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September 13, 2010

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

**Re: California Independent System Operator Corporation
Compliance Filing
Docket No. ER10-765-_____**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Part 35 of the Federal Energy Regulatory Commission's (FERC or the Commission) regulations, 18 C.F.R. Part 35, and consistent with Order No. 714 regarding electronic filing of tariff submittals, the California Independent System Operator Corporation ("ISO") hereby submits this filing in compliance with the Commission's "Order Conditionally Accepting Tariff Changes and Directing Compliance Filing," 132 FERC ¶ 61,045, issued on July 15, 2010 ("PDR Order"). The Commission issued the PDR Order in response to the ISO's submission in this proceeding of an amendment to the ISO tariff ("PDR Tariff Amendment") to implement the Proxy Demand Resource ("PDR") product. Due to the implementation of the new electronic filing of tariff submittals the ISO is required to resubmit the original tariff language to be included into the electronic version of the ISO's Fifth Replacement FERC Electric Tariff.

I. Compliance Filing Directives in the PDR Order

The following compliance areas are presented in the order that the topics appear in Section IV of the PDR Order (Discussion).

1. PDR Order, Discussion Part C, Costs and Settlement, Future Study of Proxy Demand Resources in the ISO Markets

In Part C of the PDR Order, the Commission directed the ISO to undertake a study to determine if the effects of demand response apply more broadly than to the individual Load Serving Entity (“LSE”) in which the Proxy Demand Resource is located. The Commission indicated that the study should include an analysis of 12 months of actual market data, commencing at the time the California Public Utilities Commission (“CPUC”) implements the ratepayer protections and other relevant rules and protocols that the CPUC intends to develop. The Commission further directed the ISO to file the study for informational purposes within 14 months after Proxy Demand Resources begin participating in the ISO market.

The ISO provides the Commission with the following information regarding the CPUC’s Direct Participation Phase of its demand response proceeding, in order to explain that the timeline in that proceeding means that the ISO would probably not file the informational study until at least 14 months after June 2011 (*i.e.*, no earlier than August 2012) or, if full participation does not begin until June 2012, until 14 months after that date (in August 2013). In a June 2010 decision, the CPUC directed the three Investor Owned Utilities (“IOUs”) to undertake pilot activity in 2010, if at all feasible, to bid demand response as Proxy Demand Resources as soon as feasible, upon Commission issuance of an order accepting the Proxy Demand Resource tariff language that the CPUC deemed to be acceptable to it. The decision prohibits further IOU activity from further direct participation by IOU retail customers until a later stage, after the CPUC has issued a subsequent decision establishing ratepayer protections and other relevant rules and protocols. In general, these issues relate to whether CPUC has jurisdiction over direct bidding activities of Demand Response Providers or aggregators of retail customers representing IOU customers, and, assuming so, the development of rules pertaining to consumer protection and settlement and compensation as between the LSEs serving the demand needs of the retail customer and the Demand Response Provider bidding the retail customer as a Proxy Demand Resource.

Accordingly, the CPUC decision provides for the pilot activities (also called “initial participation”) to take place in 2010 and the further issues to be determined in time for “further participation” (non-pilot activities) to begin during the summer of 2010. However, the CPUC’s decision recognizes that it may not be possible for the pilot participation to be completed by summer’s end in 2010 and that the pilot activities might therefore take place in the summer of 2011, with full participation happening thereafter, possibly in the summer of 2012.

2. PDR Order, Discussion Part D (Pro Forma Proxy Demand Resource Agreement)

a. Revisions to *Pro Forma* Proxy Demand Resource Agreement

In Part D of the PDR Order, the Commission accepted the *pro forma* Proxy Demand Resource Agreement included in the PDR Tariff Amendment, subject to the requirements that the ISO revise Sections 4.3 and 8.3 of the *pro forma* Proxy Demand Resource Agreement in order to make it clear that a Demand Response Provider that aggregates the demand response of customers for utilities that distribute: (1) over 4 million MWh in the previous fiscal year must certify (in the case of Section 4.3) and represent and warrant (in the case of Section 8.3) to the ISO that the Demand Response Provider's participation is not prohibited by the local regulatory authority; or (2) 4 million MWh or less in the previous fiscal year must certify (in the case of Section 4.3) and represent and warrant (in the case of Section 8.3) to the ISO that the Demand Response Provider's participation is permitted by the local regulatory authority. The ISO has revised Sections 4.3 and 8.3 of the *pro forma* Proxy Demand Resource Agreement to include these changes.

b. Correction of Typographical Error In a Related Definition

The Commission directed the ISO to correct the definition of the term "Ancillary Service Provider" to replace the word "Response" with "Resource," as the ISO had proposed in the answer to comments and limited protests the ISO filed in this proceeding on March 24, 2010 ("ISO Answer"). The ISO has made the correction to that defined term in Appendix A of the ISO tariff.

3. PDR Order, Discussion Part E, Proxy Demand Response Registration; Revisions to Proxy Demand Resource Registration Requirements

In Part E of the PDR Order, the Commission found that the ISO's proposed language in Section 4.13.2 of the ISO tariff requiring that Proxy Demand Resources receive approval from the applicable LSE to participate in the Proxy Demand Resource product to be inconsistent with Commission Order Nos. 719 and 719-A. The Commission noted that Order No. 719 does not give LSEs discretion to accept or reject the participation of Demand Response Providers and directed the ISO to delete from Section 4.13.2 the ability of LSEs to determine whether a Proxy Demand Resource may participate in the Proxy Demand Resource product.

To comply with this directive, the ISO has revised Section 4.13.2 to state that registration of a location for participation in the Proxy Demand Resource product requires the approval of *the ISO* (rather than approval of the underlying load's LSE and/or Utility Distribution Company ("UDC")). Revised Section 4.13.2 also states that, as part of the submitted registration process, the appropriate Demand Response Provider, designated LSE, and UDC will have an opportunity to review the registration information and provide comments regarding its accuracy.

The ISO agrees with the Commission's statements in the PDR Order that Order No. 719 explains that it is the local regulatory authority that would determine whether a retail customer may participate in the organized wholesale market, and that it would be inconsistent with Order No. 719 to vest such determinations in the LSE. The ISO did not intend the "approval/disapproval" functionality to vest the LSE with any discretion to determine whether the retail customer could participate in PDR. Rather, the ISO had intended the LSE "approval/disapproval" function to be merely administrative, wherein the LSE would confirm to the ISO that the Demand Response Provider had completed whatever steps that the CPUC (or other applicable local regulatory authority, such as a municipality) had put in place when it permitted the retail customer participation, or that the retail customer information that the Demand Response Provider had provided to the ISO was correct. For example, under the PDR product design, the issue of whether, and what, compensation and settlement arrangements should exist between the LSE and the Demand Response Provider will be handled outside of the ISO. This issue will be addressed in Phase 4 of the CPUC's demand response proceeding. At this juncture, the parties to the CPUC Phase 4 proceeding understand that the compensation arrangements are likely to be embodied in a *pro forma* bilateral compensation agreement to be developed and adopted in the proceeding, that the Demand Response Provider and the LSE would be required to execute. In this case, it would be important for registration purposes to confirm that the *pro forma* agreement has been executed.

As revised on compliance, the ISO has endeavored to make this ministerial function more clear by making it express that the LSE interaction in the registration process is limited to confirming facts that the Demand Response Provider has represented to the ISO, so that the ISO may complete registration of the Proxy Demand Resources. If the applicable local regulatory authority requires the execution of a *pro forma* compensation agreement, the LSE will be asked to validate that it has, in fact, executed the agreement with the Demand Response Provider. As another example, the LSE would be asked to validate that the service account number that the Demand Response Provider has supplied is correct. If an LSE cannot validate the information provided by the Demand Response Provider, this will prompt the ISO to follow up with the

Demand Response Provider to obtain the correct information. Thereafter, it will be the function of the ISO to approve the registration.

4. PDR Order, Discussion Part F, Mitigation Measures

a. Inclusion of Customer Baseline Methodology in the ISO Tariff

In the PDR Tariff Amendment, the ISO explained that the determination of actual delivery by each Proxy Demand Resource will be calculated as the difference between actual metered load for the Proxy Demand Resource and the customer baseline for the Proxy Demand Resource. The ISO proposed to calculate the customer baseline pursuant to provisions to be included in its Business Practice Manuals. In Part F of the PDR Order, the Commission rejected the ISO's proposal to include the methodology for calculating the customer baseline in the Business Practice Manuals and directed the ISO to include the methodology in the ISO tariff.

To comply with the Commission's directive, the ISO has added the customer baseline methodology to new Section 4.13.4 of the ISO tariff. The ISO has also modified Sections 4.13.2 and 11.6.1 of the ISO tariff to reference the methodology now set forth in Section 4.13.4.

b. Removal of ISO Tariff Language Regarding Rescission of Payment and Suspension of Market Participants

The ISO, in the PDR Tariff Amendment, proposed to add new Sections 4.13.4 and 11.6.2 to the ISO tariff to provide for the rescission of payments for Demand Response Services not actually provided and temporary suspension of market participation by Proxy Demand Resources. In the PDR Order, the Commission found the language in Sections 4.13.4 and 11.6.2 to be inconsistent with the procedures outlined in Commission's November 19, 2009 order concerning the ISO's Order No. 719 compliance filing in Docket No. ER09-1048 and with the existing ISO tariff. The Commission directed the ISO to revise the proposed tariff language to either (i) include language that specifies in more objective terms the ISO's rescission and suspension authority under Sections 4.13.4 and 11.6.2 or (ii) state that the ISO's Department of Market Monitoring ("DMM") will refer suspected violations of Sections 4.13.4 and 11.6.2 to the Commission.

Having considered the Commission's directives and the existing ISO tariff language, the ISO proposes to remove proposed Sections 4.13.4 and 11.6.2 from the ISO tariff, and to remove a proposed sentence referencing those tariff sections from Section 8.9 of the ISO tariff. The ISO has determined that the tariff

language it is removing is unnecessary. The DMM already has the authority under Section 37.5, Section 37.7 and Appendix P of the existing ISO tariff to refer matters to FERC that involve or may involve either the provision of false information by market participants to the ISO or market manipulation. False information includes information falsely indicating that Demand Response Services were provided, when such Demand Response Services were not actually provided. Such conduct may also potentially constitute market manipulation. Therefore, pursuant to existing ISO tariff authority, the DMM will refer to FERC instances in which a market participant provides information to the ISO that involves or may involve a false indication that Demand Response Services were provided.

5. PDR Order, Discussion Part G, Proxy Demand Resource Measurement Method for Ancillary Services

The ISO explained in this proceeding that it planned to use a “meter-before-meter-after” measurement method for determining whether a Proxy Demand Resource has performed as expected or has failed to perform. In the PDR Order, the Commission found that the ISO did not resolve concerns expressed by the CPUC regarding the use of the meter-before-meter-after measure to verify that a Proxy Demand Resource has provided load curtailment as ancillary services capacity, in particular, with regard to ancillary services requirements lasting longer than one hour. Therefore, the Commission directed the ISO to modify its tariff to include the ISO’s methodology for verifying that a Proxy Demand Resource has provided ancillary service capacity, including tariff provisions that account for ancillary services requirements lasting longer than an hour.

On August 16, 2010, the ISO filed in this proceeding a motion for clarification or, in the alternative, rehearing regarding the Commission’s directive. In the motion for clarification or rehearing, the ISO explained that the directive fails to recognize that: (i) the ISO market rules do not provide for dispatches of ancillary services awards lasting longer than one hour, and (ii) the ISO has submitted a pending tariff amendment to modify its operating and technical requirements for non-spinning reserve to clarify that dispatches of ancillary services awards lasting longer than one hour are not necessary. For these reasons, the ISO explained, the Commission should clarify the PDR Order or, in the alternative, should grant rehearing of the PDR Order to state explicitly that it is unnecessary to include in the ISO tariff a methodology to verify that a PDR has provided ancillary service capacity when dispatches of that capacity last longer than one hour. The ISO also stated that, absent further direction and consistent with the relief requested in the motion for clarification or rehearing, the ISO intended to submit a filing to comply with the PDR Order that did not include a methodology to verify that a PDR has provided ancillary service capacity for

dispatches lasting longer than an hour. For the reasons explained in the ISO's motion for clarification or rehearing, the ISO does not include such a methodology in the instant compliance filing.

II. Attachments to this Compliance Filing

In addition to this transmittal letter, this compliance filing includes Attachments A and B. Attachment A contains clean ISO tariff records reflecting the original language filed as well as the compliance filing changes discussed above. Attachment B shows these modifications in black-line format.

III. Service

The ISO has served copies of this transmittal letter, and all attachments, on the California Public Utilities Commission, the California Energy Commission, and all parties to Docket No. ER10-765. In addition, the ISO is posting this transmittal letter and all attachments on the ISO website.

Please contact the undersigned with any questions concerning this filing.

Respectfully submitted,

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**Attachment A – Clean Tariff
Proxy Demand Resource Tariff Compliance
California Independent System Operator Corporation
Fifth Replacement FERC Electric Tariff
ER10-765-000, ER10-____-000**

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4.2.1 Comply With Dispatch Instructions And Operating Orders

With respect to this Section 4.2, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating Transmission Owners, Participating Generators, Participating Loads, Demand Response Providers, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources shall comply fully and promptly with the Dispatch Instructions and operating orders, unless such operation would impair public health or safety. A Market Participant is not required to comply with a CAISO operating order if it is physically impossible for the Market Participant to perform in compliance with that operating order. Shedding Load for a System Emergency does not constitute impairment to public health or safety. The Market Participant shall immediately notify the CAISO of its inability to perform in compliance with the operating order.

* * *

4.5.1.1.3 Duplicate Information

If two or more Scheduling Coordinators apply simultaneously to register with the CAISO for a single meter or Meter Point for a CAISO Metered Entity or if a Scheduling Coordinator applies to register with the CAISO for a meter or Meter Point for a CAISO Metered Entity for which a Scheduling Coordinator has already registered, the CAISO will return the application with an explanation that only one Scheduling Coordinator may register with the CAISO for the meter or Meter Point in question and that a Scheduling Coordinator has already registered or that more than one Scheduling Coordinator is attempting to register for that meter or Meter Point. The CAISO will send the Scheduling Coordinator Applicant the name and address of the applicable Scheduling Coordinator or Scheduling Coordinator Applicant. Nothing in this Section 4.5.1.1.3 shall prohibit one Scheduling Coordinator from registering with the CAISO to submit Bids for Demand Response Services from a Proxy Demand Resource associated with a given meter (or Meter Point) where a different Scheduling Coordinator is registered for purposes of serving the demand of the Load associated with that meter (or Meter Point).

* * *

4.9.8 Ancillary Services Obligations For MSS

4.9.8.1 Ancillary Services Obligations will be allocated to the Scheduling Coordinator bidding or scheduling Load within a MSS in accordance with the CAISO Tariff. The CAISO shall have the right to call upon the Self-Provided Ancillary Service of a Scheduling Coordinator for an MSS or procured by the CAISO from such Scheduling Coordinator in accordance with the CAISO Tariff. The Scheduling Coordinator representing the MSS Operator may provide a Submission to Self-Provide an Ancillary Service or bid (including self-provide) Ancillary Services from a System Unit or from individual Generating Units or Participating Loads, or Proxy Demand Resources in the MSS. Alternatively, the Scheduling Coordinator representing the MSS may purchase Ancillary Services from the CAISO or third parties to meet all or part of its Ancillary Services Obligations in accordance with the CAISO Tariff.

4.9.8.2 If the MSS Operator desires to follow internal Load with a System Unit or Generating Units in the MSS, and also to provide Regulation to the CAISO, the MSS must provide adequate telemetry consistent with the CAISO Tariff and all applicable standards to allow performance in response to CAISO AGC signals to be measured at the interconnection of the MSS to the CAISO Controlled Grid.

* * *

4.9.12 MSS System Unit

4.9.12.1 A MSS Operator may aggregate one or more Generating Units, Participating Loads and/or Proxy Demand Resources as a System Unit. A System Unit must be modeled as an aggregated Generating Unit and must provide a set of Generation Distribution Factors. Except as specifically provided in the MSS Agreement referred to in Section 4.9.1.1, all provisions of the CAISO Tariff applicable to Participating Generators and to Generating Units (and, if the System Unit includes a Load, to Participating Loads and Proxy Demand Resources), shall apply fully to the System Unit and the Generating Units and/or Loads included in it. The MSS Operator's MSS Agreement with the CAISO in accordance with Section 4.9.1.1 shall obligate the MSS Operator to comply with all provisions of the CAISO Tariff, as amended from time to time, applicable to the System Unit, including, without limitation, the applicable provisions of Sections 4.6.1 and 7.7. In accordance with Section 7.6.1, the CAISO will obtain control over the System Unit, not the individual Generating Unit, except for Regulation, to comply with Section 4.6.

4.9.12.2 Without limiting the generality of Section 4.9.12.1, a MSS Operator that owns or has an entitlement to a System Unit:

4.9.12.2.1 is required to have a direct communication link to the CAISO's EMS satisfying the requirements applicable to Generating Units owned by Participating Generators, Participating Loads or Proxy Demand Resources, as applicable, for the System Unit and the individual resources that make up the System Unit;

4.9.12.2.2 shall provide resource-specific information regarding the Generating Units and Loads comprising the System Unit to the CAISO through telemetry to the CAISO's EMS;

4.9.12.2.3 shall obtain CAISO certification of the System Unit's Ancillary Service capabilities in accordance with Sections 8.4 and 8.9 before the Scheduling Coordinator representing the MSS may self-provide its Ancillary Service Obligations or bid into the CAISO Markets from that System Unit;

4.9.12.2.4 shall provide the CAISO with control over the AGC of the System Unit, if the System Unit is supplying Regulation to the CAISO or is designated to self-provide Regulation;

4.9.12.2.5 shall install CAISO certified meters on each individual resource or facility that is aggregated to a System Unit; and

4.9.12.2.6 shall provide, through the Scheduling Coordinator representing the MSS Operator, Settlement Quality Meter Data for the System Unit's Proxy Demand Resources.

4.9.12.3 Subject to Section 4.9.12.4, the CAISO shall have the authority to exercise control over the System Unit to the same extent that it may exercise control pursuant to the CAISO Tariff over any other Participating Generator, Generating Unit or, if applicable, Participating Load or Proxy Demand Resource, but the CAISO shall not have the authority to direct the MSS Operator to adjust the operation of the individual resources that make up the System Unit to comply with directives issued with respect to the System Unit.

* * *

4.9.13 MSS Elections And Participation In CAISO Markets

MSS Operators must make an election or choice on four (4) issues that govern the manner in which the MSS participates in the CAISO Markets. The MSS Operator must choose either: (i) net Settlements or

gross Settlements, (ii) to Load follow or not Load follow with its generating resources, (iii) to have its Load participate in the RUC procurement process or not have its Load participate in the RUC procurement process; and (iv) whether or not to charge the CAISO for their Emissions Costs as provided in Section 11.7.4. The MSS Operator shall make annual elections regarding these four (4) sets of options pursuant to the timeline specified for such elections in the Business Practice Manuals.

The default for the first twelve (12) months after this Section 4.9.13 and Section 36 become effective shall be: (1) non Load following; (2) gross Settlement; and (3) to opt-in to the RUC procurement process. In subsequent years, the prior year election will be the default if the MSS Operator does not make a timely election, unless the MSS Operator has been found to have violated Load following or RUC opt out requirements and is no longer eligible for making such elections. If the MSS Operator fails to elect net Settlement as specified in Section 11.2.3.2, the default mechanism for all MSS Settlements shall be gross Settlement as specified in Section 11.2.3.1.

The Load following, net or gross Settlement, and RUC procurement elections of an MSS Operator change certain aspects of, but do not preclude, the participation of the MSS in the CAISO Markets. An MSS Operator may: (i) bid to supply Energy to, or purchase Energy from, the CAISO Markets, (ii) bid to provide available capacity in RUC, and (iii) bid or make a Submission to Self-Provide an Ancillary Service from a System Unit or from individual Generating Units, Participating Loads or Proxy Demand Resources within the MSS. An MSS Operator also may purchase Ancillary Services from CAISO or third parties to meet its Ancillary Service Obligations under the CAISO Tariff.

* * *

4.13 Demand Response Providers and Proxy Demand Resources

4.13.1 Relationship Between CAISO and DRPs

The CAISO shall only accept Bids for Energy or Ancillary Services, Submissions to Self-Provide Ancillary Services from Proxy Demand Resources, or Submissions of Energy Self-Schedules from Proxy Demand Resources that have provided Submissions to Self-Provide Ancillary Services, if such Proxy Demand Resources are represented by a Demand Response Provider that has entered into a Proxy Demand Resource Agreement with the CAISO, has accurately provided the information required in the Demand Response System, has satisfied all Proxy Demand Resource registration requirements, and has met

standards adopted by the CAISO and published on the CAISO Website. The CAISO shall not accept submitted Bids for Energy or Ancillary Services from a Demand Response Provider other than through a Scheduling Coordinator, which Scheduling Coordinator may be the Demand Response Provider itself or another entity.

4.13.2 Applicable Requirements for PDRs and DRPs

A single Demand Response Provider must represent each Proxy Demand Resource and may represent more than one (1) Proxy Demand Resource. Each Proxy Demand Resource that is not within a MSS must be associated with a single Load Serving Entity and a single Utility Distribution Company, and each Proxy Demand Resource that is within a MSS must be associated with a single Load Serving Entity. A Demand Response Provider may be, but is not required to be, a Load Serving Entity or a Utility Distribution Company. Each Proxy Demand Resource is required to be located in a single Sub-LAP. All underlying Locations of a Proxy Demand Resource must be located in a single Sub-LAP. The Meter Data for each Proxy Demand Resource will be metered Load data. Each Demand Response Provider is required to satisfy registration requirements and to provide information to allow the CAISO to establish Customer Baselines in accordance with Section 4.13.4 and the applicable Business Practice Manuals. Registration of a Location for participation in Proxy Demand Resources requires the approval of the CAISO resulting from its registration process. As part of the submitted registration process, both the appropriately Demand Response Provider designated Load Serving Entity and Utility Distribution Company will have an opportunity to review the registration Location detail and provide comments with regard to its accuracy. Disputes regarding the acceptances or rejections of a registration of a Location shall be undertaken with the applicable Local Regulatory Authority and shall not be arbitrated or in any way resolved through a CAISO dispute resolution mechanism or process.

4.13.3 Identification of Proxy Demand Resources

Each Demand Response Provider shall provide data, as described in the Business Practice Manual, identifying each of its Proxy Demand Resources and such information regarding the capacity and the operating characteristics of the Proxy Demand Resource as may be reasonably requested from time to time by the CAISO. All information provided to the CAISO regarding the operational and technical

constraints in the Master File shall be accurate and actually based on physical characteristics of the resources.

4.13.4 Customer Baseline Methodologies for PDRs

4.13.4.1 Ten in Ten Non Event Day Selection Method

For each Proxy Demand Resource, the CAISO will calculate the Customer Baseline as follows:

- (a) The CAISO will collect Meter Data for the Proxy Demand Resource for calendar days preceding the Trading Day on which the Demand response event occurred for which the CAISO is calculating the Customer Baseline. To determine the calendar days for which the Meter Data will be collected, the CAISO will work sequentially backwards from the Trading Day under examination up to a maximum of forty-five (45) calendar days prior to the Trading Day, including only Business Days if the Trading Day is a Business Day, including only non-Business Days if the Trading Day is a non-Business Day, and excluding calendar days on which the Proxy Demand Resource was subject to an Outage or previously provided Demand Response Services (other than capacity awarded for AS or RUC), except as discussed below. The CAISO will stop collecting Meter Data for this purpose if and when it is able to collect Meter Data for its target number of calendar days, which target number is ten (10) calendar days if the Trading Day is a Business Day or four (4) calendar days if the Trading Day is a non-Business Day. If the CAISO is unable to collect Meter Data for its target number of calendar days, it will attempt to collect Meter Data for a minimum of five (5) calendar days if the Trading Day is a Business Day or a minimum of four (4) calendar days if the Trading Day is a non-Business Day. If the CAISO is unable to collect Meter Data for the minimum number of calendar days described above, the CAISO will instead collect Meter Data for the calendar days on which the Proxy Demand Resource previously provided Demand Response Services and for which the amount of totalized load was highest during the hours when the Demand Response Services were provided.

- (b) The CAISO will calculate the simple hourly average of the collected Meter Data to determine a baseline amount of Energy provided by the Proxy Demand Resource.
- (c) Unless otherwise requested by the Demand Response Provider and approved by the CAISO, the CAISO will multiply the amount calculated pursuant to Section 4.13.4.1(b) by a percentage equal to the ratio of (i) the average load of the Proxy Demand Resource during the second, third, and fourth hours preceding the hour of the Trading Day on which the Proxy Demand Resource provided the Demand Response Services during the Demand response event to (ii) the average load of the Proxy Demand Resource during the same second, third, and fourth hours of the calendar days for which the CAISO has collected Meter Data pursuant to Section 4.13.4.1(a). The percentage can have a maximum value of one hundred-twenty (120) percent and a minimum value of eighty (80) percent.

* * *

6.3 Communication Of Dispatch Instructions

Normal verbal and electronic communication of Dispatch Instructions between the CAISO and Generators, Participating Loads, or Demand Response Providers will be via the relevant Scheduling Coordinator.

6.3.1 SC Responsibility For Communications To Generator Or Load

Each Scheduling Coordinator must immediately pass on to the Generator, Participating Load, or Demand Response Provider concerned any communication for the Generator, Participating Load, or Demand Response Provider which it receives from the CAISO.

Communication delays by the Scheduling Coordinator may result in Uninstructed Deviation Penalties or other adjustments pursuant to this CAISO Tariff. The CAISO may, with the prior permission of the Scheduling Coordinator concerned, communicate with and give Dispatch Instructions to the operators of Generating Units, Participating Loads, and to Demand Response Providers, directly without having to communicate through their appointed Scheduling Coordinator. In situations of deteriorating system conditions or emergency, the CAISO reserves the right to communicate directly with the Generator(s) and Demand Response Providers as required to ensure System Reliability.

* * *

7.1.3 CAISO Control Center Authorities

The CAISO shall have full authority, subject to this CAISO Tariff, to direct the operation of the facilities referred to in Section 7.1.1 and 7.1.2 including (without limitation), to:

- (a) direct the physical operation by the Participating TOs of transmission facilities under the Operational Control of the CAISO, including (without limitation) circuit breakers, switches, voltage control equipment, protective relays, metering, and Load Shedding equipment;
- (b) commit and dispatch Reliability Must-Run Units, except that the CAISO shall only commit Reliability Must-Run Generation for Ancillary Services capacity according to Section 41;
- (c) order a change in operating status of auxiliary equipment required to control voltage or frequency;
- (d) take any action it considers to be necessary consistent with Good Utility Practice to protect against uncontrolled losses of Load or Generation and/or equipment damage resulting from unforeseen occurrences;
- (e) control the output of Generating Units, Interconnection schedules, and System Resources that are selected to provide Ancillary Services or Energy;
- (f) Dispatch Curtailable Demand and Demand Response Services which have been scheduled to provide Non-Spinning Reserve or Energy from Participating Loads or Proxy Demand Resources;
- (g) procure Energy for a threatened or imminent System Emergency;
- (h) require the operation of resources which are at the CAISO's disposal in a System Emergency, as described in Section 7.7;
- (i) exercise Operational Control of all transmission lines greater than 230kV and associated equipment on the CAISO Controlled Grid;

- (j) exercise Operation Control of all Interconnections; and
- (k) exercise Operational Control of all 230kV and lower voltage transmission lines and associated station equipment identified in the CAISO Register as that portion of the CAISO Controlled Grid.

The CAISO will exercise its authority under this Section 7.1.3 by issuing Dispatch Instructions to the relevant Market Participants using the relevant communications method described in this CAISO Tariff.

* * *

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 NERC and WECC reliability standards, including any requirements of the NRC. 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 HASP, and the RTM consistent with Section 8.3. The provision of Ancillary Services from the Interties with interconnected Balancing Authority 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 Balancing Authority Area over the Interties with interconnected Balancing Authority Areas, except from Dynamic System Resources certified to provide Ancillary Services or if provided pursuant to ETCs, TORs or Converted Rights. 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 and Demand Response Services as well

as for Generation. Bids for Regulation, Spinning Reserve, Non-Spinning Reserve, and Voltage Support may be submitted by a Scheduling Coordinator for other non-generation resources that are capable of providing the specific service and that meet applicable Ancillary Service standards and technical requirements, as set forth in Sections 8.1 through 8.4, and are certified by the CAISO to provide Ancillary Services. The provision of Regulation, Spinning Reserve, Non-Spinning Reserve, and Voltage Support by other non-generation resources is subject to the same requirements applicable to other providers of these Ancillary Services, as set forth in Sections 8.5 through 8.11. 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.

* * *

8.3.1 Procurement Of Ancillary Services

The CAISO shall operate a competitive Day-Ahead Market, 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, Participating Loads, Proxy Demand Resources 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, Participating Loads, or Proxy Demand Resources 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 is based on the CAISO Forecast of CAISO Demand and the forecasted inertia schedules in HASP for the Operating Hour net of (i) Self-Provided Ancillary Services from Generating Units internal to the CAISO Balancing Authority 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 amount of additional Ancillary Services procured in the HASP is based on the CAISO Forecast of CAISO Demand, the Day-Ahead Schedules established net interchange, and the forecast of the intertie schedules for the Operating Hour in the HASP net of (i) available awarded Day-Ahead Ancillary Services, (ii) Self-Provided Ancillary Services from Generating Units internal to the CAISO Balancing Authority Area and Dynamic System Resources certified to provide Ancillary Services, and (iii) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right. The amount of Ancillary Services procured in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand and the HASP Intertie Schedule established net interchange for the Operating Hour net of (i) available awarded Day-Ahead Ancillary Services, (ii) Self-Provided Ancillary Services from Generating Units internal to the CAISO Balancing Authority Area and Dynamic System Resources certified to provide Ancillary Services, (iii) additional Operating Reserves procured in HASP, and (iv) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right.

The CAISO will manage the Energy from 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%) 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 all resources, including imports from Non-Dynamic System Resources in the HASP, and Dynamic System Resources and Generation from internal resources in the Real-Time Market. The amount of Ancillary Services procured in the HASP and Real-Time Market is based upon the CAISO Forecast of CAISO Demand for the Operating Hour and RTUC Time Horizon, respectively, net of Self-Provided Ancillary Services.

The CAISO procurement of Ancillary Services from Non-Dynamic System Resources in the HASP is for the entire next Operating Hour. The CAISO procurement of Ancillary Services from Dynamic System Resources and internal Generation in the Real-Time Market is for a fifteen (15) minute RTUC Time Horizon. The CAISO's procurement of Ancillary Services from Non-Dynamic System Resources in HASP and from Dynamic System Resources and internal Generation in the Real-Time Market is based on the Ancillary Service Bids submitted or generated in the HASP consistent with the requirements in Section

30. The CAISO may also procure Ancillary Services pursuant to the requirements in Section 42.1 and as permitted under the terms and conditions of a Reliability Must-Run Contract.

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.

* * *

8.3.4 Certification And Testing Requirements

The owner of and Scheduling Coordinator for each Generating Unit, System Unit, Dynamic System Resource, Participating Load, or Proxy Demand Resource for which a Bid to provide Ancillary Services or Submission to Self-Provide Ancillary Services is allowed under the CAISO Tariff, and all other System Resources that are allowed to submit a Bid to provide Ancillary Services under this CAISO Tariff, must comply with the CAISO's certification and testing requirements as contained in Appendix K and the CAISO's Operating Procedures. Each Generating Unit, Dynamic System Resource, and System Unit used to bid Regulation or used to self-provide Regulation must have been certified and tested by the CAISO using the process defined in Part A of Appendix K. Each Dynamic System Resource offering Regulation must comply with the Dynamic Scheduling Protocol in Appendix X. Spinning Reserve may be provided only from Generating Units, System Resources that submit Bids to provide Spinning Reserve from imports, or System Units, which have been certified and tested by the CAISO using the process defined in Part B of Appendix K. Non-Spinning Reserve may be provided from Curtailable Demand and Demand Response Services, on-demand rights from other entities or Balancing Authority Areas, Generating Units, System Resources that submit Bids to provide Non-Spinning Reserve from imports, or System Units, which have been certified and tested by the CAISO using the process defined in Part C of Appendix K. Voltage Support may only be provided from resources including Participating Loads, Generating Units, and System Units, which have been certified and tested by the CAISO using the process defined in Part D of Appendix K. Black Start capability may only be provided from Generating Units which have been certified and tested by the CAISO using the process defined in Part E of Appendix

K. CAISO certification to provide Ancillary Services may be revoked by the CAISO under the provisions of this CAISO Tariff, including Appendix K.

* * *

8.3.7 AS Bidding Requirements

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 (i) submit Bids or Submissions to Self-Provide an Ancillary Service from resources located within the CAISO Balancing Authority Area or Dynamic System Resources certified to provide Ancillary Services, (ii) submit Submissions to Self-Provide an Ancillary Service from System Resources located outside the CAISO Balancing Authority Area if provided pursuant to ETCs, TORs, or Converted Rights, (iii) submit Bids for Ancillary Services from Dynamic and Non-Dynamic System Resources located outside the CAISO Balancing Authority Area certified to provide Ancillary Services, or (iv) submit Inter-SC Trades of Ancillary Services. Ancillary Services procured in the IFM and in the Real-Time Market are comprised of the following: Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve. The HASP process evaluates the need for Energy, Regulation and Operating Reserves from System Resources and internal Generating Units and issues binding Ancillary Services awards only for Operating Reserves Ancillary Services from Non-Dynamic System Resources. Each Generating Unit (including Physical Scheduling Plants), System Unit, Participating Load, Proxy Demand Resource, 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 simultaneously offered to the same CAISO Market for multiple Ancillary Services types. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Service can be submitted up to seven (7) days in advance. The CAISO will only use Operating Reserve Ramp Rates 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 30.7.7. 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 Balancing Authority Area, it can do so provided that (1) it is using export transmission capacity available in Real-Time, and (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. All resources subject to the Ancillary Services must offer requirements, as specified in Section 40.6, must submit Bids consistent with the requirements specified therein and in Section 30.

* * *

8.4 Technical Requirements For Providing Ancillary Services

All Generating Units, System Units, Participating Loads, Proxy Demand Resources, and System Resources providing Ancillary Services shall comply with the technical requirements set out in Sections 8.4.1 to 8.4.3 below relating to their operating capabilities, communication capabilities and metering infrastructure. No Scheduling Coordinator shall be permitted to submit a Bid to the CAISO for the provision of an Ancillary Service from a Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource, or to provide a Submission to Self-Provide an Ancillary Service from a Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or Dynamic System Resource, unless the Scheduling Coordinator is in possession of a current certificate issued by the CAISO confirming that the Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource complies with the CAISO's technical requirements for providing the Ancillary Service concerned. Scheduling Coordinators can apply for Ancillary Services certificates in accordance with the requirements for considering and processing such applications in Appendix K and the CAISO's Operating Procedures. The CAISO shall have the right to inspect Generating Units, Participating Loads, Proxy Demand Resources, or the individual resources comprising System Units and other equipment for the purposes of the issue of a certificate and periodically thereafter to satisfy itself that its technical requirements continue to be met. If at any time the CAISO's technical requirements are not being met, the CAISO may withdraw the certificate for the Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource concerned.

8.4.1 Operating Characteristics Required To Provide AS

Each Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource for which a Scheduling Coordinator wishes to submit a Bid to provide Ancillary Services must comply with the requirements for the specific Ancillary Service as set forth in Appendix K and the Business Practice Manual. The requirements in Appendix K and the Business Practice Manuals include Ancillary Service control, capability and availability standards. The requirements also involve the following operating characteristics:

- (a) Ramp Rate increase and decrease (MW/minute);
- (b) power factor (leading and lagging) as required by Section 8.2.3.3;
- (c) maximum output (real and reactive), except that System Resources shall be required to comply only with the requirement for maximum real power;
- (d) minimum output (real and reactive), except that System Resources shall be required to comply only with the requirement for minimum real power;
- (e) AGC capability, control scheme, and range; and
- (f) minimum length of time the resource can be available to provide the relevant Ancillary Service.

In Appendix K and the Business Practice Manuals the CAISO will differentiate the operating characteristics according to the Ancillary Service being provided.

* * *

8.4.5 Communication Equipment

Unless otherwise authorized by the CAISO, all Scheduling Coordinators wishing to submit an Ancillary Service Bid must have the capability to submit to and receive information from the CAISO's secure communication system. In addition, they must be capable of receiving Dispatch Instructions electronically and they must provide the CAISO with a telephone number, or fax number through which Dispatch Instructions for each Generating Unit, System Unit, Participating Load, Proxy Demand Resource, and System Resource may be given if necessary. The CAISO will determine which method of communication is appropriate; provided that the CAISO will consult with the Scheduling Coordinator, if time permits, and will consider the method of communication then utilized by such Scheduling Coordinator; provided further,

that the CAISO shall make the final determination as to the additional communication methods. Participating Generators, owners or operators of Participating Loads, and operators of System Units or System Resources whose resources are scheduled, bid in or under contract, shall ensure that there is a twenty-four (24) hour personal point of contact with the CAISO for the Generating Unit, System Unit, Participating Load or System Resource. Scheduling Coordinators representing Proxy Demand Resources that are scheduled, bid in or under contract shall ensure that there is a twenty-four (24) hour personal point of contact with the CAISO for the Proxy Demand Resource. A Participating Generator, or provider of Curtailable Demand wishing to offer any Ancillary Service must provide a direct ring down voice communications circuit (or a dedicated telephone line available twenty-four (24) hours a day every day of the year) between the control room operator for the Generating Unit or Curtailable Demand providing the Ancillary Service and the CAISO Control Center. Each Participating Generator must also provide an alternate method of voice communications with the CAISO from the control room in addition to the direct communication link required above. Operators of Dynamic System Resources from which Dynamic Schedules or Bids are submitted to the CAISO shall provide communications links meeting CAISO standards for dynamic imports from System Resources. Participating Generators and operators of System Units providing Regulation shall also provide communication links meeting CAISO standards for direct digital control. Operators of System Resources providing Regulation shall provide communications links meeting CAISO standards for imports of Regulation. If any communication system becomes unavailable, the relevant Participating Generators, operators of System Units, Participating Loads, Proxy Demand Resources, and System Resources and the CAISO shall take immediate action to identify the cause of the interruption and to restore the communication system. A Scheduling Coordinator that has provided a Submission to Self-Provide an Ancillary Service, or has submitted a Bid to provide or contracted for Ancillary Services, shall ensure that the Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource concerned is able to receive and implement Dispatch Instructions.

8.4.6 Metering Infrastructure

All Participating Generators, owners or operators of Participating Loads, owners or operators of Proxy Demand Resources, and operators of System Units or System Resources which a Scheduling

Coordinator wishes to bid to provide Ancillary Services shall have the metering infrastructure for the Generating Units, System Units, Participating Loads, Proxy Demand Resources, or System Resources concerned which complies with requirements to be established by the CAISO relating to:

- (a) meter type;
- (b) meter location;
- (c) meter reading responsibility;
- (d) meter capability in regard to AGC response; and
- (e) any other aspect of metering infrastructure required by the CAISO under this CAISO Tariff.

* * *

8.9 Verification, Compliance Testing, And Auditing

Availability of contracted and Self-Provided Ancillary Services and RUC Capacity shall be verified by the CAISO by unannounced testing of Generating Units, Participating Loads, Proxy Demand Resources, and System Resources, by auditing of response to CAISO Dispatch Instructions, and by analysis of the appropriate Meter Data, or Interchange Schedules. The CAISO may test the capability of any Generating Unit, System Unit, System Resource, external import of a System Resource, Participating Load, Proxy Demand Resource, or reactive device providing Ancillary Services or RUC Capacity. Participating Generators, owners or operators of Participating Loads, Scheduling Coordinators representing owners or operators of Proxy Demand Resources, operators of System Units or System Resources, owners or operators of reactive devices and Scheduling Coordinators shall notify the CAISO immediately whenever they become aware that an Ancillary Service or RUC Capacity is not available in any way. All Participating Generators, owners or operators of Participating Loads, Demand Response Providers, operators of System Units or System Resources and owners or operators of reactive devices shall check, monitor and/or test their system and related equipment routinely to assure availability of the committed Ancillary Services and RUC Capacity. These requirements apply to Ancillary Services whether the Ancillary Services are contracted or self-provided. For a duration specified by the CAISO, the CAISO may suspend the technical eligibility certificate of a Scheduling Coordinator for a Generating Unit, System

Unit, Participating Load, Proxy Demand Resource, or System Resource, which repeatedly fails to perform. The CAISO shall develop measures to discourage repeated non-performance on the part of both bidders and self-providers.

* * *

8.9.3 Compliance Testing For Non-Spinning Reserve

8.9.3.1 Compliance Testing: Unit or Resources

The CAISO may test the Non-Spinning Reserve capability of a Generating Unit, Proxy Demand Resource, System Unit or an external import of a System Resource by issuing unannounced Dispatch Instructions requiring the Generating Unit or System Unit to come on line and ramp up or, in the case of a Proxy Demand Resource, to reduce Demand, or, in the case of a System Resource, to affirmatively respond to Real-Time interchange schedule adjustment; all in accordance with the Scheduling Coordinator's Bid. Such tests may not necessarily occur on the hour. The CAISO shall measure the response of the Generating Unit, Proxy Demand Resource, System Unit or external import of a System Resource to determine compliance with its stated capabilities.

8.9.3.2 Compliance Testing of Loads as Resources

The CAISO may test the Non-Spinning Reserve capability of a resource providing Curtailable Demand or Proxy Demand Resource providing Demand Response Services by issuing unannounced Dispatch Instructions requiring the operator of the Participating Load or Demand Response Provider to report the Curtailable Demand of that Participating Load or Demand Response Services of that Proxy Demand Resource actually being served by the operator at the time of the instruction. No Participating Load or Proxy Demand Resource will be disconnected as part of the test conducted pursuant to this Section 8.9.3.2.

* * *

8.9.7 Consequences Of Failure To Pass Compliance Testing

8.9.7.1 Notification of Compliance Testing Results

If a Generating Unit, Participating Load, Proxy Demand Resource, or System Resource fails a compliance test, the CAISO shall notify the Scheduling Coordinator whose resource was the subject of the test and

the provider or owner or operator of the Generating Unit, Participating Load, Proxy Demand Resource, or System Resource providing Ancillary Services or RUC Capacity of such failure by any means as soon as reasonably practicable after the completion of the test. In addition, regardless of the outcome of the test, the CAISO shall provide the Scheduling Coordinator whose resource was subject to a compliance test written notice of the results of such test. The CAISO shall at the same time send a copy of the notice to the provider or owner or operator of the Generating Unit, Participating Load, Proxy Demand Resource, or System Resource providing Ancillary Services or RUC Capacity. For any Resource Adequacy Resource failing a compliance test, the CAISO also will provide notification of the failure to the California Public Utilities Commission, Local Regulatory Authority, or federal agency with jurisdiction over the Load Serving Entity that listed the Resource Adequacy Resource on its Resource Adequacy Plan, and FERC.

* * *

8.9.11 Performance Audit For Non-Spinning Reserve

The CAISO will audit the performance of a Generating Unit, Participating Load, Proxy Demand Resource, or System Resource providing Non-Spinning Reserve by auditing its response to Dispatch Instructions, and by analysis of Meter Data associated with the resource. Such audits may not necessarily occur on the hour. A Generating Unit providing Non-Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability stated in its Bid, and reach the amount of Non-Spinning Reserve capacity under the control of the CAISO scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO. An external import of a System Resource providing Non-Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability stated in its Bid, and reach the amount of Non-Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO. A Participating Load or Proxy Demand Resource providing Non-Spinning Reserve from Curtailable Demand or Demand Response Services shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability stated in its Bid, and reach the amount of Non-Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO.

* * *

8.9.14 Performance Audit For RUC Capacity

The CAISO will audit the performance of a Generating Unit, Participating Load, Proxy Demand Resource, or System Resource providing RUC Capacity by auditing its response to Dispatch Instructions, and by analysis of Meter Data associated with the resource. Such audits may not necessarily occur on the hour. A Generating Unit or Proxy Demand Resource providing RUC Capacity shall be evaluated on its ability to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period. An external import of a System Resource providing RUC Capacity shall be evaluated on its ability to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period.

* * *

8.10 Periodic Testing Of Units

The CAISO shall periodically conduct unannounced tests of resources providing RUC Capacity or Ancillary Services. For RUC Capacity the unannounced tests will confirm the ability of the resource to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period. For Ancillary Services the unannounced tests will confirm the ability of such resources to meet the applicable Ancillary Service standard for performance and control. The CAISO may test Generating Units, System Units, Participating Loads, Proxy Demand Resources, and System Resources in the manner described herein. The frequency of testing shall be within such timeframes as are reasonable under all the circumstances. Scheduling Coordinators shall manage the resulting Energy output if notification of testing permits the Energy to be included in a Bid. If a Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource fails to meet requirements in a test

under this section, the CAISO shall notify the relevant Participating Generator, owner or operator of Participating Loads, Proxy Demand Resources, System Units or System Resources, or Scheduling Coordinator of such failure as soon as reasonably practicable after the completion of the test. Failure to meet requirements shall lead to the penalties described in Section 8.10.7.

* * *

8.10.3 Non-Spinning Reserve

The CAISO may test the Non-Spinning Reserve capability of a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource by issuing unannounced Dispatch Instructions requiring the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource to come on line and ramp up or to reduce Demand to its ten (10) minute capability. The CAISO shall measure the response of the Generating Unit, System Unit, System Resource, Participating Load, or Proxy Demand Resource to determine compliance with requirements. The Scheduling Coordinator for the Generating Unit, System Unit, Participating Load, Proxy Demand Resource or System Resource shall be paid pursuant to Section 11.5.6.

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8.10.6 RUC Capacity

The CAISO may test the capability of a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource to provide RUC Capacity by issuing unannounced Dispatch Instructions requiring the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource to follow the Dispatch Instruction. The CAISO shall measure the response of the Generating Unit, Proxy Demand Resource, System Unit or System Resource to determine compliance with requirements. Such tests may not necessarily occur on the hour. The Scheduling Coordinator for the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource shall be paid the Energy Bid price of the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the output under the RUC test.

8.10.7 Penalties For Failure To Pass Tests

A Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource that fails an availability test, as determined under criteria to be established by the CAISO, shall be deemed not to have been available to provide the RUC Capacity or Ancillary Service concerned or the relevant portion of that service for the entire period the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource was committed to provide the service, unless appropriate documentation (i.e., daily test records) confirming the availability of that service during the committed period(s) is presented to the CAISO. The "committed period" is defined as the total of all the hours/days the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource was scheduled by the CAISO to provide the RUC Capacity or Ancillary Service beginning from: (i) the last successful availability test; or (ii) the last time the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource actually provided Energy or reduced Demand to provide RUC Capacity or provided Energy or reduced Demand as part of the Ancillary Service; whichever results in a shorter committed period. The Scheduling Coordinator for a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource that fails an availability test shall not be entitled to a RUC Availability Payment or payment for the Ancillary Service concerned for the committed period and adjustments to reflect this shall be made in the calculation of payments to the Scheduling Coordinator, provided that any such penalty shall be reduced to reflect any adjustment made over the duration of the committed period under Section 8.10.8 or Section 31.5.7.

System Units providing RUC Capacity or providing Ancillary Services to the CAISO are subject to the same testing, compensation, and penalties as are applied to individual Generating Units providing RUC Capacity or provision of Ancillary Services.

If payments for RUC Capacity or for a particular Ancillary Service in a particular Settlement Period would be rescinded under more than one provision of this Section 8.10.7, the total amount to be rescinded for a particular Ancillary Service in a particular Settlement Period shall not exceed the total payment due in that Settlement Period.

8.10.8 Rescission Of Payments For Ancillary Service Capacity

If Ancillary Services capacity that receives an AS Award or Self-Provided Ancillary Services capacity provided from a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is Undispatchable Capacity, Unavailable Capacity, or Undelivered Capacity during the relevant Settlement Interval, then payments will be rescinded as described in this Section 8.10.8 and settled in accordance with Section 11.10.9. If the CAISO determines that non-compliance of a Participating Load, Proxy Demand Resource, Generating Unit, System Unit or System Resource, with an operating order or Dispatch Instruction from the CAISO, or with any other applicable technical standard under the CAISO Tariff, causes or exacerbates system conditions for which the WECC imposes a penalty on the CAISO, then the Scheduling Coordinator of such Participating Load, Proxy Demand Resource, Generating Unit, System Unit or System Resource shall be assigned that portion of the WECC penalty which the CAISO reasonably determines is attributable to such non-compliance, in addition to any other penalties or sanctions applicable under the CAISO Tariff.

8.10.8.1 Rescission of Payments for Undispatchable Ancillary Service Capacity

The CAISO shall calculate the Real-Time ability of each Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource to deliver Energy from Ancillary Services capacity or Self-Provided Ancillary Services capacity for each Settlement Interval based on its maximum operating capability, actual telemetered output, and Operational Ramp Rate as described in Section 30.10. System Resources that are awarded Ancillary Services capacity in the Day-Ahead Market are required to electronically tag (E-Tag as prescribed by the WECC) the Ancillary Services capacity. If the amounts of Ancillary Services capacity in an electronic tag differ from the amounts of Ancillary Services capacity for the System Resource, the Undispatchable Capacity will equal the amount of the difference, and will be settled in accordance with the provisions of Section 11.10.9.1.

8.10.8.2 Rescission of Payments for Unavailable Ancillary Service Capacity

If the CAISO determines that a Scheduling Coordinator has supplied Uninstructed Imbalance Energy to the CAISO during a Settlement Interval from the capacity of a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource that is obligated to supply Spinning Reserve or Non-Spinning Reserve to the CAISO, payments to the Scheduling Coordinator for the Ancillary Service

capacity used to supply Uninstructed Imbalance Energy shall be eliminated to the extent of the deficiency, in accordance with the provisions of Section 11.10.9.2.

8.10.8.3 Rescission of Payments for Undelivered Ancillary Service Capacity

For each Settlement Interval in which a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource fails to supply Energy from Spinning Reserve or Non-Spinning Reserve capacity in accordance with a Dispatch Instruction, or supplies only a portion of the Energy specified in the Dispatch Instruction, the capacity payment will be reduced to the extent of the deficiency, in accordance with the provisions of Section 11.10.9.3.

* * *

10.3.2.1 Duty to Provide Settlement Quality Meter Data

Scheduling Coordinators shall be responsible for: (i) the collection of Meter Data for the Scheduling Coordinator Metered Entities it represents; (ii) the provision of Settlement Quality Meter Data to the CAISO; and (iii) ensuring that the Settlement Quality Meter Data supplied to the CAISO meets the requirements of Section 10. Scheduling Coordinators shall provide the CAISO with Settlement Quality Meter Data for all Scheduling Coordinator Metered Entities served by the Scheduling Coordinator no later than the day specified in Section 10.3.6. Each Scheduling Coordinator for a Demand Response Provider shall aggregate the Settlement Quality Meter Data of the underlying Proxy Demand Resource to the level of the registration configuration of the Proxy Demand Resource in the Demand Response System. Settlement Quality Meter Data for Scheduling Coordinator Metered Entities shall be either (1) an accurate measure of the actual consumption of Energy by each Scheduling Coordinator Metered Entity in each Settlement Period; (2) for Scheduling Coordinator Metered Entities connected to a UDC Distribution System and meeting that Distribution System's requirement for Load profiling eligibility, a profile of that consumption derived directly from an accurate cumulative measure of the actual consumption of Energy over a known period of time and an allocation of that consumption to Settlement Periods using the applicable Approved Load Profile; or (3) an accurate calculation by the Scheduling Coordinator representing entities operating pursuant to Existing Contracts.

* * *

10.3.6.1 Timing of Settlement Quality Meter Data Submission for Calculation of Initial Settlement Statement T+7B.

Scheduling Coordinators must submit Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for the Scheduling Coordinator Metered Entities they represent to the CAISO no later than noon on the fifth Business Day after the Trading Day (T+5B) for the Initial Settlement Statement T+7B calculation. Scheduling Coordinators cannot submit Estimated Settlement Quality Meter Data for Proxy Demand Resources.

- (a) In the absence of Actual Settlement Quality Meter Data, Scheduling Coordinators may submit Scheduling Coordinator Estimated Settlement Quality Meter Data using interval metering when available, sound estimation practices, and other available information including, but not limited to, bids, schedules, forecasts, temperature data, operating logs, recorders, and historical data. Scheduling Coordinator Estimated Settlement Quality Meter Data must be a good faith estimate that reasonably represents Demand and/or Generation quantities for each Settlement Period.
- (b) When Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received by the CAISO for a Scheduling Coordinator Metered Entity within five (5) Business Days from the Trading Day (T+5B), the CAISO will estimate the entity's Settlement Quality Meter Data for any outstanding metered Demand and/or Generation, excluding a Proxy Demand Resource, for use in the Initial Settlement Statement T+7B calculation, as provided in Section 11.1.5.

* * *

11.1.5 Settlement Quality Meter Data For Initial Statement T+7B

The CAISO's Initial Settlement Statement T+7B shall be based on the Settlement Quality Meter Data (actual or Scheduling Coordinator estimated) received in SQMDS. In the event Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received from a Scheduling Coordinator or CAISO Metered Entity, the CAISO will estimate Settlement Quality Meter Data

for that outstanding metered Demand or Generation, excluding a Proxy Demand Resource, for the Initial Settlement Statement T+7B calculation.

- (a) CAISO Estimated Settlement Quality Meter Data for metered Generation will be based on total Expected Energy and dispatch of that resource as calculated in the Real-Time Market and as modified by any applicable corrections to the Dispatch Operating Point for the resource.
- (b) CAISO Estimated Settlement Quality Meter Data for metered Demand will be based on Scheduled Demand by the appropriate LAP. This value will be increased by fifteen percent (15%) if the total actual system Demand in Real Time, as determined by the CAISO each hour, is greater than the total estimated metered demand by more than fifteen percent (15%). Total estimated metered demand is the sum of the value of Scheduling Coordinator submitted metered Demand, CAISO polled estimated Settlement quality metered Demand, and Scheduled Demand for unsubmitted metered Demand at the fifth (5) Business Day after the Trading Day (T+5B). CAISO Estimated Settlement Quantity Meter Demand for Participating Load will not be increased by fifteen percent (15%).
- (c) CAISO will not estimate Settlement Quality Meter Data for Proxy Demand Resources.

* * *

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, Proxy Demand Resources, 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).

* * *

11.2.2.2.1 Undispatchable RUC Capacity

If a Scheduling Coordinator has Undispatchable Capacity that it is obligated to supply to the CAISO during a Settlement Interval, the RUC Availability Payment, if applicable for any non-Resource Adequacy Capacity, for the amount of Energy that cannot be delivered from the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the Settlement Interval shall be rescinded.

If a Partial Resource Adequacy Resource is providing RUC Capacity from both the non-Resource Adequacy Capacity and the Resource Adequacy Capacity the payment rescission will occur for the non-Resource Adequacy Capacity prior to eliminating any capacity for the Resource Adequacy Capacity of the Partial Resource Adequacy Resource.

11.2.2.2 Undelivered RUC Capacity

For each Settlement Interval in which the total metered output for a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is less than Real-Time Expected Energy by more than the Tolerance Band and less than the RUC Schedule, the RUC Award for that Settlement Interval will be rescinded.

* * *

11.5.2 Uninstructed Imbalance Energy

Scheduling Coordinators shall be paid or charged a UIE Settlement Amount for each LAP, PNode or Scheduling Point for which the CAISO calculates a UIE quantity. UIE quantities are calculated for each resource that has a Day-Ahead Schedule, Dispatch Instruction, Real-Time Interchange Export Schedule or Metered Quantity. For MSS Operators electing gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the UIE for such entities is settled similarly to how UIE for non-MSS entities is settled as provided in this Section 11.5.2. The CAISO shall account for UIE in two categories: (1) Tier 1 UIE is accounted as the quantity deviation from the resource's IIE; and (2) Tier 2 UIE is accounted as the quantity deviation from the resource's Day-Ahead Schedule or as described in Section 11.2.5.4. For Generating Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources and all Participating Load and Proxy Demand Resources, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Resource-Specific Tier 1 UIE Settlement Interval Price as calculated per Section 11.5.2.1, and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the

product of its Tier 2 UIE quantity and the simple average of the relevant Dispatch Interval LMPs. For resources within a System Unit of MSS Operators that have elected net Settlement, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Real-Time Settlement Interval MSS Price and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price. The Tier 2 UIE Settlement Amount for non-Participating Load and MSS Demand under gross Settlement is settled as described in Section 11.5.2.2. For MSS Operators that have elected net Settlement, the Tier 2 UIE Settlement Amount for Demand of a net MSS Demand is calculated for the Trading Hour as the sum of the product of the hourly Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price.

* * *

11.5.2.4 Adjustment to Metered Load to Settle UIE

For the purpose of settling Uninstructed Imbalance Energy of a Scheduling Coordinator representing a Load Serving Entity, the amount of PDR Energy Measurement delivered by a Proxy Demand Resource that is also served by that Load Serving Entity will be added to the metered load quantity of the Load Serving Entity's Scheduling Coordinator's Load Resource ID with which the Proxy Demand Resource is associated.

* * *

11.5.4.1 Application and Calculation of Dispatch Interval LMPs

Payments to Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected gross Settlement, that supply Imbalance Energy will be based on Resource-Specific Settlement Interval LMPs. The Resource-Specific Settlement Interval LMPs are established using Dispatch Interval LMPs. Dispatch Interval LMPs will apply to Generating Units, System Units for MSS Operators that have elected gross Settlement, Physical Scheduling Plants, Dynamic System Resources, the Demand response portion of a Participating Load, and Proxy Demand Resources for Settlement of Imbalance Energy. The Dispatch Interval LMP will be calculated at each PNode associated with such resource irrespective of whether the resource at that PNode has received Dispatch Instructions. The Dispatch

Interval LMPs are then used to calculate a Resource-Specific Settlement Interval LMP and a Resource Specific Tier 1 UIE Settlement Interval Price for each Generating Unit, System Unit or MSS Operator that has elected gross Settlement, Physical Scheduling Plant, Dynamic System Resource, Participating Load, and Proxy Demand Resource within the CAISO Controlled Grid. Payments to Scheduling Coordinators for MSS Operators that have elected net Settlement that supply Imbalance Energy will be based on the Real-Time Settlement Interval MSS Price.

* * *

11.6 Settlement of Transactions Involving Proxy Demand Resources

11.6.1 Settlement of Energy Transactions Involving PDR

Settlements for Energy provided by Demand Response Providers from Proxy Demand Resources shall be based on the PDR Energy Measurement for the Proxy Demand Resources. The PDR Energy Measurement for a Proxy Demand Resource shall be the quantity of Energy equal to the difference between the Customer Baseline of the Proxy Demand Resource and the actual underlying Load of the Proxy Demand Resource for a Demand response event. For each Proxy Demand Resource, the CAISO will calculate the Customer Baseline as set forth in Section 4.13.4.

* * *

11.8 Bid Cost Recovery

For purposes of determining the Unrecovered Bid Cost Uplift Payments for each Bid Cost Recovery Eligible Resource as determined in Section 11.8.5 and the allocation of Unrecovered Bid Cost Uplift Payments for each Settlement Interval, the CAISO shall sequentially calculate the Bid Costs, which can be positive (IFM, RUC or RTM Bid Cost Shortfall) or negative (IFM, RUC or RTM Bid Cost Surplus) in the IFM, RUC and the Real-Time Market, as the algebraic difference between the respective IFM, RUC or RTM Bid Cost and the IFM, RUC or RTM Market Revenues, which is netted across the CAISO Markets. In any Settlement Interval a resource is eligible for Bid Cost Recovery payments only if it is On, or in the case of a Participating Load or a Proxy Demand Resource, only if the resource has actually stopped or started consuming pursuant to the Dispatch Instruction. BCR Eligible Resources for different MSS Operators are supply resources listed in the applicable MSS Agreement. All Bid Costs shall be based on mitigated Bids as specified in Section 39.7. In order to be eligible for Bid Cost Recovery, Non-Dynamic

Resource-Specific System Resources must provide to the CAISO SCADA data by telemetry to the CAISO's EMS in accordance with Section 4.12.3 demonstrating that they have performed in accordance with their CAISO commitments.

* * *

11.8.6.5.3 Allocation of the RUC Compensation Costs

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

* * *

11.10.9.1 Rescission Undispatchable AS

If a Scheduling Coordinator has Undispatchable Capacity that it is obligated to supply to the CAISO during a Settlement Interval, the Ancillary Service capacity payment for the amount of Energy that cannot be delivered from the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the Settlement Interval shall be rescinded; provided, however, that to the extent an Ancillary Service procured in the IFM from a System Resource becomes Undispatchable Capacity due to

an Intertie transmission derate before the Operating Hour for which it was procured, in rescinding the Ancillary Service capacity payment, the CAISO shall credit back to the Scheduling Coordinator any charge for Congestion assessed pursuant to Section 11.10.1.1.1, but at the lower of the Day-Ahead and simple average of the fifteen (15) minute Real-Time Shadow Price over the applicable Trading Hour on the corresponding Intertie.

11.10.9.2 Rescission of Payments for Unavailable Ancillary Service Capacity

Payments to the Scheduling Coordinator representing the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the Ancillary Service capacity used to supply Uninstructed Imbalance Energy shall not be eliminated to the extent of the deficiency if: (i) the deficiency in the availability of Ancillary Service capacity from the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is attributable to control exercised by the CAISO in that Settlement Interval through AGC operation, an RMR Dispatch Notice, or an Exceptional Dispatch; or (ii) a penalty is imposed under Section 8.10.7 with respect to the deficiency.

In calculating the amount of the payment to be rescinded under Section 8.10.8.2, the CAISO shall reduce the payment for Ancillary Service capacity otherwise payable for the Settlement Interval by the product of the applicable prices and the amount of Ancillary Service capacity from which the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource has supplied Uninstructed Imbalance Energy in that Settlement Interval.

11.10.9.3 Rescission of Payments for Undelivered Ancillary Service Capacity.

If the total metered output of a Generating Unit, Participating Load, System Unit or System Resource is insufficient to supply the amount of Instructed Imbalance Energy associated with a Dispatch Instruction issued in accordance with awarded or self-provided Spinning Reserves or awarded or self-provided Non-Spinning Reserves in any Settlement Interval, then the capacity payment associated with the difference between the scheduled amount of each Ancillary Service for which insufficient Energy was delivered and the actual output attributed to the response to the Dispatch Instruction shall be rescinded. If, after the issuance of a Dispatch Instruction associated with Non-Spinning Reserves, the actual response of a Proxy Demand Resource is insufficient to supply the amount of Instructed Imbalance Energy associated with a Dispatch Instruction issued in accordance with awarded or self-provided Non-Spinning Reserves,

then the capacity payment associated with the difference between the scheduled amount and the actual amount attributed to the response to the Dispatch Instruction (as established pursuant to the applicable Business Practice Manual) shall be rescinded. However, no capacity payment shall be rescinded if the shortfall in the metered output of the Generating Unit, Participating Load, Proxy Demand Resource, System Unit, or System Resource is less than a deadband amount published by CAISO on the CAISO Website at least twenty-four hours prior to the Settlement Interval. For any Settlement Interval with respect to which no deadband amount has been published by the CAISO, the deadband amount shall be zero MWh.

* * *

11.16.1 Resources With More Than One Capacity Obligation

If the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is scheduled to provide more than one capacity obligation in a Settlement Interval, the order in which the non-compliant Ancillary Service and RUC Capacity will be apportioned to the various services under Section 8.10.8 is as follows. For Undispatchable Capacity the non-compliant capacity is first apportioned to RUC Capacity and then to any Non-Spinning Reserves. If the amount of Undispatchable Capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. For Unavailable Capacity or Undelivered Capacity the non-compliant capacity is first apportioned to any Non-Spinning Reserves. If the amount of non-compliant Ancillary Service capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. If the same Ancillary Service is scheduled in the Day-Ahead Market or Real-Time Market, then the payments shall be rescinded in proportion to the amount of each Ancillary Service scheduled in each market. If the same Ancillary Service is self-provided and Bid, the order of rescission will be first the amount of Ancillary Service amounts submitted in Bids and then the Self-Provided Ancillary Service.

* * *

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. Publishing of Uninstructed Deviation Penalty results will not occur on the Initial Settlement Statement T+7B but rather will occur on the Recalculation Settlement Statement T+38B. 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 Non-Dynamic 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) the Uninstructed Deviation Penalty will only apply to the pre-Dispatched amount of the Bid that is declined or not delivered, (ii) the Uninstructed Deviation Penalty will not apply to a portion of a pre-Dispatched Bid that is subsequently not delivered at the direction of a Balancing Authority, 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 Uninstructed Imbalance Energy 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, Curtailable Demand, or Demand Response Services.

- (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.
- (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 Uninstructed 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 as specified in Appendix R, which specifies when Uninstructed Deviations from individual resources may be aggregated.

- (i) The Uninstructed Deviation Penalty shall not apply to any Uninstructed Imbalance Energy resulting from compliance with a directive by the CAISO or the Reliability Coordinator.
- (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 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 Non-Dynamic 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 Balancing Authority 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 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 Expected Energy in accordance with Section 9.3.10.6 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 Operating Hour 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 Limit 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 Limit 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 Limit for a duration equal to the minimum of two Settlement Intervals or the time specified in the Master File for the Generating Unit to disconnect from the grid after

reaching its Minimum Operating Limit 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 Limit 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 Limit 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, including a response to correct frequency decay, 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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11.24.3 Exemptions From The Interim Scheduling Charge

The Interim Scheduling Charge shall not apply to the following circumstances:

- (a) For any given Trading Day for Scheduling Coordinators in each applicable LAP in which the CAISO's daily Day-Ahead peak CAISO Forecast of CAISO Demand is ninety-five percent (95%) or less than daily actual metered CAISO Demand in the respective northern and southern regions of the CAISO Balancing Authority Area as further described in the Business Practice Manuals.
- (b) For any given Trading Hour when a Scheduling Coordinator's metered CAISO Demand is less than or equal to 500 MW in a particular LAP, that Scheduling Coordinator shall not be subject to the Interim Scheduling Charge.
- (c) For metered CAISO Demand by Participating Loads and Proxy Demand Resources.
- (d) For metered CAISO Demand that is MSS Load following Demand.
- (e) For any given Trading Hour when the Hourly Real-Time LAP Price is less than the Day-Ahead LAP Price for the same Trading Hour in the applicable LAP.
- (f) For metered CAISO Demand of Station Power Loads.

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16.5.1 System Emergency Exceptions

As set forth in Section 4.2.1, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating TOs, Participating Generators, Participating Loads, Demand Response Providers, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources must comply fully and promptly with CAISO Dispatch Instructions and operating orders, unless such operation would impair public health or safety. The CAISO will honor the terms of Existing

Contracts, provided that in a System Emergency and circumstances in which the CAISO considers that a System Emergency is imminent or threatened, holders of Existing Rights must follow CAISO operating orders even if those operating orders directly conflict with the terms of Existing Contracts, unless such operating orders are inconsistent with the terms of an agreement between the CAISO and a Balancing Authority. In the event of a conflict between the CAISO Tariff and an agreement between the CAISO and a Balancing Authority, the agreement will govern. For this purpose CAISO operating orders to shed Load shall not be considered as an impairment to public health or safety. This section does not prohibit a Scheduling Coordinator from modifying its Bid or re-purchasing Energy in the HASP or Real-Time Market.

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17.2.1 System Emergency Exceptions

As set forth in Section 4.2.1, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating TOs, Participating Generators, Participating Loads, Demand Response Providers, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources must comply fully and promptly with the CAISO's Dispatch Instructions and operating orders, unless such operation would impair public health or safety. The CAISO will honor the terms of TORs, provided that in a System Emergency and circumstances in which the CAISO considers that a System Emergency is imminent or threatened, to enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, holders of TORs must follow CAISO operating orders even if those operating orders directly conflict with the terms of applicable Existing Contracts or any other contracts pertaining to the TORs, unless such operating orders are inconsistent with the terms of an agreement between the CAISO and a Balancing Authority. In the event of a conflict between the CAISO Tariff and an agreement between the CAISO and a Balancing Authority, the agreement will govern. For this purpose CAISO operating orders to shed Load shall not be considered as an impairment to public health or safety. This section does not prohibit a Scheduling Coordinator from modifying its Bid or re-purchasing Energy in the HASP or RTM.

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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. Scheduling Coordinators may use Dynamic System Resources to Self-Provide Ancillary Services as specified in Section 8. Scheduling Coordinators may not use Non-Dynamic System Resources to Self-Provide Ancillary Services. All System Resources, including Dynamic System Resources and Non-Dynamic System Resources, will be charged the Shadow Price as prescribed in Section 11.10, for any awarded Ancillary Services. Participating Loads and Demand Response Providers are eligible to provide Non-Spinning Reserve only. A Scheduling Coordinator may submit Ancillary Services Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve for the same capacity by providing a separate price in \$/MW per hour as desired for each Ancillary Service. The Bid for each Ancillary Services is a single Bid segment. Only resources certified by the CAISO as capable of providing Ancillary Services are eligible to provide Ancillary Services and submit Ancillary Services Bids. In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; (2) Ramp Rate (Operating Reserve Ramp Rate and Regulation Ramp Rate, if applicable); and (3) Distribution Curve for Physical Scheduling Plant or System Unit. 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. If a Scheduling Coordinator's Submission to Self-Provide an Ancillary Service is qualified as specified in Section 8.6, the Scheduling Coordinator must submit an Energy Bid that covers the self-provided capacity prior to the close of the Real-Time Market for the day immediately following the Day-Ahead Market in which the Ancillary Service Bid was submitted. Except as provided below, the Self-Schedule for Energy need not include a Self-Schedule for Energy from the resource that will be self-providing the Ancillary Service. If a Scheduling Coordinator is self-providing an Ancillary Service from a Fast Start Unit, no Self-Schedule for

Energy for that resource is required. If a Scheduling Coordinator proposes to self-provide Spinning Reserve, the Scheduling Coordinator is obligated to submit a Self-Schedule for Energy for that particular resource, unless as discussed above the particular resource is a Fast Start Unit. When submitting Ancillary Service Bids in the HASP and Real-Time Market, Scheduling Coordinators for resources that either have been awarded or self-provide Spinning Reserve or Non-Spinning Reserve capacity in the Day-Ahead Market must submit an Energy Bid for at least the awarded or self-provided Spinning Reserve or Non-Spinning Reserve capacity, otherwise the CAISO will apply the Bid validation rules described in Section 30.7.6.1.

As provided in Section 30.5.2.6.4, a Submission to Self-Provide an Ancillary Service shall contain all of the requirements of a Bid for Ancillary Services with the exception of Ancillary Service Bid price information. In addition, Scheduling Coordinators must comply with the Ancillary Services requirements of Section 8. Scheduling Coordinators submitting Ancillary Services Bids for System Resources in the HASP or Real-Time Market must also submit an Energy Bid for the associated Ancillary Services Bid under the same Resource ID, otherwise the bid validation rules in Section 30.7.6.1 will apply to cover any portion of the Ancillary Services Bid not accompanied by an Energy Bid. As described in Section 33.7, if the resource is a Non-Dynamic System Resource, the CAISO will only use the Ancillary Services Bid in the HASP optimization and will not use the associated Energy Bid for the same Resource ID to schedule Energy from the Non-Dynamic System Resource in the HASP. Scheduling Coordinators must also comply with the bidding rules associated with the must offer requirements for Ancillary Services specified in Section 40.6.

* * *

30.5.2.6.3 Non-Spinning Reserve Capacity

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

* * *

30.6 Bidding and Scheduling of Proxy Demand Resources

30.6.1 Bidding and Scheduling Generally

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, the CAISO will treat Bids for Energy and Ancillary Services on behalf of Proxy Demand Resources like Bids for Energy and Ancillary Services on behalf of other types of supply resources. A Scheduling Coordinator for a Demand Response Provider representing a Proxy Demand Resource may submit (1) Energy Bids only in the Day-Ahead Market and in the Real-Time Market; (2) RUC Availability Bids; and (3) Ancillary Service Bids in the Day-Ahead Market and Real-Time Market for those Ancillary Services for which the Proxy Demand Resource is certified. A Scheduling Coordinator for a Demand Response Provider representing a Proxy Demand Resource may Self-Provide Ancillary Services for which it is certified. Demand Response Services will be bid separately from the underlying demand for Proxy Demand Resources.

* * *

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 certified Ancillary Services capacity for Regulation, or Operating Reserves on the Generating Units, System Units, Participating Loads, Proxy Demand Resources, 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 by the Market Close of HASP and the RTM, 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 Practice Manuals for use in the HASP and IFM. If an AS Bid or Submission to Self-Provide an AS is submitted in the Real-Time for Spinning Reserve 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 Reserve and Non-Spinning Reserve with only a partial Energy Bid for the AS capacity, the CAISO will generate an Energy Bid for the uncovered portions. For Generating Units with certified Regulation capacity, if there no Bid for Regulation in the Real-Time Market, but there is a Day-Ahead award for Regulation Up or Regulation Down or a submission to self-provide Regulation Up or Regulation Down, respectively, the CAISO will generate a Regulation Up or Regulation Down Bid at the default Ancillary Service Bid price of \$0 up to the certified Regulation capacity for the Generating Unit minus any Regulation awarded or self-provided in the Day-Ahead. If there is a Bid for Regulation Up or Regulation Down in the Real-Time Market, the CAISO will increase the respective Bid up to the certified Regulation capacity for the Generating Unit minus any Regulation awarded or self-provided in the Day-Ahead. If a

Self-Schedule amount is greater than the Regulation Limit for Regulation Up, the Regulation Up Bid will be erased.

Notwithstanding any of the provisions of Section 30.7.6.1 set forth above, the CAISO will not insert or extend any Bid for a Resource Adequacy Resource that is a Use-Limited Resource.

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 or Proxy Demand Resources offered in the Day-Ahead Market 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, Participating Loads, and Proxy Demand Resources constituting the System Unit for which Bids and Submissions to Self-Provide Ancillary Services are submitted into the CAISO's Day-Ahead Market 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 Import Bids along with internal resources;
- (e) establish Real-Time Ancillary Service Awards through RTUC from imports and resources internal to the CAISO Balancing Authority Area at fifteen (15) minutes intervals to the hour of operation; and
- (f) procure sufficient Ancillary Services in the Day-Ahead and Real-Time Markets to meet its forecasted requirements.

* * *

30.7.8 Format And Validation Of Start-Up And Shut-Down Times

For a Generating Unit or a Resource-Specific System Resource, 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 zero (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 and for a Proxy Demand Resource, a single Shut-Down time in minutes is the time required for the resource to Shut-Down after receiving a Dispatch Instruction.

30.7.9 Format And Validation Of Start-Up Costs And Shut-Down Costs

For a Generating Unit or a Resource-Specific System Resource, 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 zero (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 and Proxy Demand Resources, a single Shut-Down Cost in dollars (\$) is the cost incurred to Shut-Down the resource after receiving a Dispatch Instruction. The submitted Shut-Down Cost must not be negative.

* * *

31. Day-Ahead Market

The DAM consists of the following functions performed in sequence: the MPM-RRD, IFM, and RUC. Scheduling Coordinators may submit Bids for Energy, Ancillary Services and RUC Capacity for an applicable Trading Day. The CAISO shall issue Schedules for all Supply and Demand, including Participating Load and Proxy Demand Resources, pursuant to their Bids as provided in this Section 31.

* * *

31.2 Market Power Mitigation And RRD (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 determining RMR Generation 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. Bids on behalf of Proxy Demand Resources are not mitigated and are not considered in the MPM-RRD process. The mitigated or unmitigated Bid identified in the MPM-RRD process for all resources that cleared in the MPM-RRD are then passed to the IFM. The CAISO performs the MPM-RRD for the DAM for the twenty-four (24) hours of the targeted Trading Day.

* * *

31.3.1.4 Eligibility to Set the Day-Ahead LMP

All Generating Units, Participating Loads, non-Participating Loads, Proxy Demand Resources, System Resources, System Units, or Constrained Output Generators subject to the provisions in Section 27.7, with Bids, including Generated Bids, that are unconstrained due to Ramp Rates, MSG Transitions, Forbidden Operating Regions, or other temporal constraints are eligible to set the LMP, provided that (a) the Schedule for the Generating Unit or Resource-Specific System Resource is between its Minimum

Operating Limit and the highest MW value in its Economic Bid or Generated Bid, or (b) the Schedule for the Participating Load, Proxy Demand Resource, non-Participating Load, non-Resource-Specific System Resource, or System Unit is between zero (0) MW and the highest MW value in its Economic Bid or Generated Bid. If (a) a resource's Schedule is constrained by its Minimum Operating Limit or the highest MW value in its Economic Bid or Generated Bid, (b) the CAISO enforces a resource-specific constraint on the resource due to an RMR or Exceptional Dispatch, (c) the resource is constrained by a boundary of a Forbidden Operating Region or is Ramping through a Forbidden Operating Region, or (d) the resource's full Ramping capability is constraining its inter-hour change in Schedule, the resource cannot be marginal and thus is not eligible to set the LMP. Resources identified as MSS Load following resources are not eligible to set the LMP. A Constrained Output Generator will be eligible to set the hourly LMP if any portion of its Energy is necessary to serve Demand.

* * *

31.5.4 RUC Procurement Constraints

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

- (a) To ensure that sufficient RUC Capacity is procured to meet the CAISO Forecast of CAISO Demand, the CAISO will enforce the power balance between the total Supply, which includes Day-Ahead Schedules and RUC Capacity, and the total Demand, which includes the CAISO Forecast of CAISO Demand and IFM export Schedules. The CAISO may adjust the CAISO Forecast of CAISO Demand to increase the RUC procurement target if there is AS Bid insufficiency in the IFM.
- (b) To ensure that RUC will neither commit an excessive amount of Minimum Load Energy nor procure an excessive amount of RUC Capacity from Scheduling Points the CAISO will verify that the sum of Day-Ahead Schedules, Schedules of Generation Units, net imports, Participating Loads, and Proxy Demand Resources plus the Minimum Load Energy committed by RUC is not greater than a configurable percentage of the system CAISO Forecast of CAISO Demand.

- (c) 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.

* * *

31.5.7 Rescission Of Payments For RUC Capacity

If capacity committed in RUC provided from a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is Undispatchable Capacity or Undelivered Capacity during the relevant Settlement Interval, then payments will be rescinded as described in this Section 31.5.7 and settled in accordance with Section 11.2.2.2. If the CAISO determines that non-compliance of a Participating Load, Proxy Demand Resource, Generating Unit, System Unit or System Resource with an operating order or Dispatch Instruction from the CAISO, or with any other applicable technical standard under the CAISO Tariff, causes or exacerbates system conditions for which the WECC imposes a penalty on the CAISO, then the Scheduling Coordinator of such Participating Load, Proxy Demand Resource, Generating Unit, System Unit or System Resource shall be assigned that portion of the WECC penalty which the CAISO reasonably determines is attributable to such non-compliance, in addition to any other penalties or sanctions applicable under the CAISO Tariff. The rescission of payments in this Section 31.5.7 shall not apply to a capacity payment for any particular RUC Capacity if the RUC Availability Payment is less than or equal to zero (0).

31.5.7.1 Rescission of Payments for Undispatchable RUC Capacity

The CAISO shall calculate the Real-Time ability of each Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource to deliver Energy from or capacity committed in RUC for each Settlement Interval based on its maximum operating capability, actual telemetered output

(or, in the case of Proxy Demand Resources, an estimate of actual output), and Operational Ramp Rate as described in Section 30.10. If the Undispatchable Capacity is capacity committed in RUC and is from a Generating Unit, System Unit or System Resource that is a Resource Adequacy Resource, there is no payment obligation to the CAISO for the Undispatchable Capacity. The CAISO will report the instance of non-compliance by the Resource Adequacy Resource to the appropriate Local Regulatory Authority.

31.5.7.2 Rescission of Payments for Undelivered RUC Capacity

For each Settlement Interval in which a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource fails to supply Energy from capacity committed in RUC in accordance with a Dispatch Instruction, or supplies only a portion of the Energy specified in the Dispatch Instruction, the RUC Availability Payment will be reduced to the extent of the deficiency, in accordance with the provisions of Section 11.2.2.2.2, which for a Multi-Stage Generating Resource is evaluated for the Generating Unit or Dynamic Resource-Specific System Resource and not by the MSG Configuration.

* * *

33.4 MPM-RRD For The HASP And The RTM

After the Market Close of the HASP and RTM, after the CAISO has validated the Bids pursuant to section 30.7, and prior to running the HASP optimization, the CAISO conducts the MPM-RRD process, the results of which will be utilized in the HASP optimization and all RTM processes for the Trading Hour. Bids on behalf of the Proxy Demand Resources are not mitigated and are not considered in the MPM-RRD process. The MPM-RRD process for the HASP and RTM produces results for each fifteen (15) minute interval of the Trading Hour and thus may produce up to four mitigated Bids for any given resource for the Trading Hour. A single mitigated Bid for the entire Trading Hour is calculated using the minimum Bid price of the four mitigated Bid curves at each Bid quantity level. The Bids are mitigated only for the Bid quantities that are above the minimum quantity cleared in the CCR across all four fifteen-minute intervals. For a Condition 1 RMR Unit, if the dispatch level produced through the ACR is greater than the dispatch level produced through the CCR, and for a Condition 2 RMR Unit that is dispatched through the ACR, the resource will be flagged as an RMR Dispatch in the RTM and shall constitute a Dispatch notice pursuant to the RMR Contract.

* * *

34. Real-Time Market

The RTM is the market conducted by the CAISO during any given Operating Day in which Scheduling Coordinators may provide Real-Time Imbalance Energy and Ancillary Services. The Real-Time Market consists of the Real-Time Unit Commitment (RTUC), the Short-Term Unit Commitment (STUC) and the Real-Time Dispatch (RTD) processes. The Short-Term Unit Commitment (STUC) runs once per hour near the top of the hour and utilizes the SCUC optimization to commit Medium Start, Short Start and Fast Start Units to meet the CAISO Demand Forecast. The CAISO shall dispatch all resources, including Participating Load and Proxy Demand Resource, pursuant to submitted Bids or pursuant to the provisions below on Exceptional Dispatch. In Real-Time, resources are required to follow Real-Time Dispatch Instructions. The Time Horizon of the STUC starts with the third fifteen-minute interval of the current Trading Hour and extending for the next four Trading Hours. The RTUC runs every fifteen (15) minutes and utilizes the SCUC optimization to commit Fast Start and some Short Start resources and to procure any needed AS on a fifteen-minute basis. Any given run of the RTUC will have a Time Horizon of approximately sixty (60) to 105 minutes (four to seven fifteen-minute intervals) depending on when during the hour the run occurs. Not all resources committed in a given STUC or RTUC run will necessarily receive CAISO commitment instructions immediately, because during the Trading Day the CAISO may issue a commitment instruction to a resource only at the latest possible time that allows the resource to be ready to provide Energy when it is expected to be needed. The RTD uses a Security Constrained Economic Dispatch (SCED) algorithm every five minutes throughout the Trading Hour to determine optimal Dispatch Instructions to balance Supply and Demand. Updates to the Base {Market Model adjusted as described in Sections 27.5.1 and 27.5.6} used in the RTM optimization include current estimates of real-time unscheduled flow at the Interties. The RTD optimization utilizes up to a sixty-five (65) minute Time Horizon (thirteen (13) five (5) minute intervals), but the CAISO issues Dispatch Instructions only for the next target five (5) minute Interval. The RTUC, STUC and RTD processes of the RTM use the same {Base Market Model adjusted as described in Sections 27.5.1 and 27.5.6} used in the DAM and the HASP, subject to any necessary updates of the {Base Market Model adjusted as described in Sections 27.5.1 and 27.5.6} pursuant to changes in grid conditions after the DAM has run.

* * *

34.5 General Dispatch Principles

The CAISO shall conduct all Dispatch activities consistent with the following principles:

- (1) The CAISO shall issue AGC instructions electronically as often as every four (4) seconds from its Energy Management System (EMS) to resources providing Regulation and on Automatic Generation Control to meet NERC and WECC performance requirements;
- (2) In each run of the RTED or RTCD the objective will be to meet the projected Energy requirements over the Time Horizon of that run, subject to transmission and resource operational Constraints, taking into account the short term CAISO Forecast of CAISO Demand adjusted as necessary by the CAISO Operator to reflect scheduled changes to Interchange and non-dispatchable resources in subsequent Dispatch Intervals;
- (3) Dispatch Instructions will be based on Energy Bids for those resources that are capable of intra-hour adjustments and will be determined through the use of SCED except when the CAISO must utilize the RTMD;
- (4) When dispatching Energy from awarded Ancillary Service capacity the CAISO will not differentiate between Ancillary Services procured by the CAISO and Submissions to Self-Provide an Ancillary Service;
- (5) The Dispatch Instructions of a resource for a subsequent Dispatch Interval shall take as a point of reference the actual output obtained from either the State Estimator solution or the last valid telemetry measurement and the resource's operational ramping capability;
- (6) In determining the Dispatch Instructions for a target Dispatch Interval while at the same time achieving the objective to minimize Dispatch costs to meet the forecasted conditions of the entire Time Horizon, the Dispatch for the target Dispatch Interval will be affected by: (a) Dispatch Instructions in prior intervals, (b) actual output of the resource, (c) forecasted conditions in subsequent intervals within the Time Horizon of the optimization, and (d) operational

Constraints of the resource, such that a resource may be dispatched in a direction for the immediate target Dispatch Interval that is different than the direction of change in Energy needs from the current Dispatch Interval to the next immediate Dispatch Interval;

- (7) Through Start-Up Instructions the CAISO may instruct resources to start up or shut down, or may reduce Load for Participating Loads and Proxy Demand Resources, over the Time Horizon for the RTM based on submitted Bids, Start-Up Costs and Minimum Load Costs, Pumping Costs and Pump Shut-Down Costs, as appropriate for the resource, consistent with operating characteristics of the resources that the SCED is able to enforce. In making Start-Up or Shut-Down decisions in the RTM, the CAISO may factor in limitations on number of run hours or Start-Ups of a resource to avoid exhausting its maximum number of run hours or Start-Ups during periods other than peak loading conditions;
- (8) The CAISO shall only start up resources that can start within the Time Horizon used by the RTM optimization methodology;
- (9) The RTM optimization may result in resources being shut down consistent with their Bids and operating characteristics provided that: (1) the resource does not need to be on-line to provide Energy, (2) the resource is able to start up within the RTM optimization Time Horizon, (3) the Generating Unit is not providing Regulation or Spinning Reserve, and (4) Generating Units online providing Non-Spinning Reserve may be shut down if they can be brought up within ten (10) minutes as such resources are needed to be online to provide Non-Spinning Reserves; and
- (10) For resources that are both providing Regulation and have submitted Energy Bids for the RTM, Dispatch Instructions will be based on the Regulation Ramp Rate of the resource rather than the Operational Ramp Rate if the Dispatch Operating Point remains within the Regulating Range. The Regulating Range

will limit the Ramping of Dispatch Instructions issued to resources that are providing Regulation.

34.6 Dispatch of Dispatch to Units, Participating Loads, and PDR

The CAISO may issue Dispatch Instructions covering:

- (a) Ancillary Services;
- (b) Energy, which may be used for:
 - (i) Congestion relief;
 - (ii) provision of Imbalance Energy; or
 - (iii) replacement of an Ancillary Service;
- (c) agency operation of Generating Units, Participating Loads, Proxy Demand Resources, or Interconnection schedules, for example:
 - (i) output or Demand that can be Dispatched to meet Applicable Reliability Criteria;
 - (ii) Generating Units that can be Dispatched for Black Start;
 - (iii) Generating Units that can be Dispatched to maintain governor control regardless of their Energy schedules;
- (d) the operation of voltage control equipment applied on Generating Units as described in this CAISO Tariff;
- (e) MSS Load following instructions provided to the CAISO, which the CAISO incorporates to create their Dispatch Instructions; or
- (f) necessary to respond to a System Emergency or imminent emergency.

* * *

34.8 Dispatch Of Energy From Ancillary Services

The CAISO may issue Dispatch Instructions to Participating Generators, Participating Loads, Proxy Demand Resources, (via communication with the Scheduling Coordinators of Demand Response Providers) System Units and System Resources contracted to provide Ancillary Services (either procured

through the CAISO Markets, Self-Provided by Scheduling Coordinators, or 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, Proxy Demand Resources, 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 NERC and WECC reliability standards, including any requirements of the NRC. In the event of an unplanned Outage, a Contingency or a threatened or actual System Emergency, the CAISO may dispatch Contingency Only reserves. If Contingency Only reserves are dispatched through the RTCD, which as described in Section 34.3.2, 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 39.6.1 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 NERC and WECC reliability standards, including any requirements of the NRC. If the CAISO uses Operating Reserve to meet Real-Time Energy requirements, and if the CAISO needs Operating Reserves to satisfy NERC and WECC reliability standards, including any requirements of the NRC, the CAISO shall restore the Operating Reserves to the extent necessary to meet NERC and WECC reliability standards, including any requirements of the NRC through either the procurement of additional Operating Reserve in the RTM or the Dispatch of other Energy Bids in SCED to allow the resources that were providing Energy from the Operating Reserve to return to their Dispatch Operating Point. The Energy Bid Curve is not used by the AGC system when Dispatching Energy from Regulation. For Regulation Up capacity, the

upper portion of the resource capacity from its Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve. For a resource providing Regulation Up or Operating Reserves the remaining Energy Bid Curve shall be allocated to any RTM AS Awards in the following order from higher to lower capacity where applicable: (a) Spinning Reserve; and (b) Non-Spinning Reserve. For resources providing Regulation Up, the applicable upper Regulation Limit shall be used as the basis of allocation if it is lower than the upper portion of the Energy Bid Curve. The remaining portion of the Energy Bid Curve, if there is any, shall constitute a Bid for RTM Energy. For Regulation Down capacity, the lower portion of the resource capacity from its applicable Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve.

* * *

34.9.1 System Reliability Exceptional Dispatches

The CAISO may issue a manual Exceptional Dispatch for Generation Units, System Units, Participating Loads, Proxy Demand Resources, Dynamic System Resources, and Condition 2 RMR Units pursuant to Section 41.9, in addition to or instead of resources with a Day-Ahead Schedule dispatched by RTM optimization software during a System Emergency, or to prevent an imminent System Emergency or a situation that threatens System Reliability and cannot be addressed by the RTM optimization and system modeling. To the extent possible, the CAISO shall utilize available and effective Bids from resources before dispatching resources without Bids. To deal with any threats to System Reliability, the CAISO may also issue a manual Exceptional Dispatch in the Real-Time for Non-Dynamic System Resources that have not been or would not be selected by the RTM for Dispatch, but for which the relevant Scheduling Coordinator has submitted a Bid into the HASP.

* * *

34.19.1 General Principles

Instructed and Uninstructed Imbalance Energy shall be paid or charged the applicable Resource-Specific Settlement Interval LMP except for hourly pre-dispatched Instructed Imbalance Energy, which shall be settled as set forth in Section 11.5.2. These prices are determined using the Dispatch Interval LMPs. The Dispatch Interval LMPs shall be based on the Bid of the marginal Generating Units, System Units,

Participating Loads, and Proxy Demand Resources dispatched by the CAISO to increase or reduce Demand or Energy output in each Dispatch Interval as provided in Section 34.19.2.1.

The CAISO will respond to the Dispatch Instructions issued by the SCED to the extent practical in the time available and acting in accordance with Good Utility Practice. The CAISO will record the reasons for any variation from the Dispatch Instructions issued by the SCED.

* * *

34.19.2.2 Computation

For each Dispatch Interval, the CAISO will compute updated Imbalance Energy needs and will Dispatch Generating Units, System Units, Dynamic System Resources, Participating Load, and Proxy Demand Resources according to the CAISO's SCED during that time period to meet Imbalance Energy requirements. The RTM transactions will be settled at the Dispatch Interval LMPs in accordance with Section 11.5.

34.19.2.3 Eligibility to Set the Real-Time LMP

All Generating Units, Participating Loads, Proxy Demand Resources, Dynamic System Resources, System Units, or COGs subject to the provisions in Section 27.7, with Bids, including Generated Bids, that are unconstrained due to Ramp Rates or other temporal constraints are eligible to set the LMP, provided that (a) a Generating Unit or a Dynamic Resource-Specific System Resource is Dispatched between its Minimum Operating Limit and the highest MW value in its Economic Bid or Generated Bid, or (b) a Participating Load, a Proxy Demand Resource, a Dynamic System Resource that is not a Resource-Specific System Resource, or a System Unit is Dispatched between zero (0) MW and the highest MW value within its submitted Economic Bid range or Generated Bid. If a resource is Dispatched below its Minimum Operating Limit or above the highest MW value in its Economic Bid range or Generated Bid, or the CAISO enforces a resource-specific constraint on the resource due to an RMR or Exceptional Dispatch, the resource will not be eligible to set the LMP. Resources identified as MSS Load following resources are not eligible to set the LMP. A resource constrained at an upper or lower operating limit or dispatched for a quantity of Energy such that its full Ramping capability is constraining the ability of the resource to be dispatched for additional Energy in target interval, cannot be marginal (i.e., it is

constrained by the Ramping capability) and thus is not eligible to set the Dispatch Interval LMP. Non-Dynamic System Resources are not eligible to set the Dispatch Interval LMP. Dynamic System Resources are eligible to set the Dispatch Interval LMP. A Constrained Output Generator that has the ability to be committed or shut off within the Time Horizon of the RTM will be eligible to set the Dispatch Interval LMP if any portion of its Energy is necessary to serve Demand. Dispatches of Regulation resources by EMS in response to AGC will not set the RTM LMP. Dispatches of Regulation resources to a Dispatch Operating Point by RTM SCED will be eligible to set the RTM LMP.

* * *

36.8.4 Eligible Sources For CRR Allocation

In the CRR Allocation processes for Seasonal CRRs, Monthly CRRs, and Long Term CRRs, nominated CRR Sources can be either PNodes (including Scheduling Points) or Trading Hubs, except that a Proxy Demand Resource cannot be a nominated CRR Source in a CRR Allocation process. An LSE or a Qualified OBAALSE may nominate up to one hundred percent (100%) of its Adjusted Verified CRR Source Quantities for Seasonal or Monthly CRRs in the combined tiers of the annual and monthly CRR Allocation processes as provided in this Section. For tiers 1 and 2 of the annual CRR Allocation in CRR Year One, an LSE may nominate CRRs from each of its verified CRR Sources in a quantity no greater than seventy-five percent (75%) of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source. The LSE may then use tier 1 of the monthly CRR Allocations in CRR Year One to nominate up to the full one hundred percent (100%) of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source. In tiers 1, 2 and 3 of the annual CRR Allocation in each year in which it participates, a Qualified OBAALSE may nominate CRRs from each of its verified CRR Sources in a quantity no greater than seventy-five percent (75%) of the Adjusted Verified CRR Source Quantity corresponding to each CRR Source. The Qualified OBAALSE may then use tiers 1 and 2 of the monthly CRR Allocations in the same year to nominate up to the full one hundred percent (100%) of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source.

* * *

37.8.4 Notice

The CAISO shall provide notice of the investigation in sufficient detail to allow for a meaningful response to the Scheduling Coordinator and, as limited below, to all Market Participants the Scheduling Coordinator represents that are the subject(s) of the investigation. The CAISO shall contact the Market Participant(s) that may be involved, so long as the CAISO has sufficient objective information to identify and verify the role of the Market Participant(s) in the potential Rules of Conduct violation. Such Market Participant(s) will likely have an existing contractual relationship with the CAISO (e.g., UDC, MSS, CAISO Metered Entity, Participating Transmission Owner, Participating Generator, Participating Load, or Demand Response Provider).

* * *

40.4.4 Reductions For Testing

In accordance with the procedures specified in the Business Practice Manual, the Generating Unit of a Participating Generator or other Generating Units, System Units or Loads of Participating Loads or Proxy Demand Resources included in a Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity can have its Qualifying Capacity reduced, for purposes of the Net Qualifying Capacity annual report under Section 40.4.2 for the next Resource Adequacy Compliance Year, if a CAISO testing program determines that it is not capable of supplying the full Qualifying Capacity amount.

* * *

40.6.4.1 Registration of Use-Limited Resources

Hydroelectric Generating Units, Proxy Demand Resources, and Participating Load, including Pumping Load, are deemed to be Use-Limited Resources for purposes of this Section 40 and are not required to submit the application described in this Section 40.6.4.1. Scheduling Coordinators for other Use-Limited Resources, must provide the CAISO an application in the form specified on the CAISO Website requesting registration of a specifically identified resource as a Use-Limited Resource. This application shall include specific operating data and supporting documentation including, but not limited to;

- (1) a detailed explanation of why the resource is subject to operating limitations;

- (2) historical data to show attainable MWhs for each 24-hour period during the preceding year, including, as applicable, environmental restrictions for NOx, SOx, or other factors; and
- (3) further data or other information as may be requested by the CAISO to understand the operating characteristics of the unit.

Within five (5) Business Days after receipt of the application, the CAISO will respond to the Scheduling Coordinator as to whether or not the CAISO agrees that the facility is eligible to be a Use-Limited Resource. If the CAISO determines the facility is not a Use-Limited Resource, the Scheduling Coordinator may challenge that determination in accordance with the CAISO ADR Procedures.

* * *

40.6.12 Participating Loads and Proxy Demand Resources

Participating Loads or Proxy Demand Resources that are included in a Resource Adequacy Plan and Supply Plan, if the Scheduling Coordinator for the Participating Loads or Proxy Demand Resources is not the same as that for the Load Serving Entity, will be administered by the CAISO in accordance with the terms and conditions established by the CPUC or the Local Regulatory Authority.

* * *

40.8.1.13 Proxy Demand Resources

The Qualifying Capacity of a Proxy Demand Resource, for each month, will be based on the resource's average monthly historic demand reduction performance during that same month during the Availability Assessment Hours, as described in Section 40.9.3, using a three-year rolling average. For a Proxy Demand Resource with fewer than three years of performance history, for all months for which there is no historic data, the CAISO will utilize a monthly megawatt value as certified and reported to the CAISO by the Demand Response Provider; otherwise, where available, the CAISO will use the average of historic demand reduction performance data available, by month, for a Proxy Demand Resource. Proxy Demand Resources must be available at least four (4) hours per month in which they are eligible to provide RA Capacity and must be dispatchable for a minimum of thirty (30) minutes per event within each of those months.

* * *

CAISO Tariff Appendix A

Master Definitions Supplement

* * *

- Ancillary Service Bid Or AS Bid

The Bid component that indicates the quantity in MW and a price in dollars per MW for a specific Ancillary Service, including Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve, that a Scheduling Coordinator is offering to supply in a CAISO Market from a Generating Unit or System Resource, and only for Non-Spinning Reserve from the Load of a Participating Load or Proxy Demand Resource.

* * *

- Ancillary Service Provider

A Participating Generator, System Resource operator, Participating Load, or Proxy Demand Resource that is certified to provide an Ancillary Service.

* * *

- Bid Cost Recovery (BCR) Eligible Resources

Those resources eligible to participate in the Bid Cost Recovery as specified in Section 11.8, which include Generating Units, System Units, System Resources, Participating Loads, and Proxy Demand Resources.

* * *

- Customer Baseline

A value or values determined by the CAISO based on historical Load meter data to measure the delivery of Demand Response Services.

* * *

- Demand Response Provider

An entity that is responsible for delivering Demand Response Services from a Proxy Demand Resource providing Demand Response Services, which has undertaken in writing by execution of the applicable agreement to comply with all applicable provisions of the CAISO Tariff.

- Demand Response Services

Demand from a Proxy Demand Resource that can be bid into the Day-Ahead Market and Real-Time Market and dispatched at the direction of the CAISO.

- Demand Response System

A collective name for a set of functions of a CAISO application used to collect, approve, and report on information and measurement data for Proxy Demand Resources.

* * *

- Electric Facility

An electric resource, including a Generating Unit, System Unit, Participating Load, or Proxy Demand Resource.

* * *

- Expected Energy

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 Trading Day. Expected Energy is calculated for Generating Units, System Resources, Resource-Specific System Resources, Participating Loads, and Proxy Demand Resources. 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. Energy from Non-Dynamic System Resources is converted into HASP Inertie Schedules. Expected Energy is used as the basis for Settlements.

* * *

- Local Capacity Area Resources

Resource Adequacy Capacity from a Generating Unit listed in the technical study or Participating Load or Proxy Demand Resource that is located within a Local Capacity Area capable of contributing toward the amount of capacity required in a particular Local Capacity Area.

* * *

- Metered Subsystem (MSS)

A geographically contiguous system located within a single zone which has been operating as an electric utility for a number of years prior to the CAISO Operations Date as a municipal utility, water district, irrigation district, state agency or federal power marketing authority subsumed within the CAISO Balancing Authority Area and encompassed by CAISO certified revenue quality meters at each interface point with the CAISO Controlled Grid and CAISO certified revenue quality meters on all Generating Units or, if aggregated, each individual resource, Participating Load, and Proxy Demand Resource internal to the system, which is operated in accordance with a MSS Agreement described in Section 4.9.1.

* * *

- Minimum Load

For a Generating Unit, the minimum sustained operating level 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. For a Proxy Demand Resource, the smallest discrete load reduction possible for the Proxy Demand Resource.

- Minimum Load Bid

The Bid component that indicates the Minimum Load Cost for the Generating Unit, Participating Load, or Proxy Demand Resource specified by a non-negative number in dollars per hour, which applies for the entire Trading Day for which it is submitted.

- Minimum Load Costs

The costs a Generating Unit, Participating Load, or Proxy Demand Resource incurs operating at Minimum Load, which in the case of Participating Load or Proxy Demand Resource may not be negative.

* * *

- PDR

Proxy Demand Resource

* * *

- PDRA

Proxy Demand Resource Agreement

* * *

- PDR Energy Measurement

The Energy quantity calculated by comparing the Customer Baseline of a Proxy Demand Resource against its actual underlying Load for a Demand response event.

* * *

- Proxy Demand Resource (PDR)

A Load or aggregation of Loads capable of measurably and verifiably providing Demand Response Services pursuant to a Proxy Demand Resource Agreement.

- Proxy Demand Resource Agreement (PDRA)

An agreement between the CAISO and a Demand Response Provider, a pro forma version of which is set forth in Appendix B.14.

* * *

- Ramp Rate

The Bid component that indicates the Operational Ramp Rate, Regulation Ramp Rate, and Operating Reserve Ramp Rate for a Generating Unit, and the Load drop rate and Load pick-up rate for Participating

Loads and Proxy Demand Resources, for which the Scheduling Coordinator is submitting Energy Bids or Ancillary Services Bids.

* * *

- Residual Unit Commitment (RUC)

The process conducted by the CAISO in the Day-Ahead Market after the IFM has been executed to ensure sufficient Generating Units, System Units, System Resources, Participating Loads, and Proxy Demand Resources are committed to meet the CAISO Forecast of CAISO Demand.

* * *

- Resource ID

Identification characters assigned by the CAISO to Generating Units, Loads, Participating Loads, Proxy Demand Resources, System Units, System Resources, and Physical Scheduling Plants.

- Resource Location

The Resource ID for a Generating Unit, Participating Load, Proxy Demand Resource, or System Resource.

* * *

- RUC Availability Bid

The quantity (MW) and price (\$/MW per hour) at or above which a Generating Unit, System Resource, System Unit, Participating Load, or Proxy Demand Resource has agreed to sell capacity for a specified interval of time to the CAISO to meet the Residual Unit Commitment requirement.

* * *

- Scheduling Coordinator Metered Entity

A Generator, Eligible Customer, End-User, or Proxy Demand Resource that is not a CAISO Metered Entity.

* * *

- Supply

The Energy delivered from a Generating Unit, System Unit, Physical Scheduling Plant, System Resource, the Curtailable Demand provided by a Participating Load, or the Demand Response Services provided by a Proxy Demand Resource.

* * *

Appendix B.14

Proxy Demand Resource Agreement

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

AND

[DEMAND RESPONSE PROVIDER]

PROXY DEMAND RESOURCE AGREEMENT

PROXY DEMAND RESOURCE AGREEMENT (PDRA)

THIS AGREEMENT is dated this _____ day of _____, _____ and is entered into, by and between:

Chapter 2 **[Full legal name]**, having its registered and principal place of business located at [legal address] (the "Demand Response Provider");

and

Chapter 3 **California Independent System Operator Corporation**, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, initially 151 Blue Ravine Road, Folsom, California 95630 (the "CAISO").

The Demand Response Provider and the CAISO are hereinafter referred to as the "Parties".

Whereas:

Chapter 2 The CAISO Tariff provides that the CAISO shall only accept Bids for a Proxy Demand Resource from a Scheduling Coordinator.

- B.** The CAISO Tariff further provides that Demand Response Services may be provided by Demand Response Providers.

- C. The Demand Response Provider desires to provide Demand Response Services from Proxy Demand Resources through a Scheduling Coordinator and represents to the CAISO that it will comply with the applicable provisions of the CAISO Tariff.
- D. The Parties are entering into this Agreement in order to establish the terms and conditions on which the CAISO and the Demand Response Provider will discharge their respective duties and responsibilities under the CAISO Tariff.

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

ARTICLE I

DEFINITIONS AND INTERPRETATION

- 1.1 **Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement in Appendix A of the CAISO Tariff.
- 1.2 **Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Agreement:
 - (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;
 - (b) the singular shall include the plural and vice versa;
 - (c) the masculine shall include the feminine and neutral and vice versa;
 - (d) "includes" or "including" shall mean "including without limitation";
 - (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
 - (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
 - (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
 - (h) unless the context otherwise requires, any reference to a "person" includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
 - (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
 - (j) any reference to a day, week, month or year is to a calendar day, week, month or year; and
 - (k) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

ARTICLE II

ACKNOWLEDGEMENTS OF DEMAND RESPONSE PROVIDER AND CAISO

- 2.1 CAISO Responsibility.** The Parties acknowledge that the CAISO is responsible for the efficient use and reliable operation of the CAISO Controlled Grid consistent with achievement of planning and Operating Reserve criteria no less stringent than those established by the Western Electricity Coordinating Council and the North American Electric Reliability Corporation and further acknowledge that the CAISO may not be able to satisfy fully these responsibilities if the Demand Response Provider fails to fully comply with all of its obligations under this Agreement and the CAISO Tariff.
- 2.2 Scope of Application to Parties.** The Demand Response Provider and CAISO acknowledge that to submit Bids for Proxy Demand Resources to the CAISO through a Scheduling Coordinator, the Demand Response Provider must register its Proxy Demand Resources in the CAISO's Demand Response System. The Demand Response Provider warrants that it owns, operates, or has sufficient contractual entitlement to provide Demand Response Services from the Proxy Demand Resources it represents in accordance with the CAISO Tariff.

ARTICLE III

TERM AND TERMINATION

- 3.1 Effective Date.** This Agreement shall be effective as of the later of the date it is executed by the Parties or the date accepted for filing and made effective by FERC, if such FERC filing is required, and shall remain in full force and effect until terminated pursuant to Section 3.2 of this Agreement.
- 3.2 Termination**
- 3.2.1 Termination by CAISO.** Subject to Section 5.2, the CAISO may terminate this Agreement by giving written notice of termination in the event that the Demand Response Provider commits any material default under this Agreement and/or the CAISO Tariff which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given, to the Demand Response Provider, written notice of the default, unless excused by reason of Uncontrollable Forces in accordance with Article X of this Agreement; provided, however, that any outstanding financial right or obligation or any other obligation under the CAISO Tariff of the Demand Response Provider that has arisen while the Demand Response Provider was submitting Bids for Proxy Demand Resources, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive until satisfied. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC, if this Agreement was filed with FERC, or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if: (1) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within sixty (60) days after issuance of the notice of default; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination, if filed with FERC, or thirty (30) days after the date of the CAISO's notice of default, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.
- 3.2.2 Termination by Demand Response Provider.** In the event that the Demand Response Provider no longer wishes to submit Bids or transmit Energy over the CAISO Controlled Grid, it

may terminate this Agreement, on giving the CAISO not less than ninety (90) days written notice, provided, however, that in accordance with Section 4.5, the Demand Response Provider may eliminate from the Demand Response System Proxy Demand Resources which it no longer provides for and such modification shall be effective upon receipt of notice by the CAISO; and provided further that any outstanding financial right or obligation or any other obligation under the CAISO Tariff of the Demand Response Provider that has arisen while the Demand Response Provider was submitting Bids for Proxy Demand Resources, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive until satisfied. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC, if this Agreement has been filed with FERC, or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if: (1) the request to file a notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within thirty (30) days of receipt of such request; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination, if such notice is required to be filed with FERC, or upon ninety (90) days after the CAISO's receipt of the Demand Response Provider's notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

ARTICLE IV

GENERAL TERMS AND CONDITIONS

- 4.1 Technical Characteristics.** As required by Sections 8.3.4 and 8.4 of the CAISO Tariff, the Demand Response Provider shall provide the CAISO with all technical and operational information required for each Proxy Demand Resource that it owns, operates, or to which it has a contractual entitlement. For those Proxy Demand Resources designated by the Demand Response Provider as providing Demand Response Services, the Demand Response Provider shall indicate whether the Proxy Demand Resource can submit Bids as qualifying Ancillary Services. Pursuant to Sections 8.9 and 8.10 of the CAISO Tariff, the CAISO may verify, inspect and test the capacity and operating characteristics provided for Proxy Demand Resources. The CAISO will maintain the required technical and operational information, which has been verified by the appropriate Load Serving Entity and Utility Distribution Company, as appropriate.
- 4.2 Metering and Communication.** Metering requirements for the submittal of Settlement Quality Meter Data for Scheduling Coordinator Metered Entities will be in accordance with Section 10.3 of the CAISO Tariff. Pursuant to Sections 8.4.5 and 8.4.6 of the CAISO Tariff, Demand Response Services that are scheduled or bid as qualifying Ancillary Services are required to comply with the CAISO's communication and metering requirements.
- 4.3 Demand Response Provider Requirements.** The Demand Response Provider must register with the CAISO through the Demand Response System and comply with all terms of the CAISO Tariff. A Demand Response Provider that aggregates the demand response of customers for utilities that distribute: (1) over four million MWh in the previous fiscal year must certify to the CAISO that its participation is not prohibited by the Local Regulatory Authority; or (2) four million MWh or less in the previous fiscal year must certify to the CAISO that its participation is permitted by the Local Regulatory Authority applicable to Demand Response Providers, and that it has satisfied all applicable rules and regulations of the Local Regulatory Authority. The Demand Response Provider must certify to the CAISO that any required bilateral agreements between the Demand Response Provider and the Load Servicing Entities or other agreements required by the Local Regulatory Authority are fully executed.

- 4.4 Notification of Changes.** The Demand Response Provider shall notify the CAISO of any proposed change(s) to registration to technical information. The CAISO will update the Master File in accordance with Section 30.7.3.2 of the CAISO Tariff. Pursuant to Sections 8.9 and 8.10 of the CAISO Tariff, the CAISO may verify, inspect and test the capacity and operating characteristics of the revised information provided. Unless the Proxy Demand Resource fails to test at the values in the proposed change(s), the Demand Response Provider's proposed change(s) will become effective upon the effective date for the next scheduled update of the Master File, provided that the Demand Response Provider submits the changed information by the applicable deadline and is tested by the deadline. Subject to such notification, this Agreement shall not apply to any Proxy Demand Resources which the Demand Response Provider no longer owns, operates or to which it no longer has a contractual entitlement.
- 4.5 Agreement Subject to CAISO Tariff.** The Parties will comply with all applicable provisions of the CAISO Tariff. This Agreement shall be subject to the CAISO Tariff, which shall be deemed to be incorporated herein.
- 4.6 Obligations Relating to Ancillary Services**
- 4.6.1 Submission of Bids and Self-provided Schedules.** When the Scheduling Coordinator on behalf of the Demand Response Provider submits a Bid, the Demand Response Provider will, by the operation of this Section 4.6.1, warrant to the CAISO that it has the capability to provide that service in accordance with the CAISO Tariff and that it will comply with CAISO Dispatch Instructions for the provision of the service in accordance with the CAISO Tariff.
- 4.6.2 Ancillary Service Certification.** The Demand Response Provider shall not use a Scheduling Coordinator to submit a Bid for the provision of an Ancillary Service or submit a Submission to Self-Provide an Ancillary Service unless the Scheduling Coordinator serving that Demand Response Provider is in possession of a current Ancillary Service certificate pursuant to Sections 8.3.4 and 8.4 of the CAISO Tariff.
- 4.7 Obligations relating to Major Incidents.** The Demand Response Provider shall promptly provide such information as the CAISO may reasonably require in relation to the CAISO's investigations of operating situations or events, or for the CAISO's reporting to the authorities such as the FERC, California Public Utilities Commission, Western Electricity Coordinating Council, or North American Electric Reliability Corporation.

ARTICLE V

PENALTIES AND SANCTIONS

- 5.1 Penalties.** If the Demand Response Provider fails to comply with any provisions of this Agreement, the CAISO shall be entitled to impose penalties and sanctions on the Demand Response Provider, including the penalties set forth in Sections 8.9.7 and 8.10.7 of the CAISO Tariff. No penalties or sanctions may be imposed under this Agreement unless a Schedule or CAISO Tariff provision providing for such penalties or sanctions has first been filed with and made effective by FERC. Nothing in this Agreement, with the exception of the provisions relating to the CAISO ADR Procedures, shall be construed as waiving the rights of the Demand Response Provider to oppose or protest any penalty proposed by the CAISO to the FERC or the specific imposition by the CAISO of any FERC-approved penalty on the Demand Response Provider.
- 5.2 Corrective Measures.** If the Demand Response Provider fails to meet or maintain the requirements set forth in this Agreement and/or the CAISO Tariff, the CAISO shall be permitted to

take any of the measures, contained or referenced in the CAISO Tariff, which the CAISO deems to be necessary to correct the situation.

ARTICLE VI

COSTS

- 6.1 **Operating and Maintenance Costs.** The Demand Response Provider shall be responsible for all its costs incurred in meeting its obligations under this Agreement for the Proxy Demand Resources identified in the Demand Response System.

ARTICLE VII

DISPUTE RESOLUTION

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

ARTICLE VIII

REPRESENTATIONS AND WARRANTIES

- 8.1 **Authorization to Enter Into Agreement.** Each Party represents and warrants that the execution, delivery and performance of this Agreement by it has been duly authorized by all necessary corporate and/or governmental actions, to the extent authorized by law.
- 8.2 **Necessary Approvals as to Proxy Demand Resources.** The Demand Response Provider represents that all necessary leases, approvals, permits, licenses, easements, rights of way or access to install, own and/or operate the Proxy Demand Resources for which it will Bid or otherwise act under this Agreement have been obtained by the Demand Response Provider prior to submitting technical information.
- 8.3 **Local Regulatory Authority.** A Demand Response Provider that aggregates the demand response of customers for utilities that distribute: (1) over four million MWh in the previous fiscal year must represent and warrant to the CAISO that its participation is not prohibited by the Local Regulatory Authority; or (2) four million MWh or less in the previous fiscal year must represent and warrant to the CAISO that its participation is permitted by the Local Regulatory Authority.

ARTICLE IX

LIABILITY

- 9.1 Liability.** The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to the Demand Response Provider and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE X

UNCONTROLLABLE FORCES

- 10.1 Uncontrollable Forces Tariff Provisions.** Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to the Demand Response Provider and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE XI

MISCELLANEOUS

- 11.1 Assignments.** Either Party may assign or transfer any or all of its rights and/or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights and/or obligations under this Agreement as if said successor in interest was an original Party to this Agreement.
- 11.2 Notices.** Any notice, demand, or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to the Demand Response Provider and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 2. A Party must update the information in Schedule 2 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.
- 11.3 Waivers.** Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.
- 11.4 Governing Law and Forum.** This Agreement shall be deemed to be a contract made under, and for all purposes shall be governed by and construed in accordance with, the laws of the State of California, except its conflict of law provisions. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement to which the CAISO ADR Procedures do not apply, shall be brought in any of the following forums, as appropriate: any court of the State of California, any federal court of the United States of America located in the State of California, or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission.
- 11.5 Consistency with Federal Laws and Regulations.** This Agreement shall incorporate by reference Section 22.9 of the CAISO Tariff as if the references to the CAISO Tariff were referring to this Agreement.

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

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

11.8 Amendments. This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing herein shall be construed as affecting in any way the right of the CAISO to make unilateral application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the FPA and pursuant to FERC's rules and regulations promulgated thereunder, and the Demand Response Provider shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein. The standard of review FERC shall apply when acting upon proposed modifications to this Agreement by the CAISO shall be the "just and reasonable" standard of review rather than the "public interest" standard of review. The standard of review FERC shall apply when acting upon proposed modifications to this Agreement by FERC's own motion or by a signatory other than the CAISO or non-signatory entity shall also be the "just and reasonable" standard of review. Schedules 1, and 2 are provided for informational purposes and revisions to those schedules do not constitute a material change in the Agreement warranting FERC review.

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

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

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

Demand Response Provider

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

CAISO IMPOSED PENALTIES AND SANCTIONS

[Section 5.1]

TO BE INSERTED UPON FERC APPROVAL

SCHEDULE 2

NOTICES
(Section 11.2)

Demand Response Provider

Name of Primary
Representative:

Title:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative
Representative:

Title:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

CAISO

Name of Primary Representative:

Title:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative Representative:

Title:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Appendix K

Ancillary Service Requirements Protocol (ASRP)

* * *

PART C

CERTIFICATION FOR NON-SPINNING RESERVE

* * *

- C 2** An Ancillary Service Provider wishing to provide Non-Spinning Reserve as an Ancillary Service from Curtailable Demand or Demand Response Services whether pursuant to a CAISO award or as part of a self-provision arrangement must meet the following requirements in order to be certified by the CAISO to provide Non-Spinning Reserve service:
- C 2.1** the operator must be able to completely disconnect the required Load or provide the adjustment requested by the CAISO through the Proxy Demand Resource pursuant to a Dispatch Instruction within ten minutes after issue of the instruction;
- C 2.2** the minimum change in the electrical consumption of the Load must be at least 1 MW (for a Generating Unit or a Proxy Demand Resource); and
- C 2.3** the Load or Proxy Demand Resource must be capable of being interrupted for at least two hours.
- * * *
- C 3.1** the operator of the Generating Unit, System Resource, the Curtailable Demand, or the Demand Response Services must have a means of receiving a Dispatch Instruction to initiate an increase in real power output or a reduction in Demand (MW) within one minute of the CAISO Control Center's determination that Non-Spinning Reserve capacity must be dispatched; and
- C 3.2** the communication system and the Generating Unit, System Resource, Load, or Proxy Demand Resource must pass a qualification test to demonstrate the overall ability to meet the performance requirements of the ASRP for Non-Spinning Reserve.
- C 4** An Ancillary Service Provider wishing to be considered for certification for Non-Spinning Reserve service must make a written request to the CAISO, giving details of the technical capability of the Generating Unit, System Resource, Load, or Proxy Demand Resource concerned and identifying the Scheduling Coordinator through whom the Ancillary Service Provider intends to offer Non-Spinning Reserve. The Ancillary Service Provider shall at the same time send a copy of the request to that Scheduling Coordinator. Technical review request forms will be available from the CAISO.
- * * *
- C 14.3** confirmation of the Generating Unit, System Resource, Load, or Proxy Demand Resource control performance; and
- C 14.4** confirmation of the range of Generating Unit, System Resource, or Proxy Demand Resource control to include changing the output over the range of Non-Spinning Reserve proposed.
- C 15** Upon successful completion of the test, the CAISO shall certify the Generating Unit, System Resource, Load, or Proxy Demand Resource as being permitted to provide Non-Spinning Reserve as an Ancillary Service and shall provide a copy of the certificate to the Scheduling Coordinator at the same time. The CAISO shall change its data base to reflect the permission for the Generating Unit, Participating Load, or Proxy Demand Resource to provide Non-Spinning Reserve service.
- C 16** The Scheduling Coordinator may bid Non-Spinning Reserve service from the certified Generating Unit, Participating Load, or Proxy Demand Resource into the CAISO Markets starting with the Day-Ahead Market for the hour ending 0100 on the second Trading Day after the CAISO issues the certificate.

* * *

**Attachment B – Marked Tariff
Proxy Demand Resource Tariff Compliance
California Independent System Operator Corporation
Fifth Replacement FERC Electric Tariff
ER10-765-000, ER10-____-000**

* * *

4.2.1 Comply With Dispatch Instructions And Operating Orders

With respect to this Section 4.2, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating Transmission Owners, Participating Generators, Participating Loads, Demand Response Providers, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources shall comply fully and promptly with the Dispatch Instructions and operating orders, unless such operation would impair public health or safety. A Market Participant is not required to comply with a CAISO operating order if it is physically impossible for the Market Participant to perform in compliance with that operating order. Shedding Load for a System Emergency does not constitute impairment to public health or safety. The Market Participant shall immediately notify the CAISO of its inability to perform in compliance with the operating order.

* * *

4.5.1.1.3 Duplicate Information

If two or more Scheduling Coordinators apply simultaneously to register with the CAISO for a single meter or Meter Point for a CAISO Metered Entity or if a Scheduling Coordinator applies to register with the CAISO for a meter or Meter Point for a CAISO Metered Entity for which a Scheduling Coordinator has already registered, the CAISO will return the application with an explanation that only one Scheduling Coordinator may register with the CAISO for the meter or Meter Point in question and that a Scheduling Coordinator has already registered or that more than one Scheduling Coordinator is attempting to register for that meter or Meter Point. The CAISO will send the Scheduling Coordinator Applicant the name and address of the applicable Scheduling Coordinator or Scheduling Coordinator Applicant. Nothing in this Section 4.5.1.1.3 shall prohibit one Scheduling Coordinator from registering with the CAISO to submit Bids for Demand Response Services from a Proxy Demand Resource associated with a given meter (or Meter Point) where a different Scheduling Coordinator is registered for purposes of serving the demand of the Load associated with that meter (or Meter Point).

* * *

4.9.8 Ancillary Services Obligations For MSS

4.9.8.1 Ancillary Services Obligations will be allocated to the Scheduling Coordinator bidding or scheduling Load within a MSS in accordance with the CAISO Tariff. The CAISO shall have the right to call upon the Self-Provided Ancillary Service of a Scheduling Coordinator for an MSS or procured by the CAISO from such Scheduling Coordinator in accordance with the CAISO Tariff. The Scheduling Coordinator representing the MSS Operator may provide a Submission to Self-Provide an Ancillary Service or bid (including self-provide) Ancillary Services from a System Unit or from individual Generating Units or Participating Loads, or Proxy Demand Resources in the MSS. Alternatively, the Scheduling Coordinator representing the MSS may purchase Ancillary Services from the CAISO or third parties to meet all or part of its Ancillary Services Obligations in accordance with the CAISO Tariff.

4.9.8.2 If the MSS Operator desires to follow internal Load with a System Unit or Generating Units in the MSS, and also to provide Regulation to the CAISO, the MSS must provide adequate telemetry consistent with the CAISO Tariff and all applicable standards to allow performance in response to CAISO AGC signals to be measured at the interconnection of the MSS to the CAISO Controlled Grid.

* * *

4.9.12 MSS System Unit

4.9.12.1 A MSS Operator may aggregate one or more Generating Units, ~~and/or~~ Participating Loads and/or Proxy Demand Resources as a System Unit. A System Unit must be modeled as an aggregated Generating Unit and must provide a set of Generation Distribution Factors. Except as specifically provided in the MSS Agreement referred to in Section 4.9.1.1, all provisions of the CAISO Tariff applicable to Participating Generators and to Generating Units (and, if the System Unit includes a Load, to Participating Loads and Proxy Demand Resources), shall apply fully to the System Unit and the Generating Units and/or Loads included in it. The MSS Operator's MSS Agreement with the CAISO in accordance with Section 4.9.1.1 shall obligate the MSS Operator to comply with all provisions of the CAISO Tariff, as amended from time to time, applicable to the System Unit, including, without limitation, the applicable provisions of Sections 4.6.1 and 7.7. In accordance with Section 7.6.1, the CAISO will

obtain control over the System Unit, not the individual Generating Unit, except for Regulation, to comply with Section 4.6.

4.9.12.2 Without limiting the generality of Section 4.9.12.1, a MSS Operator that owns or has an entitlement to a System Unit:

4.9.12.2.1 is required to have a direct communication link to the CAISO's EMS satisfying the requirements applicable to Generating Units owned by Participating Generators, ~~or~~ Participating Loads or Proxy Demand Resources, as applicable, for the System Unit and the individual resources that make up the System Unit;

4.9.12.2.2 shall provide resource-specific information regarding the Generating Units and Loads comprising the System Unit to the CAISO through telemetry to the CAISO's EMS;

4.9.12.2.3 shall obtain CAISO certification of the System Unit's Ancillary Service capabilities in accordance with Sections 8.4 and 8.9 before the Scheduling Coordinator representing the MSS may self-provide its Ancillary Service Obligations or bid into the CAISO Markets from that System Unit;

4.9.12.2.4 shall provide the CAISO with control over the AGC of the System Unit, if the System Unit is supplying Regulation to the CAISO or is designated to self-provide Regulation; ~~and~~

4.9.12.2.5 shall install CAISO certified meters on each individual resource or facility that is aggregated to a System Unit; ~~and-~~

4.9.12.2.6 shall provide, through the Scheduling Coordinator representing the MSS Operator, Settlement Quality Meter Data for the System Unit's Proxy Demand Resources.

4.9.12.3 Subject to Section 4.9.12.4, the CAISO shall have the authority to exercise control over the System Unit to the same extent that it may exercise control pursuant to the CAISO Tariff over any other Participating Generator, Generating Unit or, if applicable, Participating Load or Proxy Demand Resource, but the CAISO shall not have the authority to direct the MSS Operator to adjust the operation of the individual resources that make up the System Unit to comply with directives issued with respect to the System Unit.

* * *

4.9.13 MSS Elections And Participation In CAISO Markets

MSS Operators must make an election or choice on four (4) issues that govern the manner in which the MSS participates in the CAISO Markets. The MSS Operator must choose either: (i) net Settlements or gross Settlements, (ii) to Load follow or not Load follow with its generating resources, (iii) to have its Load participate in the RUC procurement process or not have its Load participate in the RUC procurement process; and (iv) whether or not to charge the CAISO for their Emissions Costs as provided in Section 11.7.4. The MSS Operator shall make annual elections regarding these four (4) sets of options pursuant to the timeline specified for such elections in the Business Practice Manuals.

The default for the first twelve (12) months after this Section 4.9.13 and Section 36 become effective shall be: (1) non Load following; (2) gross Settlement; and (3) to opt-in to the RUC procurement process. In subsequent years, the prior year election will be the default if the MSS Operator does not make a timely election, unless the MSS Operator has been found to have violated Load following or RUC opt out requirements and is no longer eligible for making such elections. If the MSS Operator fails to elect net Settlement as specified in Section 11.2.3.2, the default mechanism for all MSS Settlements shall be gross Settlement as specified in Section 11.2.3.1.

The Load following, net or gross Settlement, and RUC procurement elections of an MSS Operator change certain aspects of, but do not preclude, the participation of the MSS in the CAISO Markets. An MSS Operator may: (i) bid to supply Energy to, or purchase Energy from, the CAISO Markets, (ii) bid to provide available capacity in RUC, and (iii) bid or make a Submission to Self-Provide an Ancillary Service from a System Unit or from individual Generating Units, ~~or~~ Participating Loads or Proxy Demand Resources within the MSS. An MSS Operator also may purchase Ancillary Services from CAISO or third parties to meet its Ancillary Service Obligations under the CAISO Tariff.

* * *

4.13 Demand Response Providers and Proxy Demand Resources

4.13.1 Relationship Between CAISO and DRPs

The CAISO shall only accept Bids for Energy or Ancillary Services, Submissions to Self-Provide Ancillary Services from Proxy Demand Resources, or Submissions of Energy Self-Schedules from Proxy Demand Resources that have provided Submissions to Self-Provide Ancillary Services, if such Proxy Demand

Resources are represented by a Demand Response Provider that has entered into a Proxy Demand Resource Agreement with the CAISO, has accurately provided the information required in the Demand Response System, has satisfied all Proxy Demand Resource registration requirements, and has met standards adopted by the CAISO and published on the CAISO Website. The CAISO shall not accept submitted Bids for Energy or Ancillary Services from a Demand Response Provider other than through a Scheduling Coordinator, which Scheduling Coordinator may be the Demand Response Provider itself or another entity.

4.13.2 Applicable Requirements for PDRs and DRPs

A single Demand Response Provider must represent each Proxy Demand Resource and may represent more than one (1) Proxy Demand Resource. Each Proxy Demand Resource that is not within a MSS must be associated with a single Load Serving Entity and a single Utility Distribution Company, and each Proxy Demand Resource that is within a MSS must be associated with a single Load Serving Entity. A Demand Response Provider may be, but is not required to be, a Load Serving Entity or a Utility Distribution Company. Each Proxy Demand Resource is required to be located in a single Sub-LAP. All underlying Locations of a Proxy Demand Resource must be located in a single Sub-LAP. The Meter Data for each Proxy Demand Resource will be metered Load data. Each Demand Response Provider is required to satisfy registration requirements and to provide information to allow the CAISO to establish Customer Baselines in accordance with Section 4.13.4 and the applicable Business Practice Manuals. Registration of a Location for participation in Proxy Demand Resources requires the approval of the CAISO resulting from its registration process. As part of the submitted registration process, both the appropriately Demand Response Provider designated Load Serving Entity and Utility Distribution Company will have an opportunity to review the registration Location detail and provide comments with regard to its accuracy. Disputes regarding the acceptances or rejections of a registration of a Location shall be undertaken with the applicable Local Regulatory Authority and shall not be arbitrated or in any way resolved through a CAISO dispute resolution mechanism or process.

4.13.3 Identification of Proxy Demand Resources

Each Demand Response Provider shall provide data, as described in the Business Practice Manual, identifying each of its Proxy Demand Resources and such information regarding the capacity and the operating characteristics of the Proxy Demand Resource as may be reasonably requested from time to time by the CAISO. All information provided to the CAISO regarding the operational and technical constraints in the Master File shall be accurate and actually based on physical characteristics of the resources.

4.13.4 Customer Baseline Methodologies for PDRs

4.13.4.1 Ten in Ten Non Event Day Selection Method

For each Proxy Demand Resource, the CAISO will calculate the Customer Baseline as follows:

- (a) The CAISO will collect Meter Data for the Proxy Demand Resource for calendar days preceding the Trading Day on which the Demand response event occurred for which the CAISO is calculating the Customer Baseline. To determine the calendar days for which the Meter Data will be collected, the CAISO will work sequentially backwards from the Trading Day under examination up to a maximum of forty-five (45) calendar days prior to the Trading Day, including only Business Days if the Trading Day is a Business Day, including only non-Business Days if the Trading Day is a non-Business Day, and excluding calendar days on which the Proxy Demand Resource was subject to an Outage or previously provided Demand Response Services (other than capacity awarded for AS or RUC), except as discussed below. The CAISO will stop collecting Meter Data for this purpose if and when it is able to collect Meter Data for its target number of calendar days, which target number is ten (10) calendar days if the Trading Day is a Business Day or four (4) calendar days if the Trading Day is a non-Business Day. If the CAISO is unable to collect Meter Data for its target number of calendar days, it will attempt to collect Meter Data for a minimum of five (5) calendar days if the Trading Day is a Business Day or a minimum of four (4) calendar days if the Trading Day is a non-Business Day. If the CAISO is unable to collect Meter Data for the minimum number of calendar days described above, the CAISO will instead collect Meter Data for the

calendar days on which the Proxy Demand Resource previously provided Demand Response Services and for which the amount of totalized load was highest during the hours when the Demand Response Services were provided.

(b) The CAISO will calculate the simple hourly average of the collected Meter Data to determine a baseline amount of Energy provided by the Proxy Demand Resource.

(c) Unless otherwise requested by the Demand Response Provider and approved by the CAISO, the CAISO will multiply the amount calculated pursuant to Section 4.13.4.1(b) by a percentage equal to the ratio of (i) the average load of the Proxy Demand Resource during the second, third, and fourth hours preceding the hour of the Trading Day on which the Proxy Demand Resource provided the Demand Response Services during the Demand response event to (ii) the average load of the Proxy Demand Resource during the same second, third, and fourth hours of the calendar days for which the CAISO has collected Meter Data pursuant to Section 4.13.4.1(a). The percentage can have a maximum value of one hundred-twenty (120) percent and a minimum value of eighty (80) percent.

* * *

6.3 Communication Of Dispatch Instructions

Normal verbal and electronic communication of Dispatch Instructions between the CAISO and Generators, ~~or~~ Participating Loads, or Demand Response Providers will be via the relevant Scheduling Coordinator.

6.3.1 SC Responsibility For Communications To Generator Or Load

Each Scheduling Coordinator must immediately pass on to the Generator, ~~or~~ Participating Load, or Demand Response Provider concerned any communication for the Generator, ~~or~~ Participating Load, or Demand Response Provider which it receives from the CAISO.

Communication delays by the Scheduling Coordinator may result in Uninstructed Deviation Penalties or other adjustments pursuant to this CAISO Tariff. The CAISO may, with the prior ~~permission~~permissions of the Scheduling Coordinator concerned, communicate with and give Dispatch Instructions to the operators of Generating Units, Participating Loads, and to Demand Response Providers, ~~and Loads~~

directly without having to communicate through their appointed Scheduling Coordinator. In situations of deteriorating system conditions or emergency, the CAISO reserves the right to communicate directly with the Generator(s) and Demand Response Providers as required to ensure System Reliability.

* * *

7.1.3 CAISO Control Center Authorities

The CAISO shall have full authority, subject to this CAISO Tariff, to direct the operation of the facilities referred to in Section 7.1.1 and 7.1.2 including (without limitation), to:

- (a)- direct the physical operation by the Participating TOs of transmission facilities under the Operational Control of the CAISO, including (without limitation) circuit breakers, switches, voltage control equipment, protective relays, metering, and Load Shedding equipment;
- (b)- commit and dispatch Reliability Must-Run Units, except that the CAISO shall only commit Reliability Must-Run Generation for Ancillary Services capacity according to Section 41;
- (c)- order a change in operating status of auxiliary equipment required to control voltage or frequency;
- (d)- take any action it considers to be necessary consistent with Good Utility Practice to protect against uncontrolled losses of Load or Generation and/or equipment damage resulting from unforeseen occurrences;
- (e)- control the output of Generating Units, Interconnection schedules, and System Resources that are selected to provide Ancillary Services or Energy;
- (f)- Dispatch Curtailable Demand and Demand Response Services which ~~have~~ been scheduled to provide Non-Spinning Reserve or Energy from Participating Loads or Proxy Demand Resources;
- (g)- procure Energy for a threatened or imminent System Emergency;
- (h)- require the operation of resources which are at the CAISO's disposal in a System Emergency, as described in Section 7.7;

- (i)- exercise Operational Control of all transmission lines greater than 230kV and associated equipment on the CAISO Controlled Grid;
- (j)- exercise Operation Control of all Interconnections; and
- (k)- exercise Operational Control of all 230kV and lower voltage transmission lines and associated station equipment identified in the CAISO Register as that portion of the CAISO Controlled Grid.

The CAISO will exercise its authority under this Section 7.1.3 by issuing Dispatch Instructions to the relevant Market Participants using the relevant communications method described in this CAISO Tariff.

* * *

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 NERC and WECC reliability standards, including any requirements of the NRC. 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 HASP, and the RTM consistent with Section 8.3. The provision of Ancillary Services from the Interties with interconnected Balancing Authority 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 Balancing Authority Area over the Interties with interconnected Balancing Authority Areas, except from Dynamic System Resources certified to provide Ancillary Services or if provided pursuant to ETCs, TORs or Converted Rights. 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 and Demand Response Services as well as for Generation. Bids for Regulation, Spinning Reserve, Non-Spinning Reserve, and Voltage Support may be submitted by a Scheduling Coordinator for other non-generation resources that are capable of providing the specific service and that meet applicable Ancillary Service standards and technical requirements, as set forth in Sections 8.1 through 8.4, and are certified by the CAISO to provide Ancillary Services. The provision of Regulation, Spinning Reserve, Non-Spinning Reserve, and Voltage Support by other non-generation resources is subject to the same requirements applicable to other providers of these Ancillary Services, as set forth in Sections 8.5 through 8.11. 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.

* * *

8.3.1 Procurement Of Ancillary Services

The CAISO shall operate a competitive Day-Ahead Market, 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, Participating Loads, Proxy Demand Resources 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~~ Participating Loads, or Proxy Demand Resources 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 is based on the CAISO Forecast of CAISO Demand and the forecasted inertia schedules in HASP for the Operating Hour net of (i) Self-Provided Ancillary

Services from Generating Units internal to the CAISO Balancing Authority 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 amount of additional Ancillary Services procured in the HASP is based on the CAISO Forecast of CAISO Demand, the Day-Ahead Schedules established net interchange, and the forecast of the intertie schedules for the Operating Hour in the HASP net of (i) available awarded Day-Ahead Ancillary Services, (ii) Self-Provided Ancillary Services from Generating Units internal to the CAISO Balancing Authority Area and Dynamic System Resources certified to provide Ancillary Services, and (iii) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right. The amount of Ancillary Services procured in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand and the HASP Intertie Schedule established net interchange for the Operating Hour net of (i) available awarded Day-Ahead Ancillary Services, (ii) Self-Provided Ancillary Services from Generating Units internal to the CAISO Balancing Authority Area and Dynamic System Resources certified to provide Ancillary Services, (iii) additional Operating Reserves procured in HASP, and (iv) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right.

The CAISO will manage the Energy from 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%) 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 all resources, including imports from Non-Dynamic System Resources in the HASP, and Dynamic System Resources and Generation from internal resources in the Real-Time Market. The amount of Ancillary Services procured in the HASP and Real-Time Market is based upon the CAISO Forecast of CAISO Demand for the Operating Hour and RTUC Time Horizon, respectively, net of Self-Provided Ancillary Services.

The CAISO procurement of Ancillary Services from Non-Dynamic System Resources in the HASP is for the entire next Operating Hour. The CAISO procurement of Ancillary Services from Dynamic System Resources and internal Generation in the Real-Time Market is for a fifteen (15) minute RTUC Time Horizon. The CAISO's procurement of Ancillary Services from Non-Dynamic System Resources in HASP and from Dynamic System Resources and internal Generation in the Real-Time Market is based on the

Ancillary Service Bids submitted or generated in the HASP consistent with the requirements in Section 30. The CAISO may also procure Ancillary Services pursuant to the requirements in Section 42.1 and as permitted under the terms and conditions of a Reliability Must-Run Contract.

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.

* * *

8.3.4 Certification And Testing Requirements

The owner of and Scheduling Coordinator for each Generating Unit, System Unit, Dynamic System Resource, ~~or~~ Participating Load, or Proxy Demand Resource for which a Bid to provide Ancillary Services or Submission to Self-Provide Ancillary Services is allowed under the CAISO Tariff, and all other System Resources that are allowed to submit a Bid to provide Ancillary Services under this CAISO Tariff, must comply with the CAISO's certification and testing requirements as contained in Appendix K and the CAISO's Operating Procedures. Each Generating Unit, Dynamic System Resource, and System Unit used to bid Regulation or used to self-provide Regulation must have been certified and tested by the CAISO using the process defined in Part A of Appendix K. Each Dynamic System Resource offering Regulation must comply with the Dynamic Scheduling Protocol in Appendix X. Spinning Reserve may be provided only from Generating Units, System Resources that submit Bids to provide Spinning Reserve from imports, or System Units, which have been certified and tested by the CAISO using the process defined in Part B of Appendix K. Non-Spinning Reserve may be provided from Curtailable Demand and Demand Response Services, on-demand rights from other entities or Balancing Authority Areas, Generating Units, System Resources that submit Bids to provide Non-Spinning Reserve from imports, or System Units, which have been certified and tested by the CAISO using the process defined in Part C of Appendix K. Voltage Support may only be provided from resources including Participating Loads, Generating Units, and System Units, which have been certified and tested by the CAISO using the process defined in Part D of Appendix K. Black Start capability may only be provided from Generating

Units which have been certified and tested by the CAISO using the process defined in Part E of Appendix K. CAISO certification to provide Ancillary Services may be revoked by the CAISO under the provisions of this CAISO Tariff, including Appendix K.

* * *

8.3.7 AS Bidding Requirements

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 (i) submit Bids or Submissions to Self-Provide an Ancillary Service from resources located within the CAISO Balancing Authority Area or Dynamic System Resources certified to provide Ancillary Services, (ii) submit Submissions to Self-Provide an Ancillary Service from System Resources located outside the CAISO Balancing Authority Area if provided pursuant to ETCs, TORs, or Converted Rights, (iii) submit Bids for Ancillary Services from Dynamic and Non-Dynamic System Resources located outside the CAISO Balancing Authority Area certified to provide Ancillary Services, or (iv) submit Inter-SC Trades of Ancillary Services. Ancillary Services procured in the IFM and in the Real-Time Market are comprised of the following: Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve. The HASP process evaluates the need for Energy, Regulation and Operating Reserves from System Resources and internal Generating Units and issues binding Ancillary Services awards only for Operating Reserves Ancillary Services from Non-Dynamic System Resources. Each Generating Unit (including Physical Scheduling Plants), System Unit, Participating Load, [Proxy Demand Resource](#), 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 simultaneously offered to the same CAISO Market for multiple Ancillary Services types. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Service can be submitted up to seven (7) days in advance. The CAISO will only use Operating Reserve Ramp Rates 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 30.7.7. 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 Balancing Authority Area, it can do so provided that (1) it is using export transmission capacity available in Real-Time, and (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. All resources subject to the Ancillary Services must offer requirements, as specified in Section 40.6, must submit Bids consistent with the requirements specified therein and in Section 30.

* * *

8.4 Technical Requirements For Providing Ancillary Services

All Generating Units, System Units, Participating Loads, [Proxy Demand Resources](#), and System Resources providing Ancillary Services shall comply with the technical requirements set out in Sections 8.4.1 to 8.4.3 below relating to their operating capabilities, communication capabilities and metering infrastructure. No Scheduling Coordinator shall be permitted to submit a Bid to the CAISO for the provision of an Ancillary Service from a Generating Unit, System Unit, Participating Load, [Proxy Demand Resource](#), or System Resource, or to provide a Submission to Self-Provide an Ancillary Service from a Generating Unit, System Unit, Participating Load, [Proxy Demand Resource](#), or Dynamic System Resource, unless the Scheduling Coordinator is in possession of a current certificate issued by the CAISO confirming that the Generating Unit, System Unit, Participating Load, [Proxy Demand Resource](#), or System Resource complies with the CAISO's technical requirements for providing the Ancillary Service concerned. Scheduling Coordinators can apply for Ancillary Services certificates in accordance with the requirements for considering and processing such applications in Appendix K and the CAISO's Operating Procedures. The CAISO shall have the right to inspect Generating Units, Participating Loads, [Proxy Demand Resources](#), or the individual resources comprising System Units and other equipment for the purposes of the issue of a certificate and periodically thereafter to satisfy itself that its technical requirements continue to be met. If at any time the CAISO's technical requirements are not being met, the CAISO may withdraw the certificate for the Generating Unit, System Unit, Participating Load, [Proxy Demand Resource](#), or System Resource concerned.

8.4.1 Operating Characteristics Required To Provide AS

Each Generating Unit, System Unit, Participating Load, [Proxy Demand Resource](#), or System Resource for which a Scheduling Coordinator wishes to submit a Bid to provide Ancillary Services must comply with the requirements for the specific Ancillary Service as set forth in Appendix K and the Business Practice Manual. The requirements in Appendix K and the Business Practice Manuals include Ancillary Service control, capability and availability standards. The requirements also involve the following operating characteristics:

- (a) Ramp Rate increase and decrease (MW/minute);
- (b) power factor (leading and lagging) as required by Section 8.2.3.3;
- (c) maximum output (real and reactive), except that System Resources shall be required to comply only with the requirement for maximum real power;
- (d) minimum output (real and reactive), except that System Resources shall be required to comply only with the requirement for minimum real power;
- (e) AGC capability, control scheme, and range; and
- (f) minimum length of time the resource can be available to provide the relevant Ancillary Service.

In Appendix K and the Business Practice Manuals the CAISO will differentiate the operating characteristics according to the Ancillary Service being provided.

* * *

8.4.5 Communication Equipment

Unless otherwise authorized by the CAISO, all Scheduling Coordinators wishing to submit an Ancillary Service Bid must have the capability to submit to and receive information from the CAISO's secure communication system. In addition, they must be capable of receiving Dispatch Instructions electronically and they must provide the CAISO with a telephone number, or fax number through which Dispatch Instructions for each Generating Unit, System Unit, [Participating Load](#), [Proxy Demand Resource](#), [Lead](#) and System Resource may be given if necessary. The CAISO will determine which method of communication is appropriate; provided that the CAISO will consult with the Scheduling Coordinator, if time permits, and will consider the method of communication then utilized by such Scheduling

Coordinator; provided further, that the CAISO shall make the final determination as to the additional communication methods. Participating Generators, owners or operators of Participating Loads, and operators of System Units or System Resources whose resources are scheduled, bid in or under contract, shall ensure that there is a twenty-four (24) hour personal point of contact with the CAISO for the Generating Unit, System Unit, Participating Load or System Resource. Scheduling Coordinators representing Proxy Demand Resources that are scheduled, bid in or under contract shall ensure that there is a twenty-four (24) hour personal point of contact with the CAISO for the Proxy Demand Resource. A Participating Generator, or provider of Curtailable Demand wishing to offer any Ancillary Service must provide a direct ring down voice communications circuit (or a dedicated telephone line available twenty-four (24) hours a day every day of the year) between the control room operator for the Generating Unit or Curtailable Demand providing the Ancillary Service and the CAISO Control Center. Each Participating Generator must also provide an alternate method of voice communications with the CAISO from the control room in addition to the direct communication link required above. Operators of Dynamic System Resources from which Dynamic Schedules or Bids are submitted to the CAISO shall provide communications links meeting CAISO standards for dynamic imports from System Resources. Participating Generators and operators of System Units providing Regulation shall also provide communication links meeting CAISO standards for direct digital control. Operators of System Resources providing Regulation shall provide communications links meeting CAISO standards for imports of Regulation. If any communication system becomes unavailable, the relevant Participating Generators, operators of System Units, Participating Loads, Proxy Demand Resources, Loads and System Resources and the CAISO shall take immediate action to identify the cause of the interruption and to restore the communication system. A Scheduling Coordinator that has provided a Submission to Self-Provide an Ancillary Service, or has submitted a Bid to provide or contracted for Ancillary Services, shall ensure that the Generating Unit, System Unit, Participating Load, Proxy Demand Resource, Load or System Resource concerned is able to receive and implement Dispatch Instructions.

8.4.6 Metering Infrastructure

All Participating Generators, owners or operators of Participating Loads, owners or operators of Proxy Demand Resources, Loads and operators of System Units or System Resources which a Scheduling

Coordinator wishes to bid to provide Ancillary Services shall have the metering infrastructure for the Generating Units, System Units, Participating Loads, Proxy Demand Resources, Leads or System Resources concerned which complies with requirements to be established by the CAISO relating to:

- (a) meter type;
- (b) meter location;
- (c) meter reading responsibility;
- (d) meter capability in regard to AGC response; and
- (e) any other aspect of metering infrastructure required by the CAISO under this CAISO Tariff.

* * *

8.9 Verification, Compliance Testing, And Auditing

Availability of contracted and Self-Provided Ancillary Services and RUC Capacity shall be verified by the CAISO by unannounced testing of Generating Units, Participating Loads, Proxy Demand Resources, Leads and System Resources, by auditing of response to CAISO Dispatch Instructions, and by analysis of the appropriate Meter Data, or Interchange Schedules. The CAISO may test the capability of any Generating Unit, System Unit, System Resource, external import of a System Resource, Participating Load, Proxy Demand Resource, or reactive device providing Ancillary Services or RUC Capacity. Participating Generators, owners or operators of Participating Loads, Scheduling Coordinators representing owners or operators of Proxy Demand Resources, operators of System Units or System Resources, owners or operators of reactive devices and Scheduling Coordinators shall notify the CAISO immediately whenever they become aware that an Ancillary Service or RUC Capacity is not available in any way. All Participating Generators, owners or operators of Participating Loads, Demand Response Providers, Leads, operators of System Units or System Resources and owners or operators of reactive devices shall check, monitor and/or test their system and related equipment routinely to assure availability of the committed Ancillary Services and RUC Capacity. These requirements apply to Ancillary Services whether the Ancillary Services are contracted or self-provided. For a duration specified by the CAISO, the CAISO may suspend the technical eligibility certificate of a Scheduling Coordinator for a Generating

Unit, System Unit, Participating Load, Proxy Demand Resource, Load or System Resource, which repeatedly fails to perform. The CAISO shall develop measures to discourage repeated non-performance on the part of both bidders and self-providers.

* * *

8.9.3 Compliance Testing For Non-Spinning Reserve

8.9.3.1 Compliance Testing: ~~of a Generating Unit, System Unit or Resources~~ System Resource

-The CAISO may test the Non-Spinning Reserve capability of a Generating Unit, Proxy Demand Resource, System Unit or an external import of a System Resource by issuing unannounced Dispatch Instructions requiring the Generating Unit or System Unit to come on line and ramp up or, in the case of a Proxy Demand Resource, to reduce Demand, or, in the case of a System Resource, to affirmatively respond to Real-Time interchange schedule adjustment; all in accordance with the Scheduling Coordinator's Bid. Such tests may not necessarily occur on the hour. The CAISO shall measure the response of the Generating Unit, Proxy Demand Resource, System Unit or external import of a System Resource to determine compliance with its stated capabilities.

8.9.3.2 Compliance Testing of Loads as Resources ~~Curtailable Demand~~

-The CAISO may test the Non-Spinning Reserve capability of a resource ~~Load~~ providing Curtailable Demand or Proxy Demand Resource providing Demand Response Services by issuing unannounced Dispatch Instructions requiring the operator of the Participating Load or Demand Response Provider ~~Load~~ to report the Curtailable Demand of that Participating Load or Demand Response Services of that Proxy Demand Resource ~~Load~~ actually being served by the operator at the time of the instruction. No Participating Load or Proxy Demand Resource ~~Load~~ will be disconnected as part of the test conducted pursuant to this Section 8.9.3.2.

* * *

8.9.7 Consequences Of Failure To Pass Compliance Testing

8.9.7.1 Notification of Compliance Testing Results

If a Generating Unit, Participating Load, Proxy Demand Resource, or System Resource fails a compliance test, the CAISO shall notify the Scheduling Coordinator whose resource was the subject of the test and

the provider or owner or operator of the Generating Unit, Participating Load, [Proxy Demand Resource](#), or System Resource providing Ancillary Services or RUC Capacity of such failure by any means as soon as reasonably practicable after the completion of the test. In addition, regardless of the outcome of the test, the CAISO shall provide the Scheduling Coordinator whose resource was subject to a compliance test written notice of the results of such test. The CAISO shall at the same time send a copy of the notice to the provider or owner or operator of the Generating Unit, [Participating Load, Proxy Demand Resource](#)~~Lead~~, or System Resource providing Ancillary Services or RUC Capacity. For any Resource Adequacy Resource failing a compliance test, the CAISO also will provide notification of the failure to the California Public Utilities Commission, Local Regulatory Authority, or federal agency with jurisdiction over the Load Serving Entity that listed the Resource Adequacy Resource on its Resource Adequacy Plan, and FERC.

* * *

8.9.11 Performance Audit For Non-Spinning Reserve

The CAISO will audit the performance of a Generating Unit, [Participating Load, Proxy Demand Resource](#)~~Lead~~, or System Resource providing Non-Spinning Reserve by auditing its response to Dispatch Instructions, and by analysis of Meter Data associated with the resource. Such audits may not necessarily occur on the hour. A Generating Unit providing Non-Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability stated in its Bid, and reach the amount of Non-Spinning Reserve capacity under the control of the CAISO scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO. An external import of a System Resource providing Non-Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability stated in its Bid, and reach the amount of Non-Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO. A [Participating Load or Proxy Demand Resource](#)~~Lead~~ providing Non-Spinning Reserve from Curtailable Demand [or Demand Response Services](#) shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability

stated in its Bid, and reach the amount of Non-Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO.

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8.9.14 Performance Audit For RUC Capacity

The CAISO will audit the performance of a Generating Unit, Participating Load, [Proxy Demand Resource](#), or System Resource providing RUC Capacity by auditing its response to Dispatch Instructions, and by analysis of Meter Data associated with the resource. Such audits may not necessarily occur on the hour. A Generating Unit [or Proxy Demand Resource](#) providing RUC Capacity shall be evaluated on its ability to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period. An external import of a System Resource providing RUC Capacity shall be evaluated on its ability to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period.

* * *

8.10 Periodic Testing Of Units

The CAISO shall periodically conduct unannounced tests of resources providing RUC Capacity or Ancillary Services. For RUC Capacity the unannounced tests will confirm the ability of the resource to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period. For Ancillary Services the unannounced tests will confirm the ability of such resources to meet the applicable Ancillary Service standard for performance and control. The CAISO may test Generating Units, System Units, [Participating Loads](#), [Proxy Demand Resources](#), and System Resources in the manner described herein. The frequency of testing shall be within such timeframes as are reasonable under all the circumstances. Scheduling Coordinators shall manage the resulting Energy output if

notification of testing permits the Energy to be included in a Bid. If a Generating Unit, System Unit, Participating Load, Proxy Demand Resource, or System Resource fails to meet requirements in a test under this section, the CAISO shall notify the relevant Participating Generator, owner or operator of Participating Loads, Proxy Demand Resources~~Loads~~, System Units or System Resources, or Scheduling Coordinator of such failure as soon as reasonably practicable after the completion of the test. Failure to meet requirements shall lead to the penalties described in Section 8.10.7.

* * *

8.10.3 Non-Spinning Reserve

The CAISO may test the Non-Spinning Reserve capability of a Generating Unit, Participating Load, Proxy Demand Resource~~Load~~, System Unit or System Resource by issuing unannounced Dispatch Instructions requiring the Generating Unit, Participating Load, Proxy Demand Resource~~Load~~, System Unit or System Resource to come on line and ramp up or to reduce Demand to its ten (10) minute capability. The CAISO shall measure the response of the Generating Unit, System Unit, System Resource, Participating ~~or~~ Load, or Proxy Demand Resource to determine compliance with requirements. The Scheduling Coordinator for the Generating Unit, System Unit, Participating Load, Proxy Demand Resource~~Load~~ or System Resource shall be paid pursuant to Section 11.5.6.

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8.10.6 RUC Capacity

The CAISO may test the capability of a Generating Unit, Participating Load, Proxy Demand Resource~~Load~~, System Unit or System Resource to provide RUC Capacity by issuing unannounced Dispatch Instructions requiring the Generating Unit, Participating Load, Proxy Demand Resource~~Load~~, System Unit or System Resource to follow the Dispatch Instruction. The CAISO shall measure the response of the Generating Unit, Proxy Demand Resource, System Unit or System Resource to determine compliance with requirements. Such tests may not necessarily occur on the hour. The Scheduling Coordinator for the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource shall be paid the Energy Bid price of the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the output under the RUC test.

8.10.7 Penalties For Failure To Pass Tests

A Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource that fails an availability test, as determined under criteria to be established by the CAISO, shall be deemed not to have been available to provide the RUC Capacity or Ancillary Service concerned or the relevant portion of that service for the entire period the Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource was committed to provide the service, unless appropriate documentation (i.e., daily test records) confirming the availability of that service during the committed period(s) is presented to the CAISO. The “committed period” is defined as the total of all the hours/days the Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource was scheduled by the CAISO to provide the RUC Capacity or Ancillary Service beginning from: (i) the last successful availability test; or (ii) the last time the Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource actually provided Energy or reduced Demand to provide RUC Capacity or provided Energy or reduced Demand as part of the Ancillary Service; whichever results in a shorter committed period. The Scheduling Coordinator for a Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource that fails an availability test shall not be entitled to a RUC Availability Payment or payment for the Ancillary Service concerned for the committed period and adjustments to reflect this shall be made in the calculation of payments to the Scheduling Coordinator, provided that any such penalty shall be reduced to reflect any adjustment made over the duration of the committed period under Section 8.10.8 or Section 31.5.7.

-System Units providing RUC Capacity or providing Ancillary Services to the CAISO are subject to the same testing, compensation, and penalties as are applied to individual Generating Units providing RUC Capacity or provision of Ancillary Services.

If payments for RUC Capacity or for a particular Ancillary Service in a particular Settlement Period would be rescinded under more than one provision of this Section 8.10.7, the total amount to be rescinded for a particular Ancillary Service in a particular Settlement Period shall not exceed the total payment due in that Settlement Period.

8.10.8 Rescission Of Payments For Ancillary Service Capacity

If Ancillary Services capacity that receives an AS Award or Self-Provided Ancillary Services capacity provided from a Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource is Undispatchable Capacity, Unavailable Capacity, or Undelivered Capacity during the relevant Settlement Interval, then payments will be rescinded as described in this Section 8.10.8 and settled in accordance with Section 11.10.9. If the CAISO determines that non-compliance of a Participating Load, [Proxy Demand Resource](#), Generating Unit, System Unit or System Resource, with an operating order or Dispatch Instruction from the CAISO, or with any other applicable technical standard under the CAISO Tariff, causes or exacerbates system conditions for which the WECC imposes a penalty on the CAISO, then the Scheduling Coordinator of such Participating Load, [Proxy Demand Resource](#), Generating Unit, System Unit or System Resource shall be assigned that portion of the WECC penalty which the CAISO reasonably determines is attributable to such non-compliance, in addition to any other penalties or sanctions applicable under the CAISO Tariff.

8.10.8.1 Rescission of Payments for Undispatchable Ancillary Service Capacity

-The CAISO shall calculate the Real-Time ability of each Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource to deliver Energy from Ancillary Services capacity or Self-Provided Ancillary Services capacity for each Settlement Interval based on its maximum operating capability, actual telemetered output, and Operational Ramp Rate as described in Section 30.10. System Resources that are awarded Ancillary Services capacity in the Day-Ahead Market are required to electronically tag (E-Tag as prescribed by the WECC) the Ancillary Services capacity. If the amounts of Ancillary Services capacity in an electronic tag differ from the amounts of Ancillary Services capacity for the System Resource, the Undispatchable Capacity will equal the amount of the difference, and will be settled in accordance with the provisions of Section 11.10.9.1.

8.10.8.2 Rescission of Payments for Unavailable Ancillary Service Capacity

-If the CAISO determines that a Scheduling Coordinator has supplied Uninstructed Imbalance Energy to the CAISO during a Settlement Interval from the capacity of a Generating Unit, Participating Load, [Proxy Demand Resource](#), System Unit or System Resource that is obligated to supply Spinning Reserve or Non-Spinning Reserve to the CAISO, payments to the Scheduling Coordinator for the Ancillary Service

capacity used to supply Uninstructed Imbalance Energy shall be eliminated to the extent of the deficiency, in accordance with the provisions of Section 11.10.9.2.

8.10.8.3 Rescission of Payments for Undelivered Ancillary Service Capacity

-For each Settlement Interval in which a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource fails to supply Energy from Spinning Reserve or Non-Spinning Reserve capacity in accordance with a Dispatch Instruction, or supplies only a portion of the Energy specified in the Dispatch Instruction, the capacity payment will be reduced to the extent of the deficiency, in accordance with the provisions of Section 11.10.9.3.

* * *

10.3.2.1 Duty to Provide Settlement Quality Meter Data

-Scheduling Coordinators shall be responsible for: (i) the collection of Meter Data for the Scheduling Coordinator Metered Entities it represents; (ii) the provision of Settlement Quality Meter Data to the CAISO; and (iii) ensuring that the Settlement Quality Meter Data supplied to the CAISO meets the requirements of Section 10. Scheduling Coordinators shall provide the CAISO with Settlement Quality Meter Data for all Scheduling Coordinator Metered Entities served by the Scheduling Coordinator no later than the day specified in Section 10.3.6. Each Scheduling Coordinator for a Demand Response Provider shall aggregate the Settlement Quality Meter Data of the underlying Proxy Demand Resource to the level of the registration configuration of the Proxy Demand Resource in the Demand Response System.

Settlement Quality Meter Data for Scheduling Coordinator Metered Entities shall be either (1) an accurate measure of the actual consumption of Energy by each Scheduling Coordinator Metered Entity in each Settlement Period; (2) for Scheduling Coordinator Metered Entities connected to a UDC Distribution System and meeting that Distribution System's requirement for Load profiling eligibility, a profile of that consumption derived directly from an accurate cumulative measure of the actual consumption of Energy over a known period of time and an allocation of that consumption to Settlement Periods using the applicable Approved Load Profile; or (3) an accurate calculation by the Scheduling Coordinator representing entities operating pursuant to Existing Contracts.

* * *

10.3.6.1 Timing of Settlement Quality Meter Data Submission for Calculation of Initial Settlement Statement T+7B.

Scheduling Coordinators must submit Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for the Scheduling Coordinator Metered Entities they represent to the CAISO no later than noon on the fifth Business Day after the Trading Day (T+5B) for the Initial Settlement Statement T+7B calculation. Scheduling Coordinators cannot submit Estimated Settlement Quality Meter Data for Proxy Demand Resources.

- (a) In the absence of Actual Settlement Quality Meter Data, Scheduling Coordinators may submit Scheduling Coordinator Estimated Settlement Quality Meter Data using interval metering when available, sound estimation practices, and other available information including, but not limited to, bids, schedules, forecasts, temperature data, operating logs, recorders, and historical data. Scheduling Coordinator Estimated Settlement Quality Meter Data must be a good faith estimate that reasonably represents Demand and/or Generation quantities for each Settlement Period.
- (b) When Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received by the CAISO for a Scheduling Coordinator Metered Entity within five (5) Business Days from the Trading Day (T+5B), the CAISO will estimate the entity's Settlement Quality Meter Data for any outstanding metered Demand and/or Generation, excluding a Proxy Demand Resource, for use in the Initial Settlement Statement T+7B calculation, as provided in Section 11.1.5.

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11.1.5 Settlement Quality Meter Data For Initial Statement T+7B

-The CAISO's Initial Settlement Statement T+7B shall be based on the Settlement Quality Meter Data (actual or Scheduling Coordinator estimated) received in SQMDS. In the event Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received from a Scheduling Coordinator or CAISO Metered Entity, the CAISO will estimate Settlement Quality Meter Data

for that outstanding metered Demand or Generation, excluding a Proxy Demand Resource, for the Initial Settlement Statement T+7B calculation.

- (a) CAISO Estimated Settlement Quality Meter Data for metered Generation will be based on total Expected Energy and dispatch of that resource as calculated in the Real-Time Market and as modified by any applicable corrections to the Dispatch Operating Point for the resource.
- (b) CAISO Estimated Settlement Quality Meter Data for metered Demand will be based on Scheduled Demand by the appropriate LAP. This value will be increased by fifteen percent (15%) if the total actual system Demand in Real Time, as determined by the CAISO each hour, is greater than the total estimated metered demand by more than fifteen percent (15%). Total estimated metered demand is the sum of the value of Scheduling Coordinator submitted metered Demand, CAISO polled estimated Settlement quality metered Demand, and Scheduled Demand for unsubmitted metered Demand at the fifth (5) Business Day after the Trading Day (T+5B). CAISO Estimated Settlement Quantity Meter Demand for Participating Load will not be increased by fifteen percent (15%).

(c) CAISO will not estimate Settlement Quality Meter Data for Proxy Demand Resources.

* * *

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, Proxy Demand Resources, 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).

* * *

11.2.2.2.1 Undispatchable RUC Capacity

-If a Scheduling Coordinator has Undispatchable Capacity that it is obligated to supply to the CAISO during a Settlement Interval, the RUC Availability Payment, if applicable for any non-Resource Adequacy Capacity, for the amount of Energy that cannot be delivered from the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the Settlement Interval shall be rescinded.

-If a Partial Resource Adequacy Resource is providing RUC Capacity from both the non-Resource Adequacy Capacity and the Resource Adequacy Capacity the payment rescission will occur for the non-Resource Adequacy Capacity prior to eliminating any capacity for the Resource Adequacy Capacity of the Partial Resource Adequacy Resource.

11.2.2.2 Undelivered RUC Capacity

-For each Settlement Interval in which the total metered output for a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is less than Real-Time Expected Energy by more than the Tolerance Band and less than the RUC Schedule, the RUC Award for that Settlement Interval will be rescinded.

* * *

11.5.2 Uninstructed Imbalance Energy

-Scheduling Coordinators shall be paid or charged a UIE Settlement Amount for each LAP, PNode or Scheduling Point for which the CAISO calculates a UIE quantity. UIE quantities are calculated for each resource that has a Day-Ahead Schedule, Dispatch Instruction, Real-Time Interchange Export Schedule or Metered Quantity. For MSS Operators electing gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the UIE for such entities is settled similarly to how UIE for non-MSS entities is settled as provided in this Section 11.5.2. The CAISO shall account for UIE in two categories: (1) Tier 1 UIE is accounted as the quantity deviation from the resource's IIE; and (2) Tier 2 UIE is accounted as the quantity deviation from the resource's Day-Ahead Schedule or as described in Section 11.2.5.4. For Generating Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources and all Participating Load and Proxy Demand Resources, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Resource-Specific Tier 1 UIE Settlement Interval Price as calculated per Section 11.5.2.1, and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the

product of its Tier 2 UIE quantity and the simple average of the relevant Dispatch Interval LMPs. For resources within a System Unit of MSS Operators that have elected net Settlement, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Real-Time Settlement Interval MSS Price and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price. The Tier 2 UIE Settlement Amount for non-Participating Load and MSS Demand under gross Settlement is settled as described in Section 11.5.2.2. For MSS Operators that have elected net Settlement, the Tier 2 UIE Settlement Amount for Demand of a net MSS Demand is calculated for the Trading Hour as the sum of the product of the hourly Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price.

* * *

11.5.2.4 Adjustment to Metered Load to Settle UIE

For the purpose of settling Uninstructed Imbalance Energy of a Scheduling Coordinator representing a Load Serving Entity, the amount of PDR Energy Measurement delivered by a Proxy Demand Resource that is also served by that Load Serving Entity will be added to the metered load quantity of the Load Serving Entity's Scheduling Coordinator's Load Resource ID with which the Proxy Demand Resource is associated.

* * *

11.5.4.1 Application and Calculation of Dispatch Interval LMPs

-Payments to Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected gross Settlement, that supply Imbalance Energy will be based on Resource-Specific Settlement Interval LMPs. The Resource-Specific Settlement Interval LMPs are established using Dispatch Interval LMPs. Dispatch Interval LMPs will apply to Generating Units, System Units for MSS Operators that have elected gross Settlement, Physical Scheduling Plants, Dynamic System Resources, ~~and~~ the Demand response portion of a Participating Load, and Proxy Demand Resources for Settlement of Imbalance Energy. The Dispatch Interval LMP will be calculated at each PNode associated with such resource irrespective of whether the resource at that PNode has received Dispatch Instructions. The Dispatch

Interval LMPs are then used to calculate a Resource-Specific Settlement Interval LMP and a Resource Specific Tier 1 UIE Settlement Interval Price for each Generating Unit, System Unit or MSS Operator that has elected gross Settlement, Physical Scheduling Plant, Dynamic System Resource, ~~and~~ Participating Load, and Proxy Demand Resource within the CAISO Controlled Grid. Payments to Scheduling Coordinators for MSS Operators that have elected net Settlement that supply Imbalance Energy will be based on the Real-Time Settlement Interval MSS Price.

* * *

11.6 ~~NOT USED~~ Settlement of Transactions Involving Proxy Demand Resources

11.6.1 Settlement of Energy Transactions Involving PDR

Settlements for Energy provided by Demand Response Providers from Proxy Demand Resources shall be based on the PDR Energy Measurement for the Proxy Demand Resources. The PDR Energy Measurement for a Proxy Demand Resource shall be the quantity of Energy equal to the difference between the Customer Baseline of the Proxy Demand Resource and the actual underlying Load of the Proxy Demand Resource for a Demand response event. For each Proxy Demand Resource, the CAISO will calculate the Customer Baseline as set forth in Section 4.13.4.

* * *

11.8 Bid Cost Recovery

-For purposes of determining the Unrecovered Bid Cost Uplift Payments for each Bid Cost Recovery Eligible Resource as determined in Section 11.8.5 and the allocation of Unrecovered Bid Cost Uplift Payments for each Settlement Interval, the CAISO shall sequentially calculate the Bid Costs, which can be positive (IFM, RUC or RTM Bid Cost Shortfall) or negative (IFM, RUC or RTM Bid Cost Surplus) in the IFM, RUC and the Real-Time Market, as the algebraic difference between the respective IFM, RUC or RTM Bid Cost and the IFM, RUC or RTM Market Revenues, which is netted across the CAISO Markets. In any Settlement Interval a resource is eligible for Bid Cost Recovery payments only if it is On, or in the case of a Participating Load or a Proxy Demand Resource, only if the resource has actually stopped or started consuming pursuant to the Dispatch Instruction. BCR Eligible Resources for different MSS Operators are supply resources listed in the applicable MSS Agreement. All Bid Costs shall be based on

mitigated Bids as specified in Section 39.7. In order to be eligible for Bid Cost Recovery, Non-Dynamic Resource-Specific System Resources must provide to the CAISO SCADA data by telemetry to the CAISO's EMS in accordance with Section 4.12.3 demonstrating that they have performed in accordance with their CAISO commitments.

* * *

11.8.6.5.3 Allocation of the RUC Compensation Costs

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

* * *

11.10.9.1 Rescission Undispatchable AS

~~If~~ a Scheduling Coordinator has Undispatchable Capacity that it is obligated to supply to the CAISO during a Settlement Interval, the Ancillary Service capacity payment for the amount of Energy that cannot be delivered from the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the Settlement Interval shall be rescinded; provided, however, that to the extent an

Ancillary Service procured in the IFM from a System Resource becomes Undispatchable Capacity due to an Intertie transmission derate before the Operating Hour for which it was procured, in rescinding the Ancillary Service capacity payment, the CAISO shall credit back to the Scheduling Coordinator any charge for Congestion assessed pursuant to Section 11.10.1.1.1, but at the lower of the Day-Ahead and simple average of the fifteen (15) minute Real-Time Shadow Price over the applicable Trading Hour on the corresponding Intertie.

11.10.9.2 Rescission of Payments for Unavailable Ancillary Service Capacity

Payments to the Scheduling Coordinator representing the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource for the Ancillary Service capacity used to supply Uninstructed Imbalance Energy shall not be eliminated to the extent of the deficiency if: (i) the deficiency in the availability of Ancillary Service capacity from the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is attributable to control exercised by the CAISO in that Settlement Interval through AGC operation, an RMR Dispatch Notice, or an Exceptional Dispatch; or (ii) a penalty is imposed under Section 8.10.7 with respect to the deficiency.

-In calculating the amount of the payment to be rescinded under Section 8.10.8.2, the CAISO shall reduce the payment for Ancillary Service capacity otherwise payable for the Settlement Interval by the product of the applicable prices and the amount of Ancillary Service capacity from which the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource has supplied Uninstructed Imbalance Energy in that Settlement Interval.

11.10.9.3 Rescission of Payments for Undelivered Ancillary Service Capacity.

-If the total metered output of a Generating Unit, Participating Load, System Unit or System Resource is insufficient to supply the amount of Instructed Imbalance Energy associated with a Dispatch Instruction issued in accordance with awarded or self-provided Spinning Reserves or awarded or self-provided Non-Spinning Reserves in any Settlement Interval, then the capacity payment associated with the difference between the scheduled amount of each Ancillary Service for which insufficient Energy was delivered and the actual output attributed to the response to the Dispatch Instruction shall be rescinded. If, after the issuance of a Dispatch Instruction associated with Non-Spinning Reserves, the actual response of a Proxy Demand Resource is insufficient to supply the amount of Instructed Imbalance Energy associated

with a Dispatch Instruction issued in accordance with awarded or self-provided Non-Spinning Reserves, then the capacity payment associated with the difference between the scheduled amount and the actual amount attributed to the response to the Dispatch Instruction (as established pursuant to the applicable Business Practice Manual) shall be rescinded. However, no capacity payment shall be rescinded if the shortfall in the metered output of the Generating Unit, Participating Load, Proxy Demand Resource, System Unit, or System Resource is less than a deadband amount published by CAISO on the CAISO Website at least twenty-four hours prior to the Settlement Interval. For any Settlement Interval with respect to which no deadband amount has been published by the CAISO, the deadband amount shall be zero MWh.

* * *

11.16.1 Resources With More Than One Capacity Obligation

-If the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is scheduled to provide more than one capacity obligation in a Settlement Interval, the order in which the non-compliant Ancillary Service and RUC Capacity will be apportioned to the various services under Section 8.10.8 is as follows. For Undispatchable Capacity the non-compliant capacity is first apportioned to RUC Capacity and then to any Non-Spinning Reserves. If the amount of Undispatchable Capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. For Unavailable Capacity or Undelivered Capacity the non-compliant capacity is first apportioned to any Non-Spinning Reserves. If the amount of non-compliant Ancillary Service capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. If the same Ancillary Service is scheduled in the Day-Ahead Market or Real-Time Market, then the payments shall be rescinded in proportion to the amount of each Ancillary Service scheduled in each market. If the same Ancillary Service is self-provided and Bid, the order of rescission will be first the amount of Ancillary Service amounts submitted in Bids and then the Self-Provided Ancillary Service.

* * *

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. Publishing of Uninstructed Deviation Penalty results will not occur on the Initial Settlement Statement T+7B but rather will occur on the Recalculation Settlement Statement T+38B. 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 Non-Dynamic 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) the Uninstructed Deviation Penalty will only apply to the pre-Dispatched amount of the Bid that is declined or not delivered, (ii) the Uninstructed Deviation Penalty will not apply to a portion of a pre-Dispatched Bid that is subsequently not delivered at the direction of a Balancing Authority, 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 Uninstructed Imbalance Energy 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, or Demand Response Services.
- ~~-(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.
- ~~-(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 Uninstructed 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 as specified in Appendix R, which specifies when Uninstructed Deviations from individual resources may be aggregated.
- (i) The Uninstructed Deviation Penalty shall not apply to any Uninstructed Imbalance Energy resulting from compliance with a directive by the CAISO or the Reliability Coordinator.
- (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 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 Non-Dynamic 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 Balancing Authority 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 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 Expected Energy in accordance with Section 9.3.10.6 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 Operating Hour 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 Limit 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 Limit 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 Limit for a duration equal to the minimum of two Settlement Intervals or the time specified in the Master File for the Generating Unit to disconnect from the grid after reaching its Minimum Operating Limit 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 Limit 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 Limit 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, including a response to correct frequency decay, 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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11.24.3 Exemptions From The Interim Scheduling Charge

The Interim Scheduling Charge shall not apply to the following circumstances:

- (a) For any given Trading Day for Scheduling Coordinators in each applicable LAP in which the CAISO's daily Day-Ahead peak CAISO Forecast of CAISO Demand is ninety-five percent (95%) or less than daily actual metered CAISO Demand in the respective northern and southern regions of the CAISO Balancing Authority Area as further described in the Business Practice Manuals.
- (b) For any given Trading Hour when a Scheduling Coordinator's metered CAISO Demand is less than or equal to 500 MW in a particular LAP, that Scheduling Coordinator shall not be subject to the Interim Scheduling Charge.
- (c) For metered CAISO Demand by Participating Loads and Proxy Demand Resources.
- (d) For metered CAISO Demand that is MSS Load following Demand.
- (e) For any given Trading Hour when the Hourly Real-Time LAP Price is less than the Day-Ahead LAP Price for the same Trading Hour in the applicable LAP.
- (f) For metered CAISO Demand of Station Power Loads.

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16.5.1 System Emergency Exceptions

~~As set forth in Section 4.2.1, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating TOs, Participating Generators, Participating Loads, Demand Response Providers, Balancing Authorities (to the extent the agreement between the Balancing Authority~~

and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources must comply fully and promptly with CAISO Dispatch Instructions and operating orders, unless such operation would impair public health or safety. The CAISO will honor the terms of Existing Contracts, provided that in a System Emergency and circumstances in which the CAISO considers that a System Emergency is imminent or threatened, holders of Existing Rights must follow CAISO operating orders even if those operating orders directly conflict with the terms of Existing Contracts, unless such operating orders are inconsistent with the terms of an agreement between the CAISO and a Balancing Authority. In the event of a conflict between the CAISO Tariff and an agreement between the CAISO and a Balancing Authority, the agreement will govern. For this purpose CAISO operating orders to shed Load shall not be considered as an impairment to public health or safety. This section does not prohibit a Scheduling Coordinator from modifying its Bid or re-purchasing Energy in the HASP or Real-Time Market.

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17.2.1 System Emergency Exceptions

-As set forth in Section 4.2.1, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating TOs, Participating Generators, Participating Loads, Demand Response Providers, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources must comply fully and promptly with the CAISO's Dispatch Instructions and operating orders, unless such operation would impair public health or safety. The CAISO will honor the terms of TORs, provided that in a System Emergency and circumstances in which the CAISO considers that a System Emergency is imminent or threatened, to enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, holders of TORs must follow CAISO operating orders even if those operating orders directly conflict with the terms of applicable Existing Contracts or any other contracts pertaining to the TORs, unless such operating orders are inconsistent with the terms of an agreement between the CAISO and a Balancing Authority. In the event of a conflict between the CAISO Tariff and an agreement between the CAISO and a Balancing Authority, the agreement will govern. For this purpose CAISO operating orders to shed Load shall not be considered as

an impairment to public health or safety. This section does not prohibit a Scheduling Coordinator from modifying its Bid or re-purchasing Energy in the HASP or RTM.

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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. Scheduling Coordinators may use Dynamic System Resources to Self-Provide Ancillary Services as specified in Section 8. Scheduling Coordinators may not use Non-Dynamic System Resources to Self-Provide Ancillary Services. All System Resources, including Dynamic System Resources and Non-Dynamic System Resources, will be charged the Shadow Price as prescribed in Section 11.10, for any awarded Ancillary Services. Participating Loads and Demand Response Providers are eligible to provide Non-Spinning Reserve only. A Scheduling Coordinator may submit Ancillary Services Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve for the same capacity by providing a separate price in \$/MW per hour as desired for each Ancillary Service. The Bid for each Ancillary Services is a single Bid segment. Only resources certified by the CAISO as capable of providing Ancillary Services are eligible to provide Ancillary Services and submit Ancillary Services Bids. In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; (2) Ramp Rate (Operating Reserve Ramp Rate and Regulation Ramp Rate, if applicable); and (3) Distribution Curve for Physical Scheduling Plant or System Unit. 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. If a Scheduling Coordinator's Submission to Self-Provide an Ancillary Service is qualified as specified in Section 8.6, the Scheduling Coordinator must submit an Energy Bid that covers the self-provided capacity prior to the

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

As provided in Section 30.5.2.6.4, a Submission to Self-Provide an Ancillary Service shall contain all of the requirements of a Bid for Ancillary Services with the exception of Ancillary Service Bid price information. In addition, Scheduling Coordinators must comply with the Ancillary Services requirements of Section 8. Scheduling Coordinators submitting Ancillary Services Bids for System Resources in the HASP or Real-Time Market must also submit an Energy Bid for the associated Ancillary Services Bid under the same Resource ID, otherwise the bid validation rules in Section 30.7.6.1 will apply to cover any portion of the Ancillary Services Bid not accompanied by an Energy Bid. As described in Section 33.7, if the resource is a Non-Dynamic System Resource, the CAISO will only use the Ancillary Services Bid in the HASP optimization and will not use the associated Energy Bid for the same Resource ID to schedule Energy from the Non-Dynamic System Resource in the HASP. Scheduling Coordinators must also comply with the bidding rules associated with the must offer requirements for Ancillary Services specified in Section 40.6.

* * *

30.5.2.6.3 Non-Spinning Reserve Capacity

In the case of Non-Spinning Reserve, the Ancillary Service Bid must also contain: (a) the MW capability available within ten (10) minutes; (b) the Bid price of the capacity reservation; (c) time of synchronization

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

* * *

30.6 ~~[NOT USED]~~ Bidding and Scheduling of Proxy Demand Resources

30.6.1 Bidding and Scheduling Generally

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, the CAISO will treat Bids for Energy and Ancillary Services on behalf of Proxy Demand Resources like Bids for Energy and Ancillary Services on behalf of other types of supply resources. A Scheduling Coordinator for a Demand Response Provider representing a Proxy Demand Resource may submit (1) Energy Bids only in the Day-Ahead Market and in the Real-Time Market; (2) RUC Availability Bids; and (3) Ancillary Service Bids in the Day-Ahead Market and Real-Time Market for those Ancillary Services for which the Proxy Demand Resource is certified. A Scheduling Coordinator for a Demand Response Provider representing a Proxy Demand Resource may Self-Provide Ancillary Services for which it is certified. Demand Response Services will be bid separately from the underlying demand for Proxy Demand Resources.

* * *

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 certified Ancillary Services capacity for Regulation, or Operating Reserves on the Generating Units, System Units, Participating Loads, [Proxy Demand Resources](#), 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 by the Market Close of HASP and the RTM, 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 Practice Manuals for use in the HASP and IFM. If an AS Bid or Submission to Self-Provide an AS is submitted in the Real-Time for Spinning Reserve 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 Reserve and Non-Spinning Reserve with only a partial Energy Bid for the AS capacity, the CAISO will generate an Energy Bid for the uncovered portions.

For Generating Units with certified Regulation capacity, if there no Bid for Regulation in the Real-Time Market, but there is a Day-Ahead award for Regulation Up or Regulation Down or a submission to self-provide Regulation Up or Regulation Down, respectively, the CAISO will generate a Regulation Up or

Regulation Down Bid at the default Ancillary Service Bid price of \$0 up to the certified Regulation capacity for the Generating Unit minus any Regulation awarded or self-provided in the Day-Ahead. If there is a Bid for Regulation Up or Regulation Down in the Real-Time Market, the CAISO will increase the respective Bid up to the certified Regulation capacity for the Generating Unit minus any Regulation awarded or self-provided in the Day-Ahead. If a Self-Schedule amount is greater than the Regulation Limit for Regulation Up, the Regulation Up Bid will be erased.

Notwithstanding any of the provisions of Section 30.7.6.1 set forth above, the CAISO will not insert or extend any Bid for a Resource Adequacy Resource that is a Use-Limited Resource.

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 or Proxy Demand Resources offered in the Day-Ahead Market or in the Real-Time Market for such services unless specifically approved by the CAISO (except with respect to System Units, in which case Scheduling Coordinators are required to identify and disclose the resource specific information for all Generating Units ~~and~~ Participating Loads, and Proxy Demand Resources constituting the System Unit for which Bids and Submissions to Self-Provide Ancillary Services are submitted into the CAISO's Day-Ahead Market 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 Import Bids along with internal resources;
- (e) establish Real-Time Ancillary Service Awards through RTUC from imports and ~~resources~~ generation internal to the CAISO Balancing Authority Area at fifteen (15) minutes intervals to the hour of operation; and
- (f) procure sufficient Ancillary Services in the Day-Ahead and Real-Time Markets to meet its forecasted requirements.

* * *

30.7.8 Format And Validation Of Start-Up And Shut-Down Times

For a Generating Unit or a Resource-Specific System Resource, 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 zero (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 and for a Proxy Demand Resource, a single Shut-Down time in minutes is the time required for the resource to Shut-Down after receiving a Dispatch Instruction.

30.7.9 Format And Validation Of Start-Up Costs And Shut-Down Costs

For a Generating Unit or a Resource-Specific System Resource, 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 zero (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 and Proxy Demand Resources, a single Shut-Down Cost in dollars (\$) is the cost incurred to Shut-Down the resource after receiving a Dispatch Instruction. The submitted Shut-Down Cost must not be negative.

* * *

31. Day-Ahead Market

The DAM consists of the following functions performed in sequence: the MPM-RRD, IFM, and RUC. Scheduling Coordinators may submit Bids for Energy, Ancillary Services and RUC Capacity for an applicable Trading Day. The CAISO shall issue Schedules for all Supply and Demand, including Participating Load and Proxy Demand Resources, pursuant to their Bids as provided in this Section 31.

* * *

31.2 Market Power Mitigation And RRD (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 determining RMR Generation 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. Bids on behalf of Proxy Demand Resources are not mitigated and are not considered in the MPM-RRD process. The mitigated or unmitigated Bid identified in the MPM-RRD process for all resources that cleared in the MPM-RRD are then passed to the IFM. The CAISO performs the MPM-RRD for the DAM for the twenty-four (24) hours of the targeted Trading Day.

* * *

31.3.1.4 Eligibility to Set the Day-Ahead LMP

All Generating Units, Participating Loads, non-Participating Loads, Proxy Demand Resources, System Resources, System Units, or Constrained Output Generators subject to the provisions in Section 27.7,

with Bids, including Generated Bids, that are unconstrained due to Ramp Rates, MSG Transitions, Forbidden Operating Regions, or other temporal constraints are eligible to set the LMP, provided that (a) the Schedule for the Generating Unit or Resource-Specific System Resource is between its Minimum Operating Limit and the highest MW value in its Economic Bid or Generated Bid, or (b) the Schedule for the Participating Load, Proxy Demand Resource, non-Participating Load, non-Resource-Specific System Resource, or System Unit is between zero (0) MW and the highest MW value in its Economic Bid or Generated Bid. If (a) a resource's Schedule is constrained by its Minimum Operating Limit or the highest MW value in its Economic Bid or Generated Bid, (b) the CAISO enforces a resource-specific constraint on the resource due to an RMR or Exceptional Dispatch, (c) the resource is constrained by a boundary of a Forbidden Operating Region or is Ramping through a Forbidden Operating Region, or (d) the resource's full Ramping capability is constraining its inter-hour change in Schedule, the resource cannot be marginal and thus is not eligible to set the LMP. Resources identified as MSS Load following resources are not eligible to set the LMP. A Constrained Output Generator will be eligible to set the hourly LMP if any portion of its Energy is necessary to serve Demand.

* * *

31.5.4 RUC Procurement Constraints

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

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

Generation Units, net imports, ~~and~~ Participating Loads, and Proxy Demand Resources plus the Minimum Load Energy committed by RUC is not greater than a configurable percentage of the system CAISO Forecast of CAISO Demand.

- (c) 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.

* * *

31.5.7 Rescission Of Payments For RUC Capacity

If capacity committed in RUC provided from a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is Undispatchable Capacity or Undelivered Capacity during the relevant Settlement Interval, then payments will be rescinded as described in this Section 31.5.7 and settled in accordance with Section 11.2.2.2. If the CAISO determines that non-compliance of a Participating Load, Proxy Demand Resource, Generating Unit, System Unit or System Resource with an operating order or Dispatch Instruction from the CAISO, or with any other applicable technical standard under the CAISO Tariff, causes or exacerbates system conditions for which the WECC imposes a penalty on the CAISO, then the Scheduling Coordinator of such Participating Load, Proxy Demand Resource, Generating Unit, System Unit or System Resource shall be assigned that portion of the WECC penalty which the CAISO reasonably determines is attributable to such non-compliance, in addition to any other penalties or sanctions applicable under the CAISO Tariff. The rescission of payments in this Section 31.5.7 shall not apply to a capacity payment for any particular RUC Capacity if the RUC Availability Payment is less than or equal to zero (0).

31.5.7.1 Rescission of Payments for Undispatchable RUC Capacity

The CAISO shall calculate the Real-Time ability of each Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource to deliver Energy from or capacity committed in RUC for each Settlement Interval based on its maximum operating capability, actual telemetered output (or, in the case of Proxy Demand Resources, an estimate of actual output),⁷ and Operational Ramp Rate as described in Section 30.10. If the Undispatchable Capacity is capacity committed in RUC and is from a Generating Unit, System Unit or System Resource that is a Resource Adequacy Resource, there is no payment obligation to the CAISO for the Undispatchable Capacity. The CAISO will report the instance of non-compliance by the Resource Adequacy Resource to the appropriate Local Regulatory Authority.

31.5.7.2 Rescission of Payments for Undelivered RUC Capacity

For each Settlement Interval in which a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource fails to supply Energy from capacity committed in RUC in accordance with a Dispatch Instruction, or supplies only a portion of the Energy specified in the Dispatch Instruction, the RUC Availability Payment will be reduced to the extent of the deficiency, in accordance with the provisions of Section 11.2.2.2.2, which for a Multi-Stage Generating Resource is evaluated for the Generating Unit or Dynamic Resource-Specific System Resource and not by the MSG Configuration.

* * *

33.4 MPM-RRD For The HASP And The RTM

After the Market Close of the HASP and RTM, after the CAISO has validated the Bids pursuant to section 30.7, and prior to running the HASP optimization, the CAISO conducts the MPM-RRD process, the results of which will be utilized in the HASP optimization and all RTM processes for the Trading Hour. Bids on behalf of the Proxy Demand Resources are not mitigated and are not considered in the MPM-RRD process. The MPM-RRD process for the HASP and RTM produces results for each fifteen (15)-minute interval of the Trading Hour and thus may produce up to four mitigated Bids for any given resource for the Trading Hour. A single mitigated Bid for the entire Trading Hour is calculated using the minimum Bid price of the four mitigated Bid curves at each Bid quantity level. The Bids are mitigated only for the Bid quantities that are above the minimum quantity cleared in the CCR across all four fifteen-minute intervals. For a Condition 1 RMR Unit, if the dispatch level produced through the ACR is greater than the dispatch level produced through the CCR, and for a Condition 2 RMR Unit that is dispatched through the ACR, the

resource will be flagged as an RMR Dispatch in the RTM and shall constitute a Dispatch notice pursuant to the RMR Contract.

* * *

34. Real-Time Market

The RTM is the market conducted by the CAISO during any given Operating Day in which Scheduling Coordinators may provide Real-Time Imbalance Energy and Ancillary Services. The Real-Time Market consists of the Real-Time Unit Commitment (RTUC), the Short-Term Unit Commitment (STUC) and the Real-Time Dispatch (RTD) processes. The Short-Term Unit Commitment (STUC) runs once per hour near the top of the hour and utilizes the SCUC optimization to commit Medium Start, Short Start and Fast Start Units to meet the CAISO Demand Forecast. The CAISO shall dispatch all resources, including Participating Load and Proxy Demand Resource, pursuant to submitted Bids or pursuant to the provisions below on Exceptional Dispatch. In Real-Time, resources are required to follow Real-Time Dispatch Instructions. The Time Horizon of the STUC starts with the third fifteen-minute interval of the current Trading Hour and extending for the next four Trading Hours. The RTUC runs every fifteen (15) minutes and utilizes the SCUC optimization to commit Fast Start and some Short Start resources and to procure any needed AS on a fifteen-minute basis. Any given run of the RTUC will have a Time Horizon of approximately sixty (60) to 105 minutes (four to seven fifteen-minute intervals) depending on when during the hour the run occurs. Not all resources committed in a given STUC or RTUC run will necessarily receive CAISO commitment instructions immediately, because during the Trading Day the CAISO may issue a commitment instruction to a resource only at the latest possible time that allows the resource to be ready to provide Energy when it is expected to be needed. The RTD uses a Security Constrained Economic Dispatch (SCED) algorithm every five minutes throughout the Trading Hour to determine optimal Dispatch Instructions to balance Supply and Demand. Updates to the Base {Market Model adjusted as described in Sections 27.5.1 and 27.5.6} used in the RTM optimization include current estimates of real-time unscheduled flow at the Interties. The RTD optimization utilizes up to a sixty-five (65)-minute Time Horizon (thirteen (13) five (5)-minute intervals), but the CAISO issues Dispatch Instructions only for the next target five (5)-minute Interval. The RTUC, STUC and RTD processes of the RTM use the same {Base Market Model adjusted as described in Sections 27.5.1 and 27.5.6} used in

the DAM and the HASP, subject to any necessary updates of the {Base Market Model adjusted as described in Sections 27.5.1 and 27.5.6} pursuant to changes in grid conditions after the DAM has run.

* * *

34.5 General Dispatch Principles

The CAISO shall conduct all Dispatch activities consistent with the following principles:

- (1) The CAISO shall issue AGC instructions electronically as often as every four (4) seconds from its Energy Management System (EMS) to resources providing Regulation and on Automatic Generation Control to meet NERC and WECC performance requirements;
- (2) In each run of the RTED or RTCD the objective will be to meet the projected Energy requirements over the Time Horizon of that run, subject to transmission and resource operational Constraints, taking into account the short term CAISO Forecast of CAISO Demand adjusted as necessary by the CAISO Operator to reflect scheduled changes to Interchange and non-dispatchable resources in subsequent Dispatch Intervals;
- (3) Dispatch Instructions will be based on Energy Bids for those resources that are capable of intra-hour adjustments and will be determined through the use of SCED except when the CAISO must utilize the RTMD;
- (4) When dispatching Energy from awarded Ancillary Service capacity the CAISO will not differentiate between Ancillary Services procured by the CAISO and Submissions to Self-Provide an Ancillary Service;
- (5) The Dispatch Instructions of a resource for a subsequent Dispatch Interval shall take as a point of reference the actual output obtained from either the State Estimator solution or the last valid telemetry measurement and the resource's operational ramping capability;
- (6) In determining the Dispatch Instructions for a target Dispatch Interval while at the same time achieving the objective to minimize Dispatch costs to meet the

forecasted conditions of the entire Time Horizon, the Dispatch for the target Dispatch Interval will be affected by: (a) Dispatch Instructions in prior intervals, (b) actual output of the resource, (c) forecasted conditions in subsequent intervals within the Time Horizon of the optimization, and (d) operational Constraints of the resource, such that a resource may be dispatched in a direction for the immediate target Dispatch Interval that is different than the direction of change in Energy needs from the current Dispatch Interval to the next immediate Dispatch Interval;

- (7) Through Start-Up Instructions the CAISO may instruct resources to start up or shut down, or may reduce Load for Participating Loads and Proxy Demand Resources, over the Time Horizon for the RTM based on submitted Bids, Start-Up Costs and Minimum Load Costs, Pumping Costs and Pump Shut-Down Costs, as appropriate for the resource, consistent with operating characteristics of the resources that the SCED is able to enforce. In making Start-Up or Shut-Down decisions in the RTM, the CAISO may factor in limitations on number of run hours or Start-Ups of a resource to avoid exhausting its maximum number of run hours or Start-Ups during periods other than peak loading conditions;
- (8) The CAISO shall only start up resources that can start within the Time Horizon used by the RTM optimization methodology;
- (9) The RTM optimization may result in resources being shut down consistent with their Bids and operating characteristics provided that: (1) the resource does not need to be on-line to provide Energy, (2) the resource is able to start up within the RTM optimization Time Horizon, (3) the Generating Unit is not providing Regulation or Spinning Reserve, and (4) Generating Units online providing Non-Spinning Reserve may be shut down if they can be brought up within ten (10) minutes as such resources are needed to be online to provide Non-Spinning Reserves; and

- (10) For resources that are both providing Regulation and have submitted Energy Bids for the RTM, Dispatch Instructions will be based on the Regulation Ramp Rate of the resource rather than the Operational Ramp Rate if the Dispatch Operating Point remains within the Regulating Range. The Regulating Range will limit the Ramping of Dispatch Instructions issued to resources that are providing Regulation.

34.6 Dispatch ~~of Dispatch to Units~~Instructions for Generating Units and, Participating Loads, and PDR

The CAISO may issue Dispatch Instructions covering:

- (a) Ancillary Services;
- (b) Energy, which may be used for:
 - (i) Congestion relief;
 - (ii) provision of Imbalance Energy; or
 - (iii) replacement of an Ancillary Service;
- (c) agency operation of Generating Units, Participating Loads, Proxy Demand Resources, or Interconnection schedules, for example:
 - (i) output or Demand that can be Dispatched to meet Applicable Reliability Criteria;
 - (ii) Generating Units that can be Dispatched for Black Start;
 - (iii) Generating Units that can be Dispatched to maintain governor control regardless of their Energy schedules;
- (d) the operation of voltage control equipment applied on Generating Units as described in this CAISO Tariff;
- (e) MSS Load following instructions provided to the CAISO, which the CAISO incorporates to create their Dispatch Instructions; or
- (f) necessary to respond to a System Emergency or imminent emergency.

* * *

34.8 Dispatch Of Energy From Ancillary Services

The CAISO may issue Dispatch Instructions to Participating Generators, Participating Loads, [Proxy Demand Resources](#), [\(via communication with the Scheduling Coordinators of Demand Response Providers\)](#) System Units and System Resources contracted to provide Ancillary Services (either procured through the CAISO Markets, Self-Provided by Scheduling Coordinators, or 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, [Proxy Demand Resources](#), 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 NERC and WECC reliability standards, including any requirements of the NRC. In the event of an unplanned Outage, a Contingency or a threatened or actual System Emergency, the CAISO may dispatch Contingency Only reserves. If Contingency Only reserves are dispatched through the RTCD, which as described in Section 34.3.2, 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 39.6.1 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 NERC and WECC reliability standards, including any requirements of the NRC. If the CAISO uses Operating Reserve to meet Real-Time Energy requirements, and if the CAISO needs Operating Reserves to satisfy NERC and WECC reliability standards, including any requirements of the NRC, the CAISO shall restore the Operating Reserves to the extent necessary to meet NERC and WECC reliability standards, including any requirements of the NRC through either the procurement of additional Operating Reserve in

the RTM or the Dispatch of other Energy Bids in SCED to allow the resources that were providing Energy from the Operating Reserve to return to their Dispatch Operating Point. The Energy Bid Curve is not used by the AGC system when Dispatching Energy from Regulation. For Regulation Up capacity, the upper portion of the resource capacity from its Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve. For a resource providing Regulation Up or Operating Reserves the remaining Energy Bid Curve shall be allocated to any RTM AS Awards in the following order from higher to lower capacity where applicable: (a) Spinning Reserve; and (b) Non-Spinning Reserve. For resources providing Regulation Up, the applicable upper Regulation Limit shall be used as the basis of allocation if it is lower than the upper portion of the Energy Bid Curve. The remaining portion of the Energy Bid Curve, if there is any, shall constitute a Bid for RTM Energy. For Regulation Down capacity, the lower portion of the resource capacity from its applicable Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve.

* * *

34.9.1 System Reliability Exceptional Dispatches

The CAISO may issue a manual Exceptional Dispatch for Generation Units, System Units, Participating Loads, [Proxy Demand Resources](#), Dynamic System Resources, and Condition 2 RMR Units pursuant to Section 41.9, in addition to or instead of resources with a Day-Ahead Schedule dispatched by RTM optimization software during a System Emergency, or to prevent an imminent System Emergency or a situation that threatens System Reliability and cannot be addressed by the RTM optimization and system modeling. To the extent possible, the CAISO shall utilize available and effective Bids from resources before dispatching resources without Bids. To deal with any threats to System Reliability, the CAISO may also issue a manual Exceptional Dispatch in the Real-Time for Non-Dynamic System Resources that have not been or would not be selected by the RTM for Dispatch, but for which the relevant Scheduling Coordinator has submitted a Bid into the HASP.

* * *

34.19.1 General Principles

Instructed and Uninstructed Imbalance Energy shall be paid or charged the applicable Resource-Specific Settlement Interval LMP except for hourly pre-dispatched Instructed Imbalance Energy, which shall be

settled as set forth in Section 11.5.2. These prices are determined using the Dispatch Interval LMPs.

The Dispatch Interval LMPs shall be based on the Bid of the marginal Generating Units, System Units, ~~and~~ Participating Loads, and Proxy Demand Resources dispatched by the CAISO to increase or reduce Demand or Energy output in each Dispatch Interval as provided in Section 34.19.2.1.

The CAISO will respond to the Dispatch Instructions issued by the SCED to the extent practical in the time available and acting in accordance with Good Utility Practice. The CAISO will record the reasons for any variation from the Dispatch Instructions issued by the SCED.

* * *

34.19.2.2 Computation

For each Dispatch Interval, the CAISO will compute updated Imbalance Energy needs and will Dispatch Generating Units, System Units, Dynamic System Resources, ~~and~~ Participating Load, and Proxy Demand Resources according to the CAISO's SCED during that time period to meet Imbalance Energy requirements. The RTM transactions will be settled at the Dispatch Interval LMPs in accordance with Section 11.5.

34.19.2.3 Eligibility to Set the Real-Time LMP

All Generating Units, Participating Loads, Proxy Demand Resources, Dynamic System Resources, System Units, or COGs subject to the provisions in Section 27.7, with Bids, including Generated Bids, that are unconstrained due to Ramp Rates or other temporal constraints are eligible to set the LMP, provided that (a) a Generating Unit or a Dynamic Resource-Specific System Resource is Dispatched between its Minimum Operating Limit and the highest MW value in its Economic Bid or Generated Bid, or (b) a Participating Load, a Proxy Demand Resource, a Dynamic System Resource that is not a Resource-Specific System Resource, or a System Unit is Dispatched between zero (0) MW and the highest MW value within its submitted Economic Bid range or Generated Bid. If a resource is Dispatched below its Minimum Operating Limit or above the highest MW value in its Economic Bid range or Generated Bid, or the CAISO enforces a resource-specific constraint on the resource due to an RMR or Exceptional Dispatch, the resource will not be eligible to set the LMP. Resources identified as MSS Load following resources are not eligible to set the LMP. A resource constrained at an upper or lower operating limit or

dispatched for a quantity of Energy such that its full Ramping capability is constraining the ability of the resource to be dispatched for additional Energy in target interval, cannot be marginal (i.e., it is constrained by the Ramping capability) and thus is not eligible to set the Dispatch Interval LMP. Non-Dynamic System Resources are not eligible to set the Dispatch Interval LMP. Dynamic System Resources are eligible to set the Dispatch Interval LMP. A Constrained Output Generator that has the ability to be committed or shut off within the Time Horizon of the RTM will be eligible to set the Dispatch Interval LMP if any portion of its Energy is necessary to serve Demand. Dispatches of Regulation resources by EMS in response to AGC will not set the RTM LMP. Dispatches of Regulation resources to a Dispatch Operating Point by RTM SCED will be eligible to set the RTM LMP.

* * *

36.8.4 Eligible Sources For CRR Allocation

In the CRR Allocation processes for Seasonal CRRs, Monthly CRRs, and Long Term CRRs, nominated CRR Sources can be either PNodes (including Scheduling Points) or Trading Hubs, except that a Proxy Demand Resource cannot be a nominated CRR Source in a CRR Allocation process. An LSE or a Qualified OBAALSE may nominate up to one hundred percent (100%) of its Adjusted Verified CRR Source Quantities for Seasonal or Monthly CRRs in the combined tiers of the annual and monthly CRR Allocation processes as provided in this Section. For tiers 1 and 2 of the annual CRR Allocation in CRR Year One, an LSE may nominate CRRs from each of its verified CRR Sources in a quantity no greater than seventy-five percent (75%) of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source. The LSE may then use tier 1 of the monthly CRR Allocations in CRR Year One to nominate up to the full one hundred percent (100%) of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source. In tiers 1, 2 and 3 of the annual CRR Allocation in each year in which it participates, a Qualified OBAALSE may nominate CRRs from each of its verified CRR Sources in a quantity no greater than seventy-five percent (75%) of the Adjusted Verified CRR Source Quantity corresponding to each CRR Source. The Qualified OBAALSE may then use tiers 1 and 2 of the monthly CRR Allocations in the same year to nominate up to the full one hundred percent (100%) of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source.

* * *

37.8.4 Notice

The CAISO shall provide notice of the investigation in sufficient detail to allow for a meaningful response to the Scheduling Coordinator and, as limited below, to all Market Participants the Scheduling Coordinator represents that are the subject(s) of the investigation. The CAISO shall contact the Market Participant(s) that may be involved, so long as the CAISO has sufficient objective information to identify and verify the role of the Market Participant(s) in the potential Rules of Conduct violation. Such Market Participant(s) will likely have an existing contractual relationship with the CAISO (e.g., UDC, MSS, CAISO Metered Entity, Participating Transmission Owner, Participating Generator, ~~or~~ Participating Load, or Demand Response Provider).

* * *

40.4.4 Reductions For Testing

In accordance with the procedures specified in the Business Practice Manual, the Generating Unit of a Participating Generator or other Generating Units, System Units or Loads of Participating Loads or Proxy Demand Resources included in a Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity can have its Qualifying Capacity reduced, for purposes of the Net Qualifying Capacity annual report under Section 40.4.2 for the next Resource Adequacy Compliance Year, if a CAISO testing program determines that it is not capable of supplying the full Qualifying Capacity amount.

* * *

40.6.4.1 Registration of Use-Limited Resources

Hydroelectric Generating Units, Proxy Demand Resources, and Participating Load, including Pumping Load, are deemed to be Use-Limited Resources for purposes of this Section 40 and are not required to submit the application described in this Section 40.6.4.1. Scheduling Coordinators for other Use-Limited Resources, ~~must~~ provide the CAISO an application in the form specified on the CAISO Website requesting registration of a specifically identified resource as a Use-Limited Resource. This application shall include specific operating data and supporting documentation including, but not limited to;

- (1)- a detailed explanation of why the resource is subject to operating limitations;

- (2)- historical data to show attainable MWhs for each 24-hour period during the preceding year, including, as applicable, environmental restrictions for NOx, SOx, or other factors; and
- (3)- further data or other information as may be requested by the CAISO to understand the operating characteristics of the unit.

Within five (5) Business Days after receipt of the application, the CAISO will respond to the Scheduling Coordinator as to whether or not the CAISO agrees that the facility is eligible to be a Use-Limited Resource. If the CAISO determines the facility is not a Use-Limited Resource, the Scheduling Coordinator may challenge that determination in accordance with the CAISO ADR Procedures.

* * *

40.6.12 Participating Loads and Proxy Demand Resources

Participating Loads or Proxy Demand Resources that are included in a Resource Adequacy Plan and Supply Plan, if the Scheduling Coordinator for the Participating Loads or Proxy Demand Resources is not the same as that for the Load Serving Entity, will be administered~~dispatched~~ by the CAISO in accordance with the terms and conditions established by the CPUC or the Local Regulatory Authority.

* * *

40.8.1.13 Proxy Demand Resources

The Qualifying Capacity of a Proxy Demand Resource, for each month, will be based on the resource's average monthly historic demand reduction performance during that same month during the Availability Assessment Hours, as described in Section 40.9.3, using a three-year rolling average. For a Proxy Demand Resource with fewer than three years of performance history, for all months for which there is no historic data, the CAISO will utilize a monthly megawatt value as certified and reported to the CAISO by the Demand Response Provider; otherwise, where available, the CAISO will use the average of historic demand reduction performance data available, by month, for a Proxy Demand Resource. Proxy Demand Resources must be available at least four (4) hours per month in which they are eligible to provide RA Capacity and must be dispatchable for a minimum of thirty (30) minutes per event within each of those months.

* * *

CAISO Tariff Appendix A

Master Definitions Supplement

* * *

- Ancillary Service Bid Or AS Bid

The Bid component that indicates the quantity in MW and a price in dollars per MW for a specific Ancillary Service, including Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve, that a Scheduling Coordinator is offering to supply in a CAISO Market from a Generating Unit or System Resource, and only for Non-Spinning Reserve from the Load of a Participating Load or Proxy Demand Resource.

* * *

- Ancillary Service Provider

A Participating Generator, System Resource operator, ~~or~~ Participating Load, or Proxy Demand Resource that is certified to provide an Ancillary Service.

* * *

- Bid Cost Recovery (BCR) Eligible Resources

Those resources eligible to participate in the Bid Cost Recovery as specified in Section 11.8, which include Generating Units, System Units, System Resources, ~~and~~ Participating Loads, and Proxy Demand Resources.

* * *

- Customer Baseline

A value or values determined by the CAISO based on historical Load meter data to measure the delivery of Demand Response Services.

* * *

- Demand Response Provider

An entity that is responsible for delivering Demand Response Services from a Proxy Demand Resource providing Demand Response Services, which has undertaken in writing by execution of the applicable agreement to comply with all applicable provisions of the CAISO Tariff.

- Demand Response Services

Demand from a Proxy Demand Resource that can be bid into the Day-Ahead Market and Real-Time Market and dispatched at the direction of the CAISO.

- Demand Response System

A collective name for a set of functions of a CAISO application used to collect, approve, and report on information and measurement data for Proxy Demand Resources.

* * *

- Electric Facility

-An electric resource, including a Generating Unit, System Unit, ~~or a~~ Participating Load, or Proxy Demand Resource.

* * *

- Expected Energy

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 Trading Day. Expected Energy is calculated for Generating Units, System Resources, Resource-Specific System Resources, ~~and~~ Participating Loads, and Proxy Demand Resources. 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. Energy from Non-Dynamic System Resources is converted into HASP Intertie Schedules. Expected Energy is used as the basis for Settlements.

* * *

- Local Capacity Area Resources

-Resource Adequacy Capacity from a Generating Unit listed in the technical study or Participating Load or Proxy Demand Resource that is located within a Local Capacity Area capable of contributing toward the amount of capacity required in a particular Local Capacity Area.

* * *

- Metered Subsystem (MSS)

A geographically contiguous system located within a single zone which has been operating as an electric utility for a number of years prior to the CAISO Operations Date as a municipal utility, water district, irrigation district, state agency or federal power marketing authority subsumed within the CAISO Balancing Authority Area and encompassed by CAISO certified revenue quality meters at each interface point with the CAISO Controlled Grid and CAISO certified revenue quality meters on all Generating Units or, if aggregated, each individual resource, ~~and~~ Participating Load, and Proxy Demand Resource internal to the system, which is operated in accordance with a MSS Agreement described in Section 4.9.1.

* * *

- Minimum Load

-For a Generating Unit, the minimum sustained operating level 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. For a Proxy Demand Resource, the smallest discrete load reduction possible for the Proxy Demand Resource.

- Minimum Load Bid

-The Bid component that indicates the Minimum Load Cost for the Generating Unit, ~~or~~ Participating Load, or Proxy Demand Resource specified by a non-negative number in dollars per hour, which applies for the entire Trading Day for which it is submitted.

- Minimum Load Costs

-The costs a Generating Unit, ~~or a~~ Participating Load, or Proxy Demand Resource incurs operating at Minimum Load, which in the case of Participating Load or Proxy Demand Resource may not be negative.

* * *

- PDR

Proxy Demand Resource

* * *

- PDRA

Proxy Demand Resource Agreement

* * *

- PDR Energy Measurement

The Energy quantity calculated by comparing the Customer Baseline of a Proxy Demand Resource against its actual underlying Load for a Demand response event.

* * *

- Proxy Demand Resource (PDR)

A Load or aggregation of Loads capable of measurably and verifiably providing Demand Response Services pursuant to a Proxy Demand Resource Agreement.

- Proxy Demand Resource Agreement (PDRA)

An agreement between the CAISO and a Demand Response Provider, a pro forma version of which is set forth in Appendix B.14.

* * *

- Ramp Rate

The Bid component that indicates the Operational Ramp Rate, Regulation Ramp Rate, and Operating Reserve Ramp Rate for a Generating Unit, and the Load drop rate and Load pick-up rate for Participating

Loads and Proxy Demand Resources, for which the Scheduling Coordinator is submitting Energy Bids or Ancillary Services Bids.

* * *

- Residual Unit Commitment (RUC)

-The process conducted by the CAISO in the Day-Ahead Market after the IFM has been executed to ensure sufficient Generating Units, System Units, System Resources, ~~and~~ Participating Loads, and Proxy Demand Resources are committed to meet the CAISO Forecast of CAISO Demand.

* * *

- Resource ID

-Identification characters assigned by the CAISO to Generating Units, Loads, Participating Loads, Proxy Demand Resources, System Units, System Resources, and Physical Scheduling Plants.

- Resource Location

-The Resource ID for a Generating Unit, Participating Load, Proxy Demand Resource, or System Resource.

* * *

- RUC Availability Bid

-The quantity (MW) and price (\$/MW per hour) at or above which a Generating Unit, System Resource, System Unit, ~~or~~ Participating Load, or Proxy Demand Resource has agreed to sell capacity for a specified interval of time to the CAISO to meet the Residual Unit Commitment requirement.

* * *

- Scheduling Coordinator Metered Entity

-A Generator, Eligible Customer, ~~or~~ End-User, or Proxy Demand Resource that is not a CAISO Metered Entity.

* * *

- Supply

-The Energy delivered from a Generating Unit, System Unit, Physical Scheduling Plant, System Resource, ~~or~~ the Curtailable Demand provided by a Participating Load, or the Demand Response Services provided by a Proxy Demand Resource. -

* * *

Appendix B.14

Proxy Demand Resource Agreement

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

AND

[DEMAND RESPONSE PROVIDER]

PROXY DEMAND RESOURCE AGREEMENT

PROXY DEMAND RESOURCE AGREEMENT (PDRA)

THIS AGREEMENT is dated this _____ day of _____, _____ and is entered into, by and between:

Chapter 2 [Full legal name], having its registered and principal place of business located at [legal address] (the "Demand Response Provider");

and

Chapter 3 California Independent System Operator Corporation, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, initially 151 Blue Ravine Road, Folsom, California 95630 (the "CAISO").

The Demand Response Provider and the CAISO are hereinafter referred to as the "Parties".

Whereas:

Chapter 2 The CAISO Tariff provides that the CAISO shall only accept Bids for a Proxy Demand Resource from a Scheduling Coordinator.

B. The CAISO Tariff further provides that Demand Response Services may be provided by Demand Response Providers.

- C. The Demand Response Provider desires to provide Demand Response Services from Proxy Demand Resources through a Scheduling Coordinator and represents to the CAISO that it will comply with the applicable provisions of the CAISO Tariff.
- D. The Parties are entering into this Agreement in order to establish the terms and conditions on which the CAISO and the Demand Response Provider will discharge their respective duties and responsibilities under the CAISO Tariff.

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

ARTICLE I

DEFINITIONS AND INTERPRETATION

- 1.1 **Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement in Appendix A of the CAISO Tariff.
- 1.2 **Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Agreement:
- (a) if there is any inconsistency between this Agreement and the CAISO Tariff, the CAISO Tariff will prevail to the extent of the inconsistency;
 - (b) the singular shall include the plural and vice versa;
 - (c) the masculine shall include the feminine and neutral and vice versa;
 - (d) “includes” or “including” shall mean “including without limitation”;
 - (e) references to a Section, Article or Schedule shall mean a Section, Article or a Schedule of this Agreement, as the case may be, unless the context otherwise requires;
 - (f) a reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
 - (g) unless the context otherwise requires, references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
 - (h) unless the context otherwise requires, any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case whether or not having separate legal personality;
 - (i) unless the context otherwise requires, any reference to a Party includes a reference to its permitted successors and assigns;
 - (j) any reference to a day, week, month or year is to a calendar day, week, month or year; and
 - (k) the captions and headings in this Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Agreement.

ARTICLE II

ACKNOWLEDGEMENTS OF DEMAND RESPONSE PROVIDER AND CAISO

- 2.1 CAISO Responsibility.** The Parties acknowledge that the CAISO is responsible for the efficient use and reliable operation of the CAISO Controlled Grid consistent with achievement of planning and Operating Reserve criteria no less stringent than those established by the Western Electricity Coordinating Council and the North American Electric Reliability Corporation and further acknowledge that the CAISO may not be able to satisfy fully these responsibilities if the Demand Response Provider fails to fully comply with all of its obligations under this Agreement and the CAISO Tariff.
- 2.2 Scope of Application to Parties.** The Demand Response Provider and CAISO acknowledge that to submit Bids for Proxy Demand Resources to the CAISO through a Scheduling Coordinator, the Demand Response Provider must register its Proxy Demand Resources in the CAISO's Demand Response System. The Demand Response Provider warrants that it owns, operates, or has sufficient contractual entitlement to provide Demand Response Services from the Proxy Demand Resources it represents in accordance with the CAISO Tariff.

ARTICLE III

TERM AND TERMINATION

- 3.1 Effective Date.** This Agreement shall be effective as of the later of the date it is executed by the Parties or the date accepted for filing and made effective by FERC, if such FERC filing is required, and shall remain in full force and effect until terminated pursuant to Section 3.2 of this Agreement.
- 3.2 Termination**
- 3.2.1 Termination by CAISO.** Subject to Section 5.2, the CAISO may terminate this Agreement by giving written notice of termination in the event that the Demand Response Provider commits any material default under this Agreement and/or the CAISO Tariff which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given, to the Demand Response Provider, written notice of the default, unless excused by reason of Uncontrollable Forces in accordance with Article X of this Agreement; provided, however, that any outstanding financial right or obligation or any other obligation under the CAISO Tariff of the Demand Response Provider that has arisen while the Demand Response Provider was submitting Bids for Proxy Demand Resources, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive until satisfied. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC, if this Agreement was filed with FERC, or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if: (1) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within sixty (60) days after issuance of the notice of default; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination, if filed with FERC, or thirty (30) days after the date of the CAISO's notice of default, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.
- 3.2.2 Termination by Demand Response Provider.** In the event that the Demand Response Provider no longer wishes to submit Bids or transmit Energy over the CAISO Controlled Grid, it

may terminate this Agreement, on giving the CAISO not less than ninety (90) days written notice, provided, however, that in accordance with Section 4.5, the Demand Response Provider may eliminate from the Demand Response System Proxy Demand Resources which it no longer provides for and such modification shall be effective upon receipt of notice by the CAISO; and provided further that any outstanding financial right or obligation or any other obligation under the CAISO Tariff of the Demand Response Provider that has arisen while the Demand Response Provider was submitting Bids for Proxy Demand Resources, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive until satisfied. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC, if this Agreement has been filed with FERC, or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if: (1) the request to file a notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination within thirty (30) days of receipt of such request; or (2) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination, if such notice is required to be filed with FERC, or upon ninety (90) days after the CAISO's receipt of the Demand Response Provider's notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

ARTICLE IV

GENERAL TERMS AND CONDITIONS

- 4.1 Technical Characteristics.** As required by Sections 8.3.4 and 8.4 of the CAISO Tariff, the Demand Response Provider shall provide the CAISO with all technical and operational information required for each Proxy Demand Resource that it owns, operates, or to which it has a contractual entitlement. For those Proxy Demand Resources designated by the Demand Response Provider as providing Demand Response Services, the Demand Response Provider shall indicate whether the Proxy Demand Resource can submit Bids as qualifying Ancillary Services. Pursuant to Sections 8.9 and 8.10 of the CAISO Tariff, the CAISO may verify, inspect and test the capacity and operating characteristics provided for Proxy Demand Resources. The CAISO will maintain the required technical and operational information, which has been verified by the appropriate Load Serving Entity and Utility Distribution Company, as appropriate.
- 4.2 Metering and Communication.** Metering requirements for the submittal of Settlement Quality Meter Data for Scheduling Coordinator Metered Entities will be in accordance with Section 10.3 of the CAISO Tariff. Pursuant to Sections 8.4.5 and 8.4.6 of the CAISO Tariff, Demand Response Services that are scheduled or bid as qualifying Ancillary Services are required to comply with the CAISO's communication and metering requirements.
- 4.3 Demand Response Provider Requirements.** The Demand Response Provider must register with the CAISO through the Demand Response System and comply with all terms of the CAISO Tariff. A Demand Response Provider that aggregates the demand response of customers for utilities that distribute: (1) over four million MWh in the previous fiscal year must certify to the CAISO that its participation is not prohibited by the Local Regulatory Authority; or (2) four million MWh or less in the previous fiscal year must certify to the CAISO that its participation is permitted by the Local Regulatory Authority applicable to Demand Response Providers, and that it has satisfied all applicable rules and regulations of the Local Regulatory Authority. The Demand Response Provider must certify to the CAISO that any required bilateral agreements between the Demand Response Provider and the Load Servicing Entities or other agreements required by the Local Regulatory Authority are fully executed.

- 4.4 Notification of Changes.** The Demand Response Provider shall notify the CAISO of any proposed change(s) to registration to technical information. The CAISO will update the Master File in accordance with Section 30.7.3.2 of the CAISO Tariff. Pursuant to Sections 8.9 and 8.10 of the CAISO Tariff, the CAISO may verify, inspect and test the capacity and operating characteristics of the revised information provided. Unless the Proxy Demand Resource fails to test at the values in the proposed change(s), the Demand Response Provider's proposed change(s) will become effective upon the effective date for the next scheduled update of the Master File, provided that the Demand Response Provider submits the changed information by the applicable deadline and is tested by the deadline. Subject to such notification, this Agreement shall not apply to any Proxy Demand Resources which the Demand Response Provider no longer owns, operates or to which it no longer has a contractual entitlement.
- 4.5 Agreement Subject to CAISO Tariff.** The Parties will comply with all applicable provisions of the CAISO Tariff. This Agreement shall be subject to the CAISO Tariff, which shall be deemed to be incorporated herein.
- 4.6 Obligations Relating to Ancillary Services**
- 4.6.1 Submission of Bids and Self-provided Schedules.** When the Scheduling Coordinator on behalf of the Demand Response Provider submits a Bid, the Demand Response Provider will, by the operation of this Section 4.6.1, warrant to the CAISO that it has the capability to provide that service in accordance with the CAISO Tariff and that it will comply with CAISO Dispatch Instructions for the provision of the service in accordance with the CAISO Tariff.
- 4.6.2 Ancillary Service Certification.** The Demand Response Provider shall not use a Scheduling Coordinator to submit a Bid for the provision of an Ancillary Service or submit a Submission to Self-Provide an Ancillary Service unless the Scheduling Coordinator serving that Demand Response Provider is in possession of a current Ancillary Service certificate pursuant to Sections 8.3.4 and 8.4 of the CAISO Tariff.
- 4.7 Obligations relating to Major Incidents.** The Demand Response Provider shall promptly provide such information as the CAISO may reasonably require in relation to the CAISO's investigations of operating situations or events, or for the CAISO's reporting to the authorities such as the FERC, California Public Utilities Commission, Western Electricity Coordinating Council, or North American Electric Reliability Corporation.

ARTICLE V

PENALTIES AND SANCTIONS

- 5.1 Penalties.** If the Demand Response Provider fails to comply with any provisions of this Agreement, the CAISO shall be entitled to impose penalties and sanctions on the Demand Response Provider, including the penalties set forth in Sections 8.9.7 and 8.10.7 of the CAISO Tariff. No penalties or sanctions may be imposed under this Agreement unless a Schedule or CAISO Tariff provision providing for such penalties or sanctions has first been filed with and made effective by FERC. Nothing in this Agreement, with the exception of the provisions relating to the CAISO ADR Procedures, shall be construed as waiving the rights of the Demand Response Provider to oppose or protest any penalty proposed by the CAISO to the FERC or the specific imposition by the CAISO of any FERC-approved penalty on the Demand Response Provider.
- 5.2 Corrective Measures.** If the Demand Response Provider fails to meet or maintain the requirements set forth in this Agreement and/or the CAISO Tariff, the CAISO shall be permitted to

take any of the measures, contained or referenced in the CAISO Tariff, which the CAISO deems to be necessary to correct the situation.

ARTICLE VI

COSTS

6.1 Operating and Maintenance Costs. The Demand Response Provider shall be responsible for all its costs incurred in meeting its obligations under this Agreement for the Proxy Demand Resources identified in the Demand Response System.

ARTICLE VII

DISPUTE RESOLUTION

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

ARTICLE VIII

REPRESENTATIONS AND WARRANTIES

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

8.2 Necessary Approvals as to Proxy Demand Resources. The Demand Response Provider represents that all necessary leases, approvals, permits, licenses, easements, rights of way or access to install, own and/or operate the Proxy Demand Resources for which it will Bid or otherwise act under this Agreement have been obtained by the Demand Response Provider prior to submitting technical information.

8.3 Local Regulatory Authority. A Demand Response Provider that aggregates the demand response of customers for utilities that distribute: (1) over four million MWh in the previous fiscal year must represent and warrant to the CAISO that its participation is not prohibited by the Local Regulatory Authority; or (2) four million MWh or less in the previous fiscal year must represent and warrant to the CAISO that its participation is permitted by the Local Regulatory Authority.

ARTICLE IX

LIABILITY

9.1 Liability. The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to Market Participants shall be read as references to the Demand Response Provider and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE X

UNCONTROLLABLE FORCES

10.1 Uncontrollable Forces Tariff Provisions. Section 14.1 of the CAISO Tariff shall be incorporated by reference into this Agreement except that all references in Section 14.1 of the CAISO Tariff to Market Participants shall be read as a reference to the Demand Response Provider and references to the CAISO Tariff shall be read as references to this Agreement.

ARTICLE XI

MISCELLANEOUS

11.1 Assignments. Either Party may assign or transfer any or all of its rights and/or obligations under this Agreement with the other Party's prior written consent in accordance with Section 22.2 of the CAISO Tariff. Such consent shall not be unreasonably withheld. Any such transfer or assignment shall be conditioned upon the successor in interest accepting the rights and/or obligations under this Agreement as if said successor in interest was an original Party to this Agreement.

11.2 Notices. Any notice, demand, or request which may be given to or made upon either Party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff, provided that all references in Section 22.4 of the CAISO Tariff to Market Participants shall be read as a reference to the Demand Response Provider and references to the CAISO Tariff shall be read as references to this Agreement, and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 2. A Party must update the information in Schedule 2 of this Agreement as information changes. Such changes shall not constitute an amendment to this Agreement.

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

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

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

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

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

11.8 Amendments. This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that require FERC approval shall not take effect until FERC has accepted such amendments for filing and made them effective. Nothing herein shall be construed as affecting in any way the right of the CAISO to make unilateral application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 of the FPA and pursuant to FERC's rules and regulations promulgated thereunder, and the Demand Response Provider shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the FPA and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein. The standard of review FERC shall apply when acting upon proposed modifications to this Agreement by the CAISO shall be the "just and reasonable" standard of review rather than the "public interest" standard of review. The standard of review FERC shall apply when acting upon proposed modifications to this Agreement by FERC's own motion or by a signatory other than the CAISO or non-signatory entity shall also be the "just and reasonable" standard of review. Schedules 1, and 2 are provided for informational purposes and revisions to those schedules do not constitute a material change in the Agreement warranting FERC review.

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

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

California Independent System Operator Corporation

By: _____

Name: _____

Title: _____

Date: _____

Demand Response Provider

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

CAISO IMPOSED PENALTIES AND SANCTIONS

[Section 5.1]

TO BE INSERTED UPON FERC APPROVAL

SCHEDULE 2

NOTICES
(Section 11.2)

Demand Response Provider

Name of Primary
Representative:

Title:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative
Representative:

Title:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

CAISO

Name of Primary
Representative: _____

Title: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

Name of Alternative
Representative: _____

Title: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Phone: _____

Fax No: _____

Appendix K

Ancillary Service Requirements Protocol (ASRP)

* * *

PART C

CERTIFICATION FOR NON-SPINNING RESERVE

* * *

- C 2 An Ancillary Service Provider wishing to provide Non-Spinning Reserve as an Ancillary Service from Curtailable Demand or Demand Response Services whether pursuant to a CAISO award or as part of a self-provision arrangement must meet the following requirements in order to be certified by the CAISO to provide Non-Spinning Reserve service:
- C 2.1 the operator must be able to completely disconnect the required Load or provide the adjustment requested by the CAISO through the Proxy Demand Resource pursuant to a Dispatch Instruction within ten minutes after issue of the instruction;
- C 2.2 the minimum change in the electrical consumption of the Load must be at least 1 MW (for a Generating Unit or a Proxy Demand Resource); and
- C 2.3 the Load or Proxy Demand Resource must be capable of being interrupted for at least two hours.
- * * *
- C 3.1 the operator of the Generating Unit, System Resource, ~~or~~ the Curtailable Demand, or the Demand Response Services must have a means of receiving a Dispatch Instruction to initiate an increase in real power output or a reduction in Demand (MW) within one minute of the CAISO Control Center's determination that Non-Spinning Reserve capacity must be dispatched; and
- C 3.2 ~~the~~ communication system and the Generating Unit, System Resource, ~~or~~ Load, or Proxy Demand Resource must pass a qualification test to demonstrate the overall ability to meet the performance requirements of the ASRP for Non-Spinning Reserve.
- C 4 An Ancillary Service Provider wishing to be considered for certification for Non-Spinning Reserve service must make a written request to the CAISO, giving details of the technical capability of the Generating Unit, System Resource, ~~or~~ Load, or Proxy Demand Resource concerned and identifying the Scheduling Coordinator through whom the Ancillary Service Provider intends to offer Non-Spinning Reserve. The Ancillary Service Provider shall at the same time send a copy of the request to that Scheduling Coordinator. Technical review request forms will be available from the CAISO.
- * * *
- C 14.3 confirmation of the Generating Unit, System Resource, ~~or~~ Load, or Proxy Demand Resource control performance; and
- C 14.4 confirmation of the range of Generating Unit, ~~or~~ System Resource, or Proxy Demand Resource control to include changing the output over the range of Non-Spinning Reserve proposed.
- C 15 Upon successful completion of the test, the CAISO shall certify the Generating Unit, System Resource, ~~or~~ Load, or Proxy Demand Resource as being permitted to provide Non-Spinning Reserve as an Ancillary Service and shall provide a copy of the certificate to the Scheduling Coordinator at the same time. The CAISO shall change its data base to reflect the permission for the Generating Unit, Participating Load, or Proxy Demand Resource ~~or Load~~ to provide Non-Spinning Reserve service.
- C 16 The Scheduling Coordinator may bid Non-Spinning Reserve service from the certified Generating Unit, Participating Load, or Proxy Demand Resource ~~or Load~~ into the CAISO Markets starting with the Day-Ahead Market for the hour ending 0100 on the second Trading Day after the CAISO issues the certificate.

* * *