearances shall be reflected in these limits. The more restrictive operating or regulating limit shall be used for resources providing Regulation so that the SCED shall not Dispatch them outside their regulating range.
- (b) Forbidden Operating Regions. Resources can only be ramped through these regions. The SCED shall not Dispatch resources within their Forbidden Operating Regions unless at the maximum applicable Ramp Rate to clear the Forbidden Operating Region in consecutive Dispatch Intervals. Resources ramping through a Forbidden Operating Region shall not set LMP at its location and cannot provide Ancillary Services and will not be called upon to provide Ancillary Services, unless the resource can cross the Forbidden Operating Region in less than twenty (20) minutes.
- (c) Operational Ramp Rates and Start-Up Times. The submitted Operational Ramp Rate for resources that are not providing Regulation, and the submitted Regulation Ramp Rate for resources that are providing Regulation shall be used for all Dispatch Instructions. The Ramping Rate for Non-Dynamic System Resources cleared in the HASP will not be observed. Rather the ramp of the Non-Dynamic System Resource respect inter-Control Area ramping conventions established by WECC. Ramp Rates for Dynamic System Resources will be observed like Participating Generators in the RTD. Each Energy Bid shall be Dispatched only up to the amount of Imbalance Energy that can be provided within the Dispatch Interval based on the applicable Operational Ramp Rate or Regulation Ramp Rate. The Dispatch Instruction shall consider the relevant

Start-Up  $\Delta$ Time as, if the resource is off-line, the relevant Ramp Rate function, and any prior commitments such as schedule changes across hours and previous Dispatch Instructions. The Start-Up  $\Delta$ Time shall be determined from the Start-Up  $\Delta$ Time function and when the resource was last shut down. The Start-Up  $\Delta$ Time shall not apply if the corresponding resource is on-line or expected to start. The CAISO Markets optimization considers fast and slow ramping resources. Fast ramping resources can ramp from PMin to PMax based on its Operational Ramp Rate in twenty (20) minutes or less. Slow ramping resource, which take more than twenty (20) minutes to ramp from PMin to PMax based on their Operational Ramp Rate, the CAISO determines whether it is appropriate to procure Ancillary Services or Energy based on the RTUC optimization.

- (d) Maximum Number of Daily Start-Ups. The SCED shall not cause a resource to exceed its daily maximum number of start-ups.
- (e) Minimum Up and Down time. The SCED shall not start up off-line resources before their minimum down time expires and shall not shut down on-line resources before their minimum up time expires.
- (f) Operating (Spinning and Non-Spinning) Reserve. The SCED shall Dispatch Spinning and Non-Spinning Reserve subject to the limitations set forth in Section 34.16.3.
- (g) Non-Dynamic System Resources. If Dispatched, each Non-Dynamic System Resource flagged for hourly pre-dispatch in the next Trading Hour shall be Dispatched to operate at a constant level over the entire Trading Hour. The HASP shall perform the hourly pre-dispatch for each Trading Hour once prior to the Operating Hour. The hourly pre-dispatch shall not subsequently be revised by the SCED and the resulting HASP Intertie Schedules are financially binding and are settled pursuant to section 11.4.
- (h) Daily Energy use limitation to the extent that energy limitation is expressed in a resource's Bid. If the Energy Limits are violated for purposes of Exceptional



Dispatches for System Reliability, the Bid will be settled as provided in Section 11.5.6.1.

\* \* \*

### **34.16 Ancillary Services in the Real-Time Market.**

#### **34.16.1 ~~[NOT USED] Requirement to Submit Energy Bids For Awarded or Self-Provided Ancillary Services Capacity.~~**

~~Scheduling Coordinators for resources that have been awarded or self provide Regulation Up, Spinning Reserve, or Non-Spinning Reserve capacity must submit an Energy Bid for at least all the awarded or self-provided Ancillary Services capacity.~~

\* \* \*

#### **34.16.3.1 Regulation.**

- (a) Regulation provided from Generating Units or System Resources must meet the standards specified in this Tariff and the Part of A of Appendix K;
- (b) The CAISO will Dispatch Regulation in merit order of Bid prices as determined by the EMS. Dispatch of Regulation by EMS does not set the RTM LMP.
- (c) in the event of an unscheduled increase in system Demand or a shortfall in Generation output and Regulation margin drops ~~below a predetermined value~~, the CAISO will use Dispatch Energy in the RTM or Dispatch Operating Reserve, to restore Regulation margin; and
- (d) when scheduled Operating Reserve is used for restoration of Regulation reserve, the CAISO shall arrange for the replacement of that Operating Reserve;

\* \* \*

#### **34.16.4 Inter-hour Dispatch of Resources With Real-Time Energy Bids.**

Dispatch Instructions associated with the ramp between the HASP Bid in one hour to the HASP Bid in the immediately succeeding operating hour shall be determined optimally by the SCED if the CAISO has Bids for either or both relevant operating hours. For any Operating Hour(s) for which Bids have been

submitted Dispatch Instructions will be optimized such that the Dispatch Operating Point is within the Bid range(s). For any Operating Hour without submitted Bids, Dispatch Instructions will be optimized such that the Dispatch Operating Point conforms to the schedule within the Operating Hour. Energy resulting from the Standard Ramp shall be deemed Standard Ramping Energy and will be settled in accordance with ~~Appendix N, Part D-1, Section 11.5.12.4.2~~. Energy resulting from any ramp extending beyond the Standard Ramp will be deemed Ramping Energy Deviation and will be settled in accordance with ~~Appendix N, Part D-1, Section 11.5.12.4.2~~. Energy delivered or consumed as a result of CAISO Dispatch of a resource's Energy Bid in one Operating Hour to a Dispatch Operating Point such that the resource cannot return to its successive Operating Hour Schedule or to an infra-marginal operating point by the beginning of the next Operating Hour is Residual Imbalance Energy and shall be settled as Instructed Imbalance Energy as provided for in ~~Appendix N, Part D-1, Section 11.5.12.4.2~~ and also may be eligible for recovery of its applicable Energy Bid eCosts in accordance with Section 11.8. Similarly, Energy delivered or consumed as a result of CAISO Dispatch of a resource's Energy Bid in a future Operating Hour to a Dispatch Operating Point different from its current Operating Point prior to the end of the current Operating Hour is also considered Residual Imbalance Energy and shall be settled as Instructed Imbalance Energy as provided for in ~~Appendix N, Part D-1, Section 11.5.12.4.2~~ and also may be eligible for recovery of its applicable Energy Bid costs in accordance with Section 11.8. When Ramping Energy Deviation and Residual Imbalance Energy coexist within a given Dispatch Interval, the Ramping Energy Deviation shall be the portion of Instructed Imbalance Energy that is produced or consumed within the schedule-change band defined by the accepted HASP Bids of the two consecutive Settlement Periods; the Residual Imbalance Energy shall be the portion of Instructed Imbalance Energy that is produced or consumed outside the schedule-change band.

#### **34.16.5 Inter-hour Dispatch of Resources Without Real-Time Energy Bids.**

Dispatch Instructions shall be issued for each Dispatch Interval as needed to prescribe the ramp between a resource's accepted HASP Bid in one Trading Hour to its accepted HASP Bid in the immediately succeeding Operating Hour. Such Dispatch Instructions shall be based on the lesser of: (1) the applicable Operational Ramp Rate as provided for in Section 30.10 and (2) the  $\#$ Ramp  $\#$ Rate associated with the Standard Ramp. The Dispatch Instructions for ramping of Generating Units without Real-Time

Energy Bids in both Operating Hours shall ramp the resource between hourly schedules symmetrically across hourly boundaries in twenty (20) to sixty (60) minutes assuming congestion can be resolve utilizing Economic Bids. The minimum twenty (20)-minute ramp is required for smooth hourly schedule changes and is consistent with inter-tie scheduling agreements between Control Areas. Resources with slower Ramp Rates would have longer ramps, and at the extreme, would ramp from the middle of an hour to the middle of the next hour. . Energy resulting from the Standard Ramp shall be deemed Standard Ramping Energy and will be settled in accordance with ~~Appendix N, Part D-1, Section 11.5.12-1.2.~~ Energy resulting from any ramp extending beyond the Standard Ramp will be deemed Ramping Energy Deviation and will be settled in accordance with ~~Appendix N, Part D-1, Section 11.5.12-1.2.~~

### **34.16.6 Intra-Hour Exceptional Dispatches.**

For the special case where an Exceptional Dispatch begins in the new hour and the rules above would result in the violation of the resources inter-temporal constraint(s), the following rules are applied and the Energy is settled as Exceptional Dispatch Energy as described in Section 11.5.6.

- (a) If the ramp time is greater than one hour or greater than what can be achieved when RTM receives the Constraint, RTM starts the ramp at the earliest possible time and continues Ramping the resource in the new Trading Hour.
- (b) If the ramp time results in starting the ramp less than ten (10) minutes before the start of the hour, RTM instead starts the ramp at ten (10) minutes before the start of the hour and ramps the resource at a uniform rate so that it meets the Constraint by the start time of the Exceptional Dispatch.
- (c) If the new hour's Day-Ahead Schedule is beyond the Exceptional Dispatch Constraint, RTM resumes the basic Ramping rules after the Exceptional Dispatch Constraint is met, but limits the Ramp Rate as necessary to ensure that the resource does not complete its ramp before ten (10) minutes after the hour.

### **34.17 Dispatch Information and Instructions.**

#### **34.17.1 Dispatch Information To Be Supplied by the CAISO.**

Communication of Dispatch information provided by the CAISO shall be in accordance with Section 6.3.

### **34.17.2 Dispatch Information To Be Supplied by Scheduling Coordinator.**

Each Scheduling Coordinator shall be responsible for the submission of Bids and Dispatch of Generation and Demand in accordance with its Day-Ahead Schedule. Each Scheduling Coordinator shall keep the CAISO apprised of any change or potential change in the current status of all Generating Units, Interconnection schedules and Inter-SC Trades. This will include any changes in Generating Unit capacity that could affect planned Dispatch and conditions that could affect the reliability of a Generating Unit. Each Scheduling Coordinator shall immediately pass to the CAISO any information which it receives from a Generator which the Generator provides to the Scheduling Coordinator pursuant to Section -36.11.1. Each Scheduling Coordinator shall immediately pass to the CAISO any information it receives from a MSS Operator which the MSS Operator provides to the Scheduling Coordinator regarding any change or potential change in the current status of all Generating Units, System Units, Interconnection schedules and Inter-Scheduling Coordinator Energy Trades. This information includes any changes in MSS System Units and MSS-Generating Unit capacity that could affect planned Dispatch and conditions that could affect the reliability of the System Unit or Generating Unit.

\* \* \*

### **36.4.2 Simultaneous Feasibility.**

The annual and monthly CRR Allocation processes release CRRs to fulfill CRR nominations as fully as possible subject to a Simultaneous Feasibility Test. To the extent that nominations are not simultaneously feasible, the nominations are reduced in accordance with the CRR Allocation optimization formulation until simultaneous feasibility is achieved. The CRR Allocation optimization formulation, detailed in the Business Practice Manuals, reduces nominated CRRs based on effectiveness in relieving overloaded constraints in order to minimize the total MW volume reduction of nominations while achieving simultaneous feasibility. In the event that there are two or more identical nominations for a specific combination of CRR Source and CRR Sink that affect an overloaded constraint, the CRR Allocation optimization formulation cannot distinguish these nominations based on effectiveness and, therefore, the CRR Allocation optimization will award each such Candidate CRR Holder a pro rata share of the CRRs that can be awarded based on each Candidate CRR Holder's nominated MW amounts. In addition to the adjustments in Section 36.4.1, the SFT for each CRR Allocation considers:

- (a) CRRs representing ETCs, Converted Rights and any TOR capacity that was not captured in the adjustments described in Section 36.4, which the CAISO deems necessary to prevent the Congestion Settlement of ETCs, Converted Rights, and TORs from causing revenue inadequacy of allocated and auctioned CRRs;
- (b) In the case of the monthly CRR Allocation, the CRRs already released for that month in the annual CRR Allocation and Auction; and,
- (c) The CRRs allocated in previous CRR Allocation tiers as described in Sections 36.8.3.1 through 36.8.3.6.

The CAISO will be responsible for submitting CRR nominations associated with ETC and CVR Self-Schedules. These nominations will be PTP CRR nominations. The priority weights for these PTP nominations will be given a higher value than the proxy bids associated with the nominations submitted by the CRR Allocation participants. In addition, as further provided in the Business Practice Manual, the CAISO will enforce the following general pro-rationing rules when one or more sources from an MPT nomination compete with a PTP nomination for a limited amount of capacity on a constraint, and the effectiveness on the constraint for each of the competing MPT sources is equal to the effectiveness of the PTP on the constraint. As further provided in the Business Practice Manual, in certain circumstances such as when the CAISO receives a relatively small sink nomination value, could not apply.

- (1) The cleared MW amounts for the PTP and the MPT high priority sources are proportional to their respective nominated MW values;
- (2) The cleared MW amounts for the MPT sources are inversely proportional to the total number of high priority sources in the MPT; and
- (3) PTP sources always have priority over low priority MPT sources.

In the event that transmission Outages and derates modeled for the monthly CRR Allocation and CRR Auction render previously issued Seasonal CRRs infeasible, the CAISO will increase the transfer capacity on the overloaded facilities just enough to render all Seasonal CRRs issued for the month feasible without creating any additional capacity beyond what is needed for the feasibility of the Seasonal CRRs. The CAISO will announce these adjustments to the market prior to conducting the monthly CRR Allocation

and CRR Auction so that Candidate CRR Holders can take these facts into consideration in preparing their nominations and bids.

\* \* \*

## **39.7.2 Competitive Path Designation.**

### **39.7.2.1 Timing of Assessments.**

The CAISO will complete the first assessment of competitiveness of transmission constraints prior to the effective date of this provision. Constraint designations resulting from the first assessment will be applied in the MPM-RRD mechanism on the day this CAISO Tariff becomes effective and will not be changed until a subsequent assessment has been performed. ~~Subsequent annual assessments will be made in each subsequent year to be effective on January 1 of the following year (beginning on January 1, 2009).~~

The CAISO may perform additional competitive constraint assessments during the year if changes in transmission infrastructure, generation resources, or Load, in the CAISO Control Area and adjacent Control Areas suggest material changes in market conditions or if market outcomes are observed that are inconsistent with competitive market outcomes.

### **39.7.2.2 Criteria.**

A transmission constraint, will be deemed competitive if no three unaffiliated suppliers are jointly pivotal in relieving congestion on that constraint. The determination of whether or not the pivotal supplier criteria for an individual constraint are violated will be assessed using the Feasibility Index described in Section ~~39.7.2.4 of this CAISO Tariff~~. Assessment of competitiveness will be performed assuming various system conditions potentially including but not limited to season, load, planned transmission and resource outages. If an individual constraint fails the pivotal supplier criteria under any of these system conditions, the constraint will be deemed uncompetitive for the entire year under all system conditions until a subsequent assessment deems the constraint competitive. In general, a constraint may be an individual transmission line or a collection of lines that create a distinct transmission constraint. For purposes of the competitive assessment, the set of constraints that will be included in the network model are those modeled along with transmission limits to be enforced in the FNM used in clearing the CAISO Markets.

### **39.7.2.3 Candidate Path Identification.**

The first assessment of competitive constraints will be determined prior to the effective date of this provision and will consider all interfaces to neighboring control areas and all inter-zonal interfaces for zones that existed prior to the effective date of this provision to be competitive. The set of candidate constraints that will be evaluated for competitiveness in the initial assessment will be limited to intra-zonal constraints for zones that existed prior to the effective date of this provision, that were managed for Congestion in Real-Time in greater than five hundred (500) hours in the most recent twelve (12)-month period ~~from April 1, 2006 to March 31, 2007. For the second competitive path assessment, the 12-month period of historical data would include a few months of operation before the effective date of this provision and a few months after the effective date of this provision.~~ The Congestion frequency threshold of 500 hours for designation of competitive constraint candidates will be based on the combination of real-time intra-zonal congestion hours that pre-dated the effective date of this provision, and congestion in IFM and Real-Time markets after the effective date of this provision for the twelve (12) months of historical data. Subsequent ~~annual~~ assessments will again consider all pre-existing interfaces to neighboring control areas and all inter-zonal interfaces to be competitive and will not be included in the set of candidate constraints for assessment. The set of candidate constraints will be further reduced to those remaining constraints that were congested or managed for congestion in greater than five hundred (500) hours in the prior twelve (12) months.

#### **39.7.2.4 Feasibility Index.**

The CAISO will perform a pivotal supplier test on all suppliers in the CAISO Control Area for each path to be assessed using the Feasibility Index (FI). Suppliers will be considered in two groups: those suppliers with the largest portfolios will be considered in the preliminary simulations, and any additional suppliers who are likely to be pivotal given the competitive designations from the preliminary simulations. The FI requires solving the network model having removed all internal resources of a supplier and modifying the candidate constraints of the network model such that the flow limits of the set of candidate constraints can be exceeded with a penalty imposed for excess flow. The resulting solution to the network model produces constraint flows that can be used to calculate the FI. The FI is calculated for each constraint as the proportion of the constraint limit that is exceeded to solve the FNM without the specified supplier's supply. FI values less than zero indicate the supplier is pivotal in relieving Congestion on the specified

constraint. The process is repeated by removing the supply portfolio of two and three suppliers for paths with non-negative FI. If any three suppliers are jointly pivotal in relieving congestion on a candidate path, as indicated by an FI value less than zero, the candidate path will be deemed uncompetitive. Otherwise, the candidate path will be deemed competitive. The portfolio of each supplier will be based on ownership information available to the CAISO, taking into account any material transfer of sufficient length that the transfer of control could have persistent impact on the relative shares of supply within the CAISO Control Area. These transfers of control will be utilized in the assessment as provided to the CAISO by the supplier reflecting its triennial filing with FERC for market-based rate authority.

\* \* \*

### **39.8.3 Bid Adder Values.**

The value of the Bid Adder will be either: (i) a unit-specific value determined in consultation with the CAISO or an independent entity selected by the CAISO, or (ii) a default Bid Adder of \$24/MWh. For Generating Units with a portion of their capacity identified as meeting an LSE's Resource Adequacy Requirements, that Generating Unit's Bid Adder value will be reduced by the percent of the Generating Unit's capacity that is identified as meeting an LSE's Resource Adequacy Requirements. The reduced Bid Adder will be applied to that Generating Unit's entire Default Energy Bid Curve.

\* \* \*

### **40.6.1 Day-Ahead Availability.**

Scheduling Coordinators supplying Resource Adequacy Capacity shall make the Resource Adequacy Capacity, except for that subject to Section 40.6.4, available Day-Ahead to the CAISO as follows:

- (1) Resource Adequacy Resources physically capable of operating must submit Economic Bids or Self-Schedules for their Resource Adequacy Capacity into the IFM and RUC.
- (2) Resource Adequacy Resources that are Extremely Long-Start Resources must make themselves available to the CAISO by complying with the Extremely Long-Start Commitment Process under Section 31.7 or otherwise committing the ELS Resource upon instruction from the CAISO, if physically capable.



- (3) Resource Adequacy Resources must be available except for limitations specified in the Master File, legal or regulatory prohibitions, Any inter-temporal constraints such as Minimum Run Times must not be more restrictive than those pre-specified in the Master File limitations or as otherwise required by this CAISO Tariff or by Good Utility Practice.
- (4) Resource Adequacy Resources that do not submit Self-Schedules or Economic Bids reflecting all of their Resource Adequacy Capacity will be subject to the CAISO's optimization for the remainder of their Resource Adequacy Capacity Bids into the Day-Ahead Market. If the Resource Adequacy Resource submits a Bid for Ancillary Service(s), the Energy Bid associated with the Bid for Ancillary Services will be optimized by the CAISO.
- (5) Resource Adequacy Resources must participate in the RUC to the extent that the resource has available Resource Adequacy Capacity that is not reflected in a Self-Schedule is already committed to provide Energy or capacity in the IFM. Resource Adequacy Resources will be subject to RUC and will be optimized at a zero dollar RUC Availability Bid.
- (6) Capacity from Resource Adequacy Resources selected in RUC will not be eligible to receive a RUC Availability Payment.

\* \* \*

### **CAISO TARIFF APPENDIX A Master Definitions Supplement**

\* \* \*

#### **Aggregated Participating Load**

An aggregation ~~at one of two~~ or more Participating Load Locations, created by the CAISO in consultation with the relevant Participating Load, for the purposes of enabling participating of the Participating Load in the CAISO Markets like Generation by submitting Supply Bids when offering Curtailable Demand and as non-Participating Load by submitting Demand Bids to consume in the Day-Ahead Market only.

\* \* \*

**Day-Ahead Bid Awarded Energy**

The Day-Ahead Scheduled Energy above the Day-Ahead Total Self-Schedule and below the Day-Ahead Self-Schedule. The Day-Ahead Bid Awarded Energy is also indexed against the relevant Day-Ahead Energy Bid and sliced by the Energy Bid price. The Day-Ahead Energy Bid Awarded Energy slices are settled as described in Section 11.2.1.1, and they are included in BCR as described in Section 11.8.2.1.5.

\* \* \*

**Day-Ahead Minimum Load Energy**

Day-Ahead Scheduled Energy below the registered Minimum Load, which applies to Generating Units with non-zero Minimum Load. Day-Ahead Minimum Load Energy is settled as provided in Section 11.2.1.1, and it is included in Bid Cost Recovery (BCR) at the relevant IFM Minimum Load Cost as described in Section 11.8.2.1.2.

\* \* \*

**Day-Ahead Pumping Energy**

Negative Day-Ahead Scheduled Energy consumed by Participating Load Pumped-Storage Hydro Units and Pumping Load scheduled in pumping mode in the IFM. When Day-Ahead Pumping Energy is present, there are no other Day-Ahead Scheduled Energy subtypes present. Day-Ahead Pumping Energy is settled as provided in Section 11.2.1.3 and it is included in BCR as described in Sections 11.8.2.1.4 and 11.8.2.2.

\* \* \*

**Day-Ahead Scheduled Energy**

Hourly Energy that corresponds to the flat portions of the hourly Day-Ahead Schedule. It is composed of Day-Ahead Minimum Load Energy, Day-Ahead Self-Scheduled Energy, and Day-Ahead Bid Awarded Energy. It does not include the Day-Ahead Energy that corresponds to the flat schedule when a resource is committed in the Day-Ahead in pumping mode. Expected Energy committed in Day-Ahead pumping mode is accounted for as Day-Ahead Pumping Energy. Day-Ahead Scheduled Energy is settled as specified in Section 11.2.1.1.

\* \* \*

**Day-Ahead Self-Scheduled Energy**

Day-Ahead Scheduled Energy above the registered Minimum Load and below the lower of the Day-Ahead Total Self-Schedule or the Day-Ahead Schedule. Day-Ahead Self-Scheduled Energy is settled as described in Section 11.2.1.1, and, as indicated in Section 11.8.2.1.5, it is not included in BCR.

\* \* \*

**Day-Ahead Total Self-Schedule**

The sum of all Day-Ahead Self-Schedules (except Pumping Load Self-Schedules) in the relevant Clean Bid.

\* \* \*

**DRerate Energy**

Extra-marginal IIE, exclusive of Standard Ramping Energy, Ramping Energy Deviation, Residual Imbalance Energy, MSS Load Following Energy, and Real Time Minimum Load Energy produced or consumed due to Minimum Load overrates or Maximum Capacity derates. Derate Energy is produced above the higher of the Day-Ahead Schedule, the registered Minimum Load, or the HASP Intertie Schedule, and below the lower of the overrated Minimum Load and the Dispatch Operating Point, or consumed below the lower of the Day-Ahead Schedule or the HASP Intertie Schedule, and above the higher of the derated Maximum Capacity or the Dispatch Operating Point. There could be two Derate Energy slices, one for the Minimum Load overrate, and one for the Maximum Capacity derate. Derate Energy does not overlap with Standard Ramping Energy, Ramping Energy Deviation, Residual Imbalance Energy, Real-Time Minimum Load Energy, Exceptional Dispatch Energy, or Optimal Energy, but it may overlap with Day-Ahead Scheduled Energy, HASP Scheduled Energy, and MSS Load Following Energy. Derate Energy is settled as described in Section 11.5.1, and it is not included in BCR as described in Section 11.8.4. -Incremental IIE subsequent to a derate of a Generating Unit's PMax.

\* \* \*

**Exceptional Dispatch Energy**

Extra-marginal IIE, exclusive of Standard Ramping Energy, Residual Energy Deviation, Residual Imbalance Energy, MSS Load Following Energy, Real-Time Minimum Load Energy, and Derate Energy, produced or consumed due to Exceptional Dispatch Instructions that are binding in the relevant Dispatch Interval. Without MSS Load following, Exceptional Dispatch Energy is produced above the LMP index and below the lower of the Dispatch Operating Point or the Exceptional Dispatch Instruction, or consumed below the LMP index and above the higher of the Dispatch Operating Point or the Exceptional Dispatch Instruction. The LMP index is the capacity in the relevant Energy Bid that corresponds to a Bid price equal to the relevant LMP. Exceptional Dispatch Energy does not overlap with Standard Ramping Energy, Ramping Energy Deviation, Residual Imbalance Energy, Real-Time Minimum Load Energy, Derate Energy, or Optimal Energy, but it may overlap with Day-Ahead Scheduled Energy, HASP Scheduled Energy, and MSS Load Following Energy. Exceptional Dispatch Energy is settled as described in Section 11.5.6, and it is not included in BCR as described in Section 11.8.4.

\* \* \*

**Exceptional Dispatch Instruction**

A Dispatch Instruction issued pursuant to Exceptional Dispatch.

\* \* \*

**Expected Energy**

Integrated Energy in a Settlement Interval that includes scheduled Energy and Dispatch Instructions for Imbalance Energy as determined by RTM applications. The total Energy that is expected to be generated or consumed by a resource, based on the Dispatch of that resource, as calculated by the Real-Time Market (RTM), and as finally modified by any applicable Dispatch Operating Point corrections. Expected Energy includes the Energy scheduled in the IFM, and it is calculated the applicable Operating Day. Expected Energy is calculated for Generating Units, System Resources, Resource-Specific System Resources, and Participating Loads. The calculation is based on the Day-Ahead

Schedule and the Dispatch Operating Point trajectory for the three-hour period around the target Trading Hour (including the previous and following hours), the applicable Real-Time LMP for each Dispatch Interval of the target Trading Hour, and any Exceptional Dispatch Instructions. Expected Energy is used as the basis for Settlements.

\* \* \*

**HASP Scheduled Energy**

IIE from a Non-Dynamic System Resource, exclusive of Real-Time Pumping Energy and Real-Time Minimum Load Energy, produced or consumed due to hourly scheduling in the HASP. HASP Scheduled Energy is produced above the higher of the Day-Ahead Schedule or the Minimum Load, and below the HASP Intertie Schedule, or consumed below the Day-Ahead Schedule and above the HASP Intertie Schedule. In the latter case, HASP Scheduled Energy overlaps with Day-Ahead Scheduled Energy; HASP Scheduled Energy does not overlap with Real-Time Pumping Energy or Real-Time Minimum Load Energy, but it may overlap with other IIE subtypes. HASP Scheduled Energy is indexed against the relevant Energy Bid and sliced by service type, depending on the Ancillary Services capacity allocation on the Energy Bid, and by Energy Bid price. HASP Scheduled Energy slices are settled as described in Section 11.4, and they are included in BCR as reflected in Section 11.8.4; provided that if any HASP Scheduled Energy slice below or above the Energy Bid has no associated Energy Bid price, it is not included in BCR as described in Section 11.8.4. For Non-Dynamic System Resources that are designated as MSS Load following resources, HASP Scheduled Energy is considered as MSS Load Following Energy.

\* \* \*

**Minimum Load**

For a Generating Unit, ~~T~~the minimum sustained operating level of a resource at which it can operate at a continuous sustained level. For a Participating Load, the Operating Level at reduced consumption pursuant to a Dispatch Instruction.

\* \* \*

**Minimum Load Costs**

The costs a Generating Unit or a Participating Load incurs operating at Minimum Load, which in the case of Participating Load may not be

negative.

\* \* \*

**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.

\* \* \*

**Non-Overlapping Optimal Energy**

The portions of Optimal Energy that are not Overlapping Optimal Energy, which are indexed against the relevant Energy Bid and sliced by Energy Bid price.

\* \* \*

**Optimal Energy**

Any remaining IIE after accounting for all other IIE subtypes. Optimal Energy does not overlap with Standard Ramping Energy, Ramping Energy Deviation, Residual Imbalance Energy, Real-Time Minimum Load Energy, Derate Energy, and Exceptional Dispatch Energy, but it may overlap with Day-Ahead Scheduled Energy, HASP Scheduled Energy, and MSS Load Following Energy. Optimal Energy is indexed against the relevant Energy Bid and sliced by service type, depending on the AS capacity allocation on the Energy Bid. Optimal Energy is also divided into Overlapping Optimal Energy and Non-Overlapping Optimal Energy. Any Optimal Energy slice below or above the Energy Bid has no associated Energy Bid price, and it is not included in BCR as described in Section 11.x.x.

\* \* \*

**Overlapping Optimal Energy**

The portion of Optimal Energy that overlaps with MSS Load Following Energy.

\* \* \*

**Participating Load**

An entity, including an entity with Pumping Load or Aggregated Participating Load, providing Curtailable Demand, which has undertaken in writing by execution of a Participating Load Agreement to comply with all applicable provisions of the CAISO Tariff, ~~as they may be amended from time to time.~~

\* \* \*

**Qualified Load Following Instruction**

The MSS Load following instruction that is limited by the qualified Load following up or down capacity. The qualified Load following up and down capacity is the Load following capacity that is qualified and limited by whether the resource is derated or is limited by the regulating operating limits if the resource is providing Regulation.

\* \* \*

**Ramping Energy Deviation**

The portion of Imbalance Energy delivered or consumed as the produced or consumed due to deviation from the Standard Ramp because of ramp constraints, Start-Up, or Shut-Down. Ramping Energy Deviation may overlap with Standard Ramping Energy, and both Standard Ramping Energy and Ramping Energy Deviation may overlap with Day-Ahead Scheduled Energy, but with no other IIE subtype. Ramping Energy Deviation may be composed of two parts: a) the part that overlaps with Standard Ramping Energy whenever the DOP crosses the Standard Ramping Energy region; and b) the part that does not overlap with Standard Ramping Energy. The latter part of Ramping Energy Deviation consists only of *extra-marginal* IIE contained within the hourly schedule change band and not attributed to Exceptional Dispatch or derates. Ramping Energy Deviation does not apply to Non-Dynamic System Resources (including Resource-Specific System Resources). Ramping Energy Deviation is settled as described in Section 11.5.1, and it is included in BCR only for market revenue calculations as provided in

~~Section 11.8.1.4.5. difference between the Standard Ramp trajectory and the Dispatch Operating Point that is contained between the Day-Ahead Schedules across consecutive hours and spreads across the hourly boundary~~

\* \* \*

**Real-Time Minimum Load Energy**

IIE, exclusive of Standard Ramping Energy, Ramping Energy Deviation, and Residual Imbalance Energy, produced due to the Minimum Load of a Generating Unit that is committed in the RUC or the RTM and does not have a Day-Ahead Schedule or of a Constrained Output Generator (COG) that is committed in the IFM with a Day-Ahead Schedule below the registered Minimum Load. If the resource is committed in RTM for Load following by an MSS Operator, the Real-Time Minimum Load Energy is accounted as MSS Load Following Energy instead. Real-Time Minimum Load Energy is IIE above the Day-Ahead Schedule (or zero if there is no Day-Ahead Schedule of Energy) and below the registered Minimum Load. Real-Time Minimum Load Energy does not overlap with any other Expected Energy type. Real-Time Minimum Load Energy is settled as described in Section 11.5.1, and it is included in BCR as described in Section 11.8.4.1.2. IIE that is consumed when a resource that is scheduled in the DAM is shut down in the RTM is accounted as HASP Scheduled Energy or Optimal Energy and not as Real-Time Minimum Load Energy.

\* \* \*

**Real-Time Pumping Energy**

IIE from a Participating Load Pumped-Storage Hydro Unit or Pumping Load, exclusive of Standard Ramping Energy and Ramping Energy Deviation, consumed below the Day-Ahead Schedule when dispatched in pumping mode, or produced from pumping operation due to pumping level reduction in Real-Time, including pump shut-down. Real-Time Pumping Energy does not overlap with any other Expected Energy type. Real-Time Pumping Energy is settled as described in Section 11.5.1, and it is included in BCR as described in Section 11.8.4.1.2.

\* \* \*



**Real-Time Self-Scheduled Energy**

The slice of Non-Overlapping Optimal Energy that corresponds to the Real-Time total Self-Schedule.

\* \* \*

**Residual Imbalance Energy**

Extra-marginal IIE produced or consumed at the start or end of a Trading Hour outside the hourly schedule-change band and not attributed to Exceptional Dispatch. Residual Imbalance Energy is due to a Dispatch Instruction in the previous Trading Hour or a Dispatch Instruction in the next Trading Hour. Residual Imbalance Energy may overlap only with Day-Ahead Scheduled Energy. Residual Imbalance Energy does not apply to Non-Dynamic System Resources (including Resource-Specific System Resources). Residual Imbalance Energy is settled as bid, based on the Real-Time Energy Bid of the *reference hour*, as described in Section 11.5.1 and it is not included in BCR as described in Section 11.8.4. The *reference hour* is the previous Trading Hour, if Residual Imbalance Energy occurs at the start of a Trading Hour, or the next Trading Hour, if Residual Imbalance Energy occurs at the end of a Trading Hour. The Instructed Imbalance Energy at the start or end of a Trading Hour and outside the Schedule change band for that Trading Hour that is due to: 1) a Dispatch Instruction that is in the opposite direction of a previously issued Dispatch Instruction in the previous Trading Hour, or 2) a Dispatch Instruction in the next Trading Hour. Residual Imbalance Energy may cross hourly boundaries, in which case the portion that lies between hourly transactions is classified and settled as a Ramping Energy Deviation.

\* \* \*

**RMR Energy**

Total Expected Energy under RMR Dispatch. RMR Energy is calculated independent of other Expected Energy types and it may overlap with any other Expected Energy type. It is used for RMR Contract based settlement as provided in Section 11.13.

\* \* \*

**Shadow Price**

The marginal value of relieving a particular Constraint.

\* \* \*

**Standard Ramping Energy**

~~Imbalance Energy delivered or consumed as the difference between the Day-Ahead Schedules across consecutive hours and the Standard Ramp.~~ produced or consumed in the first two and the last two Dispatch Intervals due to hourly schedule changes. Standard Ramping Energy is a schedule deviation along a linear symmetric twenty (20)-minute ramp (Standard Ramp) across hourly boundaries. Standard Ramping Energy is always present when there is an hourly schedule change, including resource Start-Ups and Shut-Downs. Standard Ramping Energy does not apply to Non-Dynamic System Resources (including Resource-Specific System Resources) and is not subject to Settlement as described in Section 11.5.1.

\* \* \*

## **Attachment B**

Charge Code Number	Charge Code Name	Current BPM Configuration Guide Version #	Current BPM Configuration Guide Version Date
384	High Voltage Wheeling Revenue Payment	1.7	8/10/2007
385	Low Voltage Wheeling Revenue Payment	1.6	8/10/2007
1001	Black Start Energy Payment	1.4	11/6/2007
1302	Long Term Voltage Support Allocation	1.5	10/4/2007
1303	Supplemental Reactive Energy Allocation	1.6	10/4/2007
1353	Black Start Energy Allocation	1.6	11/6/2007
1407	MSS Positive Deviation Penalty	1.5	10/4/2007
1592	EP Penalty Allocation Payment	1.4	11/7/2007
1593	EP Penalty Charge/Allocation for Under or Over Reported Load/Generation	1.6	11/6/2007
2407	MSS Negative Deviation Penalty	1.5	10/4/2007
3101	Black Start Capability Settlement	1.5	11/2/2007
3303	Supplement Reactive Energy Settlement	1.7	10/4/2007
4470	Negative UD Penalty	1.7	8/23/2007
4480	Positive UD Penalty	1.7	8/23/2007
4503	GMC - Core Reliability Services Export Energy	1.2	8/24/2007
4506	GMC - Energy Transmission Services Deviations	1.3	8/24/2007
4507	GMC - Energy Transmission Services Net Energy Injection	1.2	8/24/2007
4511	GMC - Forward Scheduling	1.3	8/24/2007
4512	GMC - Forward Scheduling Inter-SC Trades	1.3	8/24/2007
4513	GMC - Forward Scheduling Inter-SC Trades-PGAB	1.2	8/24/2007
4534	GMC - Market Usage Ancillary Services	1.1	8/24/2007
4535	GMC - Market Usage Instructed Energy	1.1	8/24/2007
4537	GMC - Market Usage Forward Energy	1.2	8/24/2007
4546	GMC - Energy Transmission Services Uninstructed Energy and Market Usage Uninstructed Energy - PIRP	1.2	8/24/2007
4575	GMC - Settlements Metering and Client Relations	1.4	8/10/2007
6011	Day Ahead Energy, Congestion, Loss Settlement	1.8	11/17/2007
6051	HASP Energy, Congestion & Loss Predispached Settlement	1.9	11/6/2007
6090	Ancillary Service Upward Neutrality Allocation	1.8	8/24/2007
6301	Day Ahead Inter-SC Trades Settlement	1.7	8/10/2007
6351	HASP Inter-SC Trades Settlement	1.7	8/10/2007
6474	Real Time Unaccounted for Energy Settlement	1.12	10/18/2007
6477	Real Time Imbalance Energy Offset	1.1	10/18/2007
6480	Excess Cost Neutrality Allocation	1.8	9/21/2007

6486	Real Time Excess Cost for Instructed Energy Allocation	1.8	10/4/2007
6489	Exceptional Dispatch Uplift Allocation	1.7	10/4/2007
6678	Real Time Bid Cost Recovery Allocation	1.5	12/7/106
6700	CRR Hourly Settlement	1.6	10/15/2007
6710	Day Ahead Congestion - AS Spinning Reserve Import Settlement	1.1	10/12/2007
6711	HASP Congestion - AS Spinning Reserve Import Settlement	1.9	9/21/2007
6715	Real Time Congestion - AS Spinning Reserve Import Settlement	1.8	10/29/2007
6720	Day Ahead Congestion - AS Non-Spinning Reserve Import Settlement	1.9	10/12/2007
6721	HASP Congestion - AS Non-Spinning Reserve Import Settlement	1.8	9/21/2007
6722	CRR Prepayment Settlement	1.4	11/7/2007
6725	Real Time Congestion - AS Non-Spinning Reserve Import Settlement	1.8	10/29/2007
6727	CRR Prepayment Remainder Allocation	1.6	11/7/2007
6750	Day Ahead Congestion - AS Regulation Up Import Settlement	1.6	10/12/2007
6755	Real Time Congestion - AS Regulation Up Import Settlement	1.9	10/29/2007
6760	Day Ahead Congestion - AS Regulation Down Export Settlement	1.6	10/12/2007
6765	Real Time Congestion - AS Regulation Down Export Settlement	1.9	10/18/2007
6774	Real Time Congestion Offset	1.7	8/10/2007
6788	RTM Congestion Credit Settlement	1.5	10/11/2007
6790	CRR Balancing Account	1.8	10/9/2007
6798	CRR Auction Transaction Settlement	1.6	10/9/2007
6947	IFM Marginal Losses Surplus Credit Allocation	1.9	10/4/2007
PRE-CALC	System Resource Dynamic Deemed Delivered Energy Quantity	1.6	8/7/2007
PRE-CALC	Ancillary Service	1.7	8/10/2007
PRE-CALC	Start-Up and Minimum Load Cost	1.8	8/10/2007
PRE-CALC	MSS Netting	1.8	8/10/2007
PRE-CALC	Real Time Energy Quantity	1.7	8/10/2007
PRE-CALC	Real Time Price	1.11	8/10/2007
PRE-CALC	Metered Energy Adjustment Factor	1.1	8/24/2007
PRE-CALC	Measured Demand Black Start Excluding Exports	1.7	10/4/2007
PRE-CALC	Measured Demand Emissions Over Control Area Excluding External Exports	1.8	10/4/2007
PRE-CALC	Measured Demand Over Control Area	2.2	10/4/2007
PRE-CALC	Measured Demand Over Control Area Excluding MSS Energy	1.8	10/4/2007
PRE-CALC	Measured Demand Over Control Area Excluding Transmission Loss Adjustment	1.8	10/4/2007
PRE-CALC	System Resource Deemed Delivered Energy Quantity	1.6	10/9/2007

PRE-CALC	IFM Net Amount	1.5	10/18/2007
PRE-CALC	High Voltage Access Charge and Transition Charge	1.12	11/1/2007
PRE-CALC	Allocation of Transmission Losses Under Control Agreements	1.11	11/1/2007
PRE-CALC	High Voltage Wheeling Rates	1.7	11/2/2007
PRE-CALC	HVAC Metered Load	1.9	11/2/2007
PRE-CALC	PTO Allocation	1.8	11/2/2007
PRE-CALC	Wheel Export Quantity	1.9	11/2/2007
PRE-CALC	ETC/TOR/CVR Quantity	1.13	11/6/2007

**Attachment C**

**Business Practice Manuals Technical Conference Compliance Filing**

**November 15, 2007**

Attachment C – Section 8 Roadmap

<b>New Section:</b>	<b>Language:</b>	<b>Moved from Section:</b>
8.3.1 Procurement of Ancillary Services	The amount of Ancillary Services procured in the IFM and HASP and in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand plus HASP Intertie Schedule for the Operating Hour net of (i) Self-Provided Ancillary Services from Generating Units internal to the CAISO Control Area and Dynamic System Resources certified to provide Ancillary Services and (ii) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right. The CAISO will manage both CAISO procured and Self-Provided Ancillary Services as part of the Real-Time Dispatch.	8.1
8.3.1 Procurement of Ancillary Services	The CAISO shall operate a competitive Day-Ahead, HASP, and Real-Time Markets to procure Ancillary Services. The Security Constrained Unit Commitment (SCUC) and Security Constrained Economic Dispatch (SCED) applications used in the Integrated Forward Market (IFM), HASP, and the Real-Time Market (RTM) shall calculate optimal resource commitment, Energy, and Ancillary Services Awards and Schedules at least cost to End-Use Customers consistent with maintaining System Reliability. Any Scheduling Coordinator representing Generating Units, System Units, Loads or imports of System Resources may submit Bids into the CAISO's Ancillary Services markets provided that it is in possession of a current certificate for the Generating Units, System Units, imports of System Resources or Loads concerned.	8.5
8.3.6 Market-Based Prices	Public utilities under the FPA must submit Bids for Ancillary Services capped at FERC authorized cost-based rates unless and until FERC authorizes different pricing. Public utilities under the FPA shall seek FERC Ancillary Services rate approval on bases consistent with the CAISO time-frame for contracting for each Ancillary Service (hourly rate for some Ancillary Services, annual rate or otherwise for other Ancillary Services) so that cost-based Bids and market-based Bids for each service shall be on comparable terms. All other entities may use market-based rates not subject to any restrictions apart from those found in this CAISO Tariff. Public utilities under the FPA which have not been approved to bid at market-based rates will not be paid above their cost-based Bid for the Ancillary Service concerned even if the relevant Market Clearing Price is higher.	8.4.7.1



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<p>8.3.7 Bidding Requirements, Including Submission to Self-Provide an Ancillary Service</p>	<p>Scheduling Coordinators may...from resources located within the CAISO Control Area or Dynamic System Resources certified to provide Ancillary Services, submit Bids for Ancillary Services from resources located outside the CAISO Control Area, or specify Inter-SC Trades of Ancillary Services. Ancillary Services in the Day-Ahead Market, in the HASP, and in the Real-Time Market are comprised of the following: Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve. Each Generating Unit (including Physical Scheduling Plants), System Unit, Participating Load, or System Resource for which a Scheduling Coordinator wishes to submit Ancillary Service Bids must meet the requirements set forth in this CAISO Tariff. The same resource capacity may be offered into more than one CAISO Ancillary Service auction at the same time. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Service can be submitted up to seven (7) days in advance. Ramp Rates will be only used by the CAISO for procuring capacity associated with the specific Ancillary Services. The CAISO will issue Real-Time Dispatch Instructions in the Real-Time Market for the Energy associated with the awarded capacity based upon the applicable Operational Ramp Rate submitted with the single Energy Bid Curve in accordance with Section 30.10. There is no...Ancillary Services. To the extent a Scheduling Coordinator has an on-demand obligation to serve loads outside the CAISO Control Area, it can do so provided that (1) it is using export transmission capacity available in Real-Time, (2) the resource capacity providing Energy to satisfy the on-demand obligation is not under an RMR Contract or Resource Adequacy Capacity obligation, and has not been paid a RUC Availability Payment for the Trading Hour.</p>	<p>8.4.7.2</p>
<p>8.3.7.1 Requirement for Imports of Spinning or Non-Spinning Reserves</p>	<p>Scheduling Coordinators may submit Bids for imports of Spinning Reserve, or Non-Spinning Reserve from System Resources located outside the CAISO Control Area including Dynamic System Resources, where technically feasible and consistent with WECC criteria; and provided that such Scheduling Coordinators have certified to the CAISO their ability to deliver the service to the point of interchange with the CAISO Control Area (including with respect to their ability to make changes, or cause such changes to be made, to interchange schedules during any interval of a Settlement Period at the discretion of the CAISO).</p>	<p>8.4.7.2.1</p>
<p>8.3.7.2 Requirement for Imports of Regulation</p>	<p>Scheduling Coordinators may bid imports of Regulation from System Resources located outside the CAISO Control Area, where technically feasible and consistent with WECC criteria by dynamic scheduling; provided that the operator of the Control Area in which the System Resources are located has entered into an agreement with the CAISO for interconnected Control Area operations; and provided that such Scheduling Coordinator and the operator of the Control Area in which the resources are located have been certified by the CAISO as to their ability to dynamically adjust interchange schedules based on control signals issued by the CAISO anytime during a Settlement Period at the discretion of the CAISO. Such certification shall include a demonstration of their ability to support the dynamic interchange of Regulation service based</p>	<p>8.4.7.2.2</p>

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	on CAISO control signals received on dedicated communications links (either directly or through EMS computers) for CAISO computer control and telemetry to provide this function in accordance with CAISO standards and procedures posted on the CAISO Website.	
8.3.8 Procurement of Voltage Support	<p>As of the CAISO Operations Date, the CAISO will contract for Voltage Support service with the owners of Reliability Must-Run Units. Payments for public utilities under the FPA shall be capped at the FERC authorized cost-based rates unless and until FERC authorizes different pricing. The CAISO shall pay owners of Reliability Must-Run Units for long-term Voltage Support through their Scheduling Coordinators.</p> <p>In addition, any Participating Generator who is producing Energy shall, upon the CAISO's specific request, provide reactive energy output outside the Participating Generator's Voltage Support obligation defined in Section 8.2.3.3. The CAISO shall select Participating Generator's Generating Units which have been certified for Voltage Support to provide this additional Voltage Support. Subject to any locational requirements, the CAISO shall select the least costly Generating Units from a computerized merit order stack to back down to produce additional Voltage Support in each location where Voltage Support is needed.</p> <p>The CAISO shall pay to the Scheduling Coordinator for that Participating Generator the opportunity cost of reducing Energy output to enable reactive energy production. This opportunity cost shall be:  <math>\text{Max } \{0, \text{LMP} - \text{Generating Unit Bid price}\} \times \text{reduction in Energy output (MW)}</math>.</p> <p>If necessary, the CAISO shall develop a regulatory cost-based determination of marginal operating cost to be used in place of the Generating Unit Bid price.</p>	8.5.6.2
8.3.9 Black Start Capability and Energy Output	<p>As of the CAISO Operations Date, the CAISO will contract for Black Start capability and Energy with owners of Reliability Must-Run Units and Black Start Generators. Public utilities under the FPA will be paid rates capped at the FERC authorized cost base rates unless and until FERC authorizes different pricing.</p> <p>The CAISO shall pay owners of Reliability Must-Run Units for Black Start Energy output through their Scheduling Coordinators. The CAISO shall pay Black Start Generators for Black Start Energy output directly.</p>	8.5.6.3
8.5.1 Time Frame for Submitting and Evaluation Ancillary Services Bids	All Ancillary Services Bids must be submitted pursuant to the rules provided in Sections 30.X.X and Section 31.xx and Section 34.x.x.	8.5.1
30.1	Bids for the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve service in the Day Ahead Market must be received by Market Close for the Day-Ahead Market. The Bids shall include information for each of the twenty-four (24) Settlement Periods of the Trading Day. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO.	8.5.2.1
30.1.1	The CAISO will require Scheduling Coordinators to honor their Day-Ahead Ancillary Services Awards when submitting	8.5.2.2

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	Ancillary Services Bids in the HASP. Bids for Regulation Up Regulation Down, Spinning Reserve, and Non-Spinning Reserve service for each Settlement Period must be received at least seventy-five minutes prior to the commencement of that Settlement Period. The Bids shall include information for only the relevant Settlement Period. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO.	
	<b><i>Section deleted entirely due to redundancy with other parts of the tariff.</i></b> <del>8.5.3.1 Information for Use in Day-Ahead Market, HASP and Real Time Market. Bids shall be submitted by Scheduling Coordinators acting for Participating Generators, and owners or operators of Loads. Bids must be in the format specified by the CAISO and include the Bid information for each service described in Section 30 and such other information as the CAISO may determine it requires to evaluate Bids as published from time to time in this CAISO Tariff. The CAISO will verify and respond to submitted Bid data in accordance with Appendix E and the CAISO Protocols. Bidders may submit new Bids on a daily basis (or hourly basis for the HASP and RT Market).</del>	8.5.3.1
	<b><i>Section deleted entirely due to redundancy with other parts of the tariff.</i></b> <del>8.5.3.2 Information for Use in Real-Time Dispatch of Ancillary Services. Scheduling Coordinators must submit Energy Bids for resources providing Spinning and Non-Spinning Reserves.</del>	8.5.3.2
30.9.2	<p>8.5.4 Bid Evaluation Rules.</p> <p>Bid evaluation Ancillary Services Bids shall be pursuant to Section 30.7. The following principles will apply in the treatment of Ancillary Services Bids in the CAISO Markets:</p> <ul style="list-style-type: none"> <li>(a) not differentiate between bidders for Ancillary Services and Energy other than through cost, price, effectiveness, and capability to provide the Ancillary Service or Energy, and the required locational mix of Ancillary Services;</li> <li>(b) select the bidders with most cost effective Bids for Ancillary Service capacity which meet its technical requirements, including location and operating capability to minimize the costs to users of the CAISO Controlled Grid;</li> <li>(c) evaluate the Day-Ahead Bids over the 24 Settlement Periods of the following Trading Day along with Energy, taking into transmission constraints and AS Regional limits;</li> <li>(d) evaluate Bids in the HASP and establish Ancillary Service Awards from Imports at approximately 65 minutes prior to the hour of operation;</li> <li>(e) evaluate import Bids along with internal resource Bids and establish hourly Ancillary Service Awards in the HASP;</li> <li>(f) establish Real-Time Ancillary Service Awards from generation internal to the CAISO Control Area at 15 minutes intervals to the hour of operation; and</li> <li>(g) procure sufficient Ancillary Services in the Day-Ahead, HASP, and Real-Time Markets to meet its forecasted requirements.</li> </ul> <p>8.5.5 Evaluation of Ancillary Services Bids</p> <p>When Scheduling Coordinators bid into the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve markets, they may submit Bids for the same capacity</p>	<p>8.5.4</p> <p>8.5.5</p>

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	<p>into as many of these markets as desired at the same time by providing the appropriate Bid information to the CAISO. The CAISO optimization will evaluate AS Bids simultaneously with Energy Bids. A Scheduling Coordinator may specify that its Bid applies only the markets it desires. A Scheduling Coordinator shall also have the ability to specify different capacity prices for the Spinning Reserve, Non-Spinning Reserve, and Regulation markets. The Bid information set forth below shall be used in the Day-Ahead, HASP and Real-Time procurement of Regulation Up, Regulation Down Spinning Reserve, and Non-Spinning Reserve.</p> <p>A Scheduling Coordinator providing one or more Regulation Up, Regulation Down, Spinning Reserve or Non-Spinning Reserve services may not change the identification of the Generating Units offered in the Day-Ahead Market, HASP or in the Real-Time Market for such services unless specifically approved by the CAISO (except with respect to System Units, if any, in which case Scheduling Coordinators are required to identify and disclose the resource specific information for all Generating Units and Curtailable Demands constituting the System Unit for which Bids and Submissions to Self-Provide Ancillary Services are submitted into the CAISO's Day-Ahead Market and HASP and Real-Time Market.</p>	
	<p><b><i>Section deleted entirely due to redundancy with other parts of the tariff.</i></b> <del>8.5.6 Submission of Ancillary Services Bids. 8.5.6.1 Submission of Bids for Regulation Reserves and Operating Reserves. Scheduling Coordinators must submit Bids for Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve in accordance with the requirements of Section 30.</del></p>	8.5.6.1
	<p><b><i>Section deleted entirely due to redundancy with other parts of the tariff.</i></b> <del>By 6:00 p.m. two days prior to the Trading Day, the CAISO shall make available to Scheduling Coordinators general system information including those items of information set forth in Section 6. This information shall be provided at the same time as the CAISO provides general system information to all Scheduling Coordinators wishing to transmit power on the CAISO Controlled Grid.</del></p>	8.5.1
	<p><b><i>Section deleted entirely due to redundancy with other parts of the tariff.</i></b> <del>Scheduling Coordinators' bidding or self-provision of Ancillary Services according to this Section 8.4.7.2 shall be consistent with the CAISO Tariff, Protocols, and Business Practice Manuals.</del></p>	8.4.7.2.3

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list for the captioned proceedings, in accordance with Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, CA, on this 15<sup>th</sup> day of November, 2007.

/s/ Charity Wilson  
Charity Wilson