



August 19, 2013

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

**Re: California Independent System Operator Corporation
Compliance Filing
Docket No. ER11-3616-_____**

Dear Secretary Bose:

The California Independent System Operator Corporation (“ISO”)¹ submits this filing in compliance with the Commission’s July 18, 2013 “Order on Compliance and Rehearing,” which directed the ISO to resubmit its reliability demand response resource tariff revisions with a cost allocation that complies with Order No. 745.² The ISO requests that the Commission accept the tariff revisions contained in this compliance filing effective April 1, 2014.

I. Background

On May 20, 2011, the ISO filed tariff revisions to allow a new type of demand response resource, the reliability demand response resource,³ to participate in the ISO’s wholesale markets. On June 27, 2011, the ISO filed an answer to comments regarding the May 20, 2011 filing that included minor corrections to typographical errors in the May 20 filing that the ISO proposed to correct in a compliance filing. The ISO filed additional explanations of its tariff revisions that included proposed clarifying modifications to the tariff revisions on

¹ Capitalized terms not otherwise defined herein have the meanings set forth in Appendix A to the ISO tariff. References to numbered sections are references to sections of the ISO tariff, and references to proposed or revised ISO tariff sections are references to tariff sections as proposed or revised in this compliance filing, unless otherwise indicated.

² *California Independent System Operator Corp.*, 144 FERC ¶ 61,047 (“July 18, 2013 order”).

³ The term “reliability demand response resource” is sometimes abbreviated as “RDRR.”

September 21 and December 19, 2011, in response to written requests from Commission staff for further information regarding the May 20, 2011 filing.

On February 16, 2012, the Commission issued an order rejecting the proposed tariff revisions.⁴ The Commission rejected the tariff revisions finding that they were subject to, but did not comply with, the requirements of the Commission's Order No. 745 rulemaking on demand response compensation in wholesale electricity markets.⁵ The Commission also stated that, in light of the rejection of the reliability demand response resource proposal, that it expected the ISO to file to remove tariff references to reliability demand response resources that the ISO had separately submitted in a July 22, 2011 filing to comply with Order No. 745.⁶

On March 14, 2012, the ISO filed a request for rehearing of the February 16, 2012 order. Among other things, the ISO urged the Commission to find that the entire reliability demand response resource proposal should not be rejected solely because the Commission had determined that one element of that proposal, related to cost allocation, did not comply with Order No. 745. That same day, the ISO also submitted a filing to comply with the directives in the February 16, 2012 order to remove the tariff references to reliability demand response resources contained in the July 22, 2011 filing.⁷

The Commission granted the ISO's March 14, 2012 request for rehearing in the July 18, 2013 order. The Commission explained that its rejection of the tariff revisions in the February 16, 2012 order was premised on the ISO not having a cost allocation methodology for demand response resources participating in the ISO markets that was consistent with Order No. 745. However, because the Commission found elsewhere in the July 18, 2013 order that the ISO's March 14, 2012 compliance filing included a cost allocation methodology for comparable proxy demand resources that satisfied the

⁴ *California Independent System Operator Corp.*, 138 FERC ¶ 61,117 (2012) ("February 16, 2012 order").

⁵ *Id.* at PP 27-30 (citing *Demand Response Compensation in Wholesale Organized Energy Markets*, Order No. 745, FERC Stats. & Regs. ¶ 61,322 ("Order No. 745"), *order on reh'g and clarification*, Order No. 745-A, 137 FERC ¶ 61,215 (2011)). The Commission rejected the tariff revisions without prejudice to the ISO re-filing a reliability demand response resource program that complies with the requirements of Order No. 745. *Id.* at P 27.

⁶ *Id.* at P 31. The July 22, 2011 filing was submitted in Docket No. ER11-4100.

⁷ The March 14, 2012 compliance filing also included tariff revisions to comply with the Commission's December 15, 2011 order in Docket No. ER11-4100, which conditionally accepted in part and rejected in part the ISO's July 22, 2011 filing. *California Independent System Operator Corp.*, 137 FERC ¶ 61,217 (2011). The ISO submitted errata to the March 14, 2012 compliance filing on March 15, 2012.

requirements of Order No. 745, the Commission stated that it would reconsider the reliability demand response resource tariff revisions.⁸

Based on its reconsideration, the Commission accepted the ISO's reliability demand response resource proposal.⁹ The Commission directed the ISO to re-file the proposal, including tariff revisions proposed by the ISO in the May 20, 2011 filing, the June 27, 2011 answer, and the additional explanations the ISO filed on September 21 and December 19, 2011.¹⁰

II. Compliance with the July 18, 2013 Order

To comply with the directives in the July 18, 2013 order, the ISO now substantially re-files the reliability demand response resource proposal. The re-filed tariff revisions are to the currently effective ISO tariff, which has been amended since the original reliability demand response resource proposal was filed. Accordingly, the tariff revisions are for the most part the same but are not identical.

Specifically, these tariff revisions do not include the changes the ISO had originally proposed to tariff sections 10.3.6.1, 11.1.5, 31.2, and 33.4 in the May 20, 2011 filing, because the relevant provisions in those sections have been superseded as discussed below. The version of section 10.3.6.1 in effect at the time of the May 20, 2011 filing is now used for a different purpose unrelated to demand response.¹¹ The versions of sections 11.1.5, 31.2, and 33.4 in effect at the time of the May 20, 2011 filing were subsequently modified to refer generally to demand response resources, rather than to specific types of demand response resources. Consistent with the directives in the July 18, 2013 order, the general references to demand response resources in these sections will include reliability demand response resources. As a result, there is no need for the ISO to revise sections 11.1.5, 31.2, and 33.4 to reference reliability demand response resources specifically.

⁸ July 18, 2013 order at PP 20, 29. The Commission also found that the tariff revisions in the March 14, 2012 compliance filing to remove references to reliability demand response resources satisfied the requirements of the February 16, 2012 order. However, because the Commission was granting the ISO's request for rehearing, the Commission did not accept those tariff revisions to remove the references. *Id.* at P 24.

⁹ *Id.* at PP 38, 61. The Commission found no merit in the arguments raised by parties against, or as alternatives to, the ISO's reliability demand response resource proposal. *Id.* at PP 39-43, 52-54.

¹⁰ *Id.* at PP 59, 62. The Commission listed specific tariff sections that it directed the ISO to revise. *Id.* at P 62 n.47.

¹¹ See ISO tariff Appendix J, Section 1.

The revisions in this compliance filing include new tariff section 34.5(13), which lists the circumstances in which the ISO may make reliability demand response resources eligible for dispatch in accordance with applicable operating procedures. The ISO originally proposed the addition of a version of section 34.5(13) in its December 19, 2011 filing in this proceeding in response to questions from Commission staff. In that filing, the ISO explained that under proposed section 34.5(13) the ISO will “dispatch reliability demand response resources consistent with the requirements of the settlement agreement” on demand response approved by the California Public Utilities Commission (“CPUC”) in its demand response rulemaking proceeding (R.07-01-041).¹²

The ISO has subsequently determined, however, that the version of section 34.5(13) included in the December 19, 2011 filing requires further clarification to be fully consistent with the terms of the CPUC settlement agreement and ISO emergency operating procedures. Specifically, that version of section 34.5(13) stated in relevant part that one of the circumstances when the ISO may make reliability demand response resources eligible for dispatch, in accordance with applicable operating procedure, is “once the CAISO has issued a Warning Notice under its Emergency Operating Procedures and immediately prior to the CAISO need to canvas neighboring balancing authorities and other entities for available exceptional dispatch energy/capacity.”¹³ This step would occur only after the ISO has exhausted all available ISO resources and taken certain other actions in the ISO markets. Consistent with the terms of the CPUC settlement agreement and applicable ISO operating procedure, the ISO has revised section 34.5(13) to reflect the trigger more accurately, providing that the ISO may consider bids from reliability demand response resources prior to seeking assistance from neighboring balancing authority areas and entities not otherwise obligated to comply with an ISO dispatch.¹⁴ This revision is necessary to clarify the conditions under which the ISO is entitled to dispatch reliability demand response resources consistent with the terms of the CPUC settlement agreement.

III. Effective Date

The ISO requests that the Commission accept the tariff revisions contained in this compliance filing effective April 1, 2014, in time for the summer

¹² Transmittal letter for December 19, 2011 filing at 3, 5.

¹³ *Id.* at 3 (quoting CPUC settlement agreement at section A(4)(l)) (emphasis added).

¹⁴ For ease of reference, the incremental revisions to section 34.5(13) discussed above are shown in highlighted text in Attachment B to this compliance filing.

term.¹⁵ The July 18, 2013 order does not specify a new effective date for the reliability demand response resource tariff provisions. There are two six-month terms during which a reliability demand response resource can participate – a winter term and a summer term. The winter term commences on November 1 of a given calendar year. Implementing the reliability demand response resource proposal will require modifications to the ISO markets software, testing, and market simulation. These activities cannot be completed by November 1, 2013. Granting the April 1, 2014 effective date will provide the ISO and market participants with sufficient time to implement the tariff revisions prior to the next summer term, which commences on May 1, 2014.

IV. Materials Provided in the Instant Compliance Filing

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

Attachment A	Clean ISO tariff sheets reflecting the tariff modifications described above
Attachment B	Sheets showing the modifications described above in black-line format

V. Conclusion

For the reasons explained above, the Commission should accept the tariff revisions contained in this filing as complying with the July 18, 2013 order.

Respectfully submitted,

Nancy Saracino General Counsel	<u>/s/ Sean Atkins</u> Sean Atkins
Roger E. Collanton Deputy General Counsel	Bradley R. Miliauskas
Sidney M. Davies Assistant General Counsel	Alston & Bird LLP The Atlantic Building 950 F Street, NW Washington, DC 20004

¹⁵ To the extent necessary, the ISO respectfully requests waiver of the notice requirement set forth in Section 35.3 of the Commission's regulations (18 C.F.R. § 35.3) in order to permit this effective date. The Commission has granted similar ISO requests for waiver in other proceedings. See, e.g., *California Independent System Operator Corp.*, 125 FERC ¶ 61,328, at P 20 (2008); *California Independent System Operator Corp.*, 125 FERC ¶ 61,002, at P 19 (2008).

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CERTIFICATE OF SERVICE

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

Dated at Washington, D.C. this 19th day of August, 2013.

/s/ Bradley R. Miliauskas
Bradley R. Miliauskas

Attachment A – Clean

Reliability Demand Response Resource Compliance

California Independent System Operator Corporation

August 19, 2013

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 notify the Scheduling Coordinator Applicant 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 or Reliability Demand Response 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).

* * * *

4.9.12.1 A MSS Operator may aggregate one or more Generating Units, Participating Loads, Reliability Demand Response Resources, 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, Reliability Demand Response Resources, 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 and Reliability Demand Response 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, Reliability Demand Response Resource, 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.

* * * *

4.13 DRPs, RDRRs, and PDRs

4.13.1 Relationship Between CAISO and DRPs

The CAISO shall only accept Bids for Energy from Reliability Demand Response Resources, and shall only accept Bids for Energy or Ancillary Services from Proxy Demand Resources, 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 Reliability Demand Response Resources or Proxy Demand Resources are represented by a Demand Response Provider that has entered into a Demand Response Provider Agreement with the CAISO, has accurately provided the information required in the Demand Response System, has satisfied all Reliability Demand Response Resource or 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 RDRRs, PDRs and DRPs

A single Demand Response Provider must represent each Reliability Demand Response Resource or Proxy Demand Resource and may represent more than one (1) Reliability Demand Response Resource or Proxy Demand Resource. Each Reliability Demand Response Resource or 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 Reliability Demand Response Resource or 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 Reliability Demand Response Resource or Proxy Demand Resource is required to be located in a single Sub-LAP. All underlying Locations of a Reliability Demand Response Resource or Proxy Demand Resource must be located in a single Sub-LAP. The Meter Data for each Reliability Demand Response Resource or 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 Reliability Demand Response Resources or 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. A Location cannot be registered to both a Reliability Demand Response Resource and a Proxy Demand Resource for the same Trading Day.

4.13.3 Identification of RDRRs and PDRs

Each Demand Response Provider shall provide data, as described in the Business Practice Manual, identifying each of its Reliability Demand Response Resources or Proxy Demand Resources and such information regarding the capacity and the operating characteristics of the Reliability Demand Response Resource or 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 and RDRRs

4.13.4.1 Ten in Ten Non-Event Day Selection Method

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

- (a) The CAISO will collect Meter Data for the Proxy Demand Resource or Reliability Demand Response 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) or the Reliability Demand Response Resource was subject to an Outage as described in the Business Practice Manual or previously provided Demand Response Services, 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 was subject to an Outage or previously provided Demand Response Services (other than capacity awarded for AS or RUC) or the Reliability Demand Response Resource was subject to an Outage as described in the Business Practice Manual or 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 in the forty-five (45) calendar days prior to the Trading Day.

- (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 or Reliability Demand Response 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 or Reliability Demand Response Resource during the second, third, and fourth hours preceding the hour of the Trading Day on which the Proxy Demand Resource or Reliability Demand Response Resource provided the Demand Response Services during

the Demand Response Event to (ii) the average load of the Proxy Demand Resource or Reliability Demand Response 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.

4.13.5 Characteristics of PDRs and RDRRs

4.13.5.1 Availability to Provide Demand Response Services

Each Proxy Demand Resource and Reliability Demand Response Resource shall become available to provide Demand Response Services pursuant to the Demand Response Provider Agreement following the date on which the Demand Response Provider Agreement is executed by all parties thereto, as specified by the parties, and shall be available to provide Demand Response Services until the Demand Response Provider Agreement is terminated as set forth in the Demand Response Provider Agreement.

4.13.5.2 Size Limits for PDRs and RDRRs

4.13.5.2.1 PDRs

The minimum Load curtailment of a Proxy Demand Resource shall be no smaller than 0.1 MW. Loads may be aggregated together to achieve the 0.1 MW threshold. There is no upper limit on the maximum Load curtailment of a Proxy Demand Resource.

4.13.5.2.2 RDRRs

The minimum Load curtailment of a Reliability Demand Response Resource shall be no smaller than 0.5 MW. Loads may be aggregated together to achieve the 0.5 MW threshold. The maximum Load curtailment of a Reliability Demand Response Resource that selects the Discrete Real-Time Dispatch Option shall be no larger than 50 MW. There is no upper limit on the maximum Load curtailment of a Reliability Demand Response Resource that selects the Marginal Real-Time Dispatch Option.

4.13.5.3 Dispatch Parameters for RDRRs

Each Reliability Demand Response Resource shall be capable of reaching its maximum Load curtailment within forty (40) minutes after it receives a Dispatch Instruction, and shall be capable of providing

Demand Response Services for at least four (4) consecutive hours per Demand Response Event. Each Reliability Demand Response Resource shall have a minimum run time of no more than one (1) hour.

* * * *

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 or which have been scheduled to provide Energy from Reliability Demand Response 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.

* * * *

10.1.7 Provision of Statistically Derived Meter Data

A Demand Response Provider representing a Reliability Demand Response Resource or a Proxy Demand Resource may submit a written application to the CAISO for approval of a methodology for deriving Settlement Quality Meter Data for the Reliability Demand Response Resource or Proxy Demand Resource that consists of a statistical sampling of Energy usage data, in cases where interval metering is not available for the entire population of underlying service accounts for the Reliability Demand Response Resource or Proxy Demand Resource. As specified in the Business Practice Manual, the CAISO and the Demand Response Provider will then engage in written discussion which will result in the CAISO either approving or denying the application.

* * * *

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 or the day specified in Section 10.3.6.4, as applicable. Each Scheduling Coordinator for a Demand Response Provider shall aggregate the Settlement Quality Meter Data of the underlying Proxy Demand Resource or Reliability Demand Response Resource to the level of the registration configuration of the Proxy Demand Resource or Reliability Demand Response 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.

* * * *

10.3.6.5 Submission of Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for Reliability Demand Response Resources that Provide Demand Response Services in Real-Time

Each Scheduling Coordinator for a Demand Response Provider representing a Reliability Demand Response Resource that provides Demand Response Services only in Real-Time shall submit Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for the Reliability Demand Response Resource by noon of the fifth Business Day after the Trading Day (T+5B) on which the Demand Response Services were provided, including Actual Settlement Quality Meter Data

or Scheduling Coordinator Estimated Settlement Quality Meter Data for a Demand Response Event and for the forty-five (45) calendar days preceding the Trading Day for use in the CAISO's calculation of the Customer Baseline pursuant to Section 4.13.4.

* * * *

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, Reliability Demand Response 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).

* * * *

11.5.2 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 11.5.2.4. For Generating Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources and all Participating Load, Reliability Demand Response Resources, 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. 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 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.

* * * *

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 Demand Response Energy Measurement delivered by a Proxy Demand Resource or Reliability Demand Response Resource that is also served by that Load Serving Entity and that is paid a Market Clearing Price below the threshold Market Clearing Price set forth in Section 30.6.3.1 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 or Reliability Demand Response 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, Reliability Demand Response Resources, 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, Reliability Demand Response Resource, 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.

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11.6 Settlement of Transactions Involving PDRs or RDRRs

11.6.1 Settlement of Energy Transactions Involving PDRs or RDRRs

Settlements for Energy provided by Demand Response Providers from Proxy Demand Resources or Reliability Demand Response Resources shall be based on the Demand Response Energy Measurement for the Proxy Demand Resources or Reliability Demand Response Resources. The Demand Response Energy Measurement for a Proxy Demand Resource or Reliability Demand Response Resource shall be the quantity of Energy equal to the difference between (i) the Customer Baseline for the Proxy Demand Resource or Reliability Demand Response Resource and (ii) either the actual underlying Load or the quantity of Energy calculated pursuant to Section 10.1.7 for the Proxy Demand Resource or Reliability Demand Response Resource for a Demand Response Event. For each Proxy Demand Resource or Reliability Demand Response 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, a Reliability Demand Response Resource, 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. Virtual Awards are not eligible for Bid Cost Recovery.

Virtual Awards are eligible for make-whole payments due to price corrections pursuant to Section 11.21.2. 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. Scheduling Coordinators for Non-Generator Resources are not eligible to recover Start-Up Costs, Minimum Load Costs, Pumping Costs, Pump Shut-Down Costs, or Transition Costs but are eligible to recover Energy Bid Costs, RUC Availability Payments and Ancillary Service Bid Costs.

* * * *

30.6 Bidding and Scheduling of PDRs and RDRRs

30.6.1 Bidding and Scheduling of PDRs

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, and subject to Section 30.6.3, 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. The Demand Response Provider's Demand Response Services for Proxy Demand Resources will be bid separately and independently from the LSE's underlying Demand Bid.

30.6.2 Bidding and Scheduling of RDRRs

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, and subject to Section 30.6.3, the CAISO will treat Bids for Energy on behalf of Reliability Demand Response Resources like Bids for Energy on behalf of other types of supply resources. A Scheduling Coordinator for a Demand Response Provider representing a Reliability Demand Response Resource may submit Energy Bids for the Reliability Demand Response Resource only in the Day-Ahead Market and in the Real-Time Market, but may not submit Energy Self-Schedules for the Reliability Demand Response Resource, may not Self-Provide Ancillary Services from the Reliability Demand Response Resource, and may not submit RUC Availability Bids or Ancillary Service Bids for the Reliability Demand Response Resource. The Demand Response Provider's Demand Response Services for Reliability Demand Response Resources will be bid separately and independently from the LSE's underlying Demand Bid.

30.6.2.1 Bidding and Scheduling of RDRRs in the Real-Time Market

30.6.2.1.1 Limitations on Obligation to Bid in the Real-Time Market

Within each Reliability Demand Response Services Term, any capacity of a Reliability Demand Response Resource that remains uncommitted after the Day-Ahead Market shall be bid in the Real-Time Market in order to be available to provide Demand Response Services in Real-Time until such time as the Reliability Demand Response Resource has reached the RDRR Availability Limit for the Reliability Demand Response Services Term. Within each Reliability Demand Response Services Term, any capacity of a Reliability Demand Response Resource that remains uncommitted after the Day-Ahead Market may be (but is not required to be) bid in the Real-Time Market in order to be available to provide

Demand Response Services in Real-Time after the Reliability Demand Response Resource has reached the RDRR Availability Limit during the Reliability Demand Response Services Term.

30.6.2.1.2 Real-Time Dispatch Options

For purposes of bidding and scheduling in the Real-Time Market, each Scheduling Coordinator for a Demand Response Provider representing a Reliability Demand Response Resource shall select either the Marginal Real-Time Dispatch Option or the Discrete Real-Time Dispatch Option prior to the start of the initial Reliability Demand Response Services Term applicable to the Reliability Demand Response Resource. The selection for each Reliability Demand Response Resource shall remain in effect until such time as the Scheduling Coordinator for the Reliability Demand Response Resource chooses to change its selection from the Marginal Real-Time Dispatch Option to the Discrete Real-Time Dispatch Option or vice versa, in which case the change in selection shall go into effect at the start of the next Reliability Demand Response Services Term applicable to the Reliability Demand Response Resource. A Reliability Demand Response Resource that is subject to either the Marginal Real-Time Dispatch Option or the Discrete Real-Time Dispatch Option shall have Minimum Load Costs of zero (0) dollars registered in the Master File.

30.6.2.1.2.1 Marginal Real-Time Dispatch Option

A Reliability Demand Response Resource that is subject to the Marginal Real-Time Dispatch Option:

- (a) May submit either a single-segment Bid or a multi-segment Bid in the Real-Time Market that must be at least ninety-five (95) percent of the applicable maximum Bid price and can be no greater than one hundred (100) percent of the applicable maximum Bid price set forth in Section 39.6.1.1.
- (b) Shall be dispatched as a marginal resource if it is dispatched by the CAISO.

30.6.2.1.2.2 Discrete Real-Time Dispatch Option

A Reliability Demand Response Resource that is subject to the Discrete Real-Time Dispatch Option:

- (a) May submit only a single-segment Bid in the Real-Time Market that must be at least ninety-five (95) percent of the applicable maximum Bid price and can be no greater than one hundred (100) percent of the applicable maximum Bid price set forth in Section 39.6.1.1.

- (b) Shall be dispatched as a discrete (non-marginal) resource if it is dispatched by the CAISO.

30.6.3 Net Benefits Test for Scheduling of PDRs or RDRRs

The CAISO will apply a net benefits test to determine whether Bids for Proxy Demand Resources or Reliability Demand Response Resources qualify as a Schedule as set forth in Section 31.

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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 CAISO shall model Start-Up Times for Multi-Stage Generating Resource at the MSG Configuration level and Transition Times are validated based on the Transition Matrix submitted as provided in Section 27.8. 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 or Reliability Demand Response Resource, a single Shut-Down time in minutes is the time required for the resource to Shut-Down after receiving a

Dispatch Instruction. For Multi-Stage Generating Resources, the Scheduling Coordinator must provide Start-Up Costs for each MSG Configuration into which the resource can be started.

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. In addition, if the Proxy Cost option pursuant to Section 30.4 applies to the resource, the Scheduling Coordinator for that resource may submit a daily Bid for the Start-Up Cost that must not be negative but may be less than or equal to the Proxy Cost. For a resource that has elected the Registered Cost option pursuant to Section 30.4, if a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Registered Cost reflected in the Master File. 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.

The Start-Up cost for a Reliability Demand Response Resource shall be zero (0). 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. For Multi-Stage Generating Resources, the Scheduling Coordinator must provide Start-Up Costs for each MSG Configuration into which the resource can be started.

* * * *

31. Day-Ahead Market

The DAM consists of the following functions performed in sequence: the MPM, 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, Reliability Demand Response Resources, and Proxy Demand Resources, pursuant to their Bids as provided in this Section 31.

* * * *

31.3.1.4 Eligibility to Set the Day-Ahead LMP

All Generating Units, Participating Loads, non-Participating Loads, Proxy Demand Resources, Reliability Demand Response 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, non-Participating Load, Proxy Demand Resources, Reliability Demand Response Resources, 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.

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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 applicable forward-looking time period 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 RTDD and 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. For Multi-Stage Generating Resources the determination of the point of reference is further affected by the MSG Configuration and the information contained in the Transition Matrix;
- (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 forward-looking time period, 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 forward-looking time period 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, considering the applicable MSG Configuration;
- (7) Through Start-Up Instructions the CAISO may instruct resources to start up or shut down, or may reduce Load for Participating Loads, Reliability Demand Response Resources, and Proxy Demand Resources, over the forward-looking time period 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, or for Multi-Stage Generating Resource as appropriate for the applicable MSG Configuration, 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 applicable time periods of the various CAISO Markets Processes that comprise the RTM;
- (9) The RTM optimization may result in resources being shut down consistent with their Bids and operating characteristics provided that: (a) the resource does not need to be on-line to provide Energy, (b) the resource is able to start up within the applicable time periods of the processes that comprise the RTM, (c) the Generating Unit is not providing Regulation or Spinning Reserve, and (d) 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;
- (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;
- (11) For Multi-Stage Generating Resources the CAISO will issue Dispatch Instructions by Resource ID and Configuration ID;
- (12) The CAISO may issue Transition Instructions to instruct resources to transition from one MSG Configuration to another over the forward-looking time period for the RTM based on submitted Bids, Transition Costs and Minimum Load Costs, as appropriate for the MSG Configurations involved in the MSG Transition, consistent with Transition Matrix and operating characteristics of these MSG Configurations. The RTM optimization will factor in limitations on Minimum Up Time and Minimum Down Time defined for each MSG configuration and Minimum Up Time and Minimum Down Time at the Generating Unit or Dynamic Resource-Specific System Resource.

- (13) The CAISO may make Reliability Demand Response Resources eligible for Dispatch in accordance with applicable Operating Procedures either: (a) after issuance of a warning notice and immediately prior to a need for the CAISO to attempt to obtain assistance from neighboring Balancing Authorities or imports; (b) during stage 1, stage 2, or stage 3 of a System Emergency; or (c) for a transmission-related System Emergency.

34.6 Dispatch of Units, Participating Loads, PDRs, and RDRRs

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;
- (f) Dispatch necessary to respond to a System Emergency or imminent emergency;
- (g) Transition Instructions; or
- (h) Dispatch of Reliability Demand Response Resources pursuant to Section 34.18.

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34.9.1 System Reliability Exceptional Dispatches

The CAISO may issue a manual Exceptional Dispatch for Generating Units, System Units, Participating Loads, Proxy Demand Resources, Reliability Demand Response 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.

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34.9.3 Transmission-Related Modeling Limitations

The CAISO may also manually Dispatch resources in addition to or instead of resources with a Day-Ahead Schedule or dispatched by the RTM optimization software, during or prior to the Real-Time as appropriate, to address transmission-related modeling limitations in the Full Network Model. Transmission-related modeling limitations for the purposes of Exceptional Dispatch, including for settlement of such Exceptional Dispatch as described in Section 11.5.6, shall consist of any FNM modeling limitations that arise from transmission maintenance, lack of Voltage Support at proper levels as well as incomplete or incorrect information about the transmission network, for which the Participating TOs have primary responsibility. The CAISO shall also manually Dispatch resources under this Section 34.9.3 in response to system conditions including threatened or imminent reliability conditions for which the timing of the Real-Time Market optimization and system modeling are either too slow or incapable of bringing the CAISO Controlled Grid back to reliable operations in an appropriate time-frame based on the

timing and physical characteristics of available resources to the CAISO. All reliability-based Exceptional Dispatch Instructions for Reliability Demand Response Resources, including for testing, will be issued under this Section 34.9.3.

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34.18 Real-Time Dispatch of RDRRs

The CAISO may issue an Exceptional Dispatch Instruction for the Reliability Demand Response Resource for reliability or to perform a test as provided in Section 34.9.3. An entity other than the CAISO that has a contractual or tariff-based right to do so may dispatch a Reliability Demand Response Resource in Real-Time in order to (1) mitigate a local transmission or distribution system emergency pursuant to applicable state or local programs, contracts, or regulatory requirements not set forth in the CAISO Tariff or (2) perform a test. If an entity other than the CAISO dispatches a Reliability Demand Response Resource in Real-Time in order to mitigate a local transmission or distribution system emergency or perform a test, the Scheduling Coordinator for the Demand Response Provider representing the Reliability Demand Response Resource shall immediately inform the CAISO, through the CAISO's Outage reporting system, that such dispatch has occurred or will occur and the MW amount of the dispatch.

34.18.1 Testing of RDRRs

The CAISO may issue one (1) unannounced Exceptional Dispatch Instruction per year to each Reliability Demand Response Resource pursuant to Section 34.9.2 in order to test the availability and performance of the Reliability Demand Response Resource. The Demand Response Provider representing the Reliability Demand Response Resource may also test its Reliability Demand Response Resources in coordination with the CAISO. Any Demand Response Provider initiated testing will not trigger any CAISO settlement. The CAISO will share the results of all tests of the Reliability Demand Response Resource with the applicable Local Regulatory Authority. All tests of the Reliability Demand Response Resource shall count toward its RDRR Availability Limit. If, prior to the performance of a CAISO unannounced yearly test, the Reliability Demand Response Resource provides Demand Response Services in that

year, its provision of Demand Response Services will eliminate the need for that year's test. Testing of Reliability Demand Response Resources will be conducted as described in the applicable Operating Procedure or Business Practice Manual.

34.19 Pricing Imbalance Energy

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, Reliability Demand Response Resources, 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 Determining Real-Time LMPs

34.19.2.1 Dispatch Interval Real-Time LMPs

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, Reliability Demand Response Resources, 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, Reliability Demand Response Resources (other than those Reliability Demand Response Resources addressed below in this Section 34.19.2.3), 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 Reliability Demand Response 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. A Reliability Demand Response Resource that is dispatched in Real-Time by an entity other than the CAISO in order to mitigate a local transmission or distribution system emergency pursuant to applicable state or local programs, contracts, or regulatory requirements not set forth in the CAISO Tariff, or to perform a test, will not be eligible to set the LMP. 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 applicable time periods that comprise 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.

34.19.2.4 [NOT USED]

34.19.2.5 Price for Uninstructed Deviations for Participating Intermittent Resources

Deviations associated with each Participating Intermittent Resource in a Scheduling Coordinator's portfolio shall be settled as provided in Section 11.12 at the monthly weighted average Dispatch Interval LMP, as calculated in accordance with Section 11.5.4.1 at each Pnode associated with the Participating

Intermittent Resource, and using the monthly weighted average with weights equal to total Real-Time Generation.

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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 or Reliability Demand Response 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.

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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, Reliability Demand Response Resources, 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.

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40.6.4 Use-Limited Resources Additional Availability Requirements

40.6.4.1 Registration of Use-Limited Resources

Hydroelectric Generating Units, Proxy Demand Resources, Reliability Demand Response 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.

40.6.4.2 Use Plan

The Scheduling Coordinator shall provide for the following Resource Adequacy Compliance Year a proposed annual use plan for each Use-Limited Resource that is a Resource Adequacy Resource. For each Use-Limited Resource that is a Resource Adequacy Resource but is not a Reliability Demand Response Resource, the proposed annual use plan will delineate on a month-by-month basis the total MWhs of Generation, total run hours, expected daily supply capability (if greater than four hours) and the daily Energy limit, operating constraints, and the timeframe for each constraint. The CAISO will have an opportunity to discuss the proposed annual use plan with the Scheduling Coordinator and suggest potential revisions to meet reliability needs of the system. The Scheduling Coordinator shall then submit its final annual use plan. Scheduling Coordinators for Use-Limited Resources must submit the proposed and final annual use plans in accordance with the schedule set forth in the Business Practice Manual. The Scheduling Coordinator will be able to update the projections made in the annual use plan in the monthly Resource Adequacy Plans. Hydroelectric Generating Units and Pumping Load will be able to update use plans intra-monthly as necessary to reflect evolving hydrological and meteorological conditions. The annual use plan must reflect the potential operation of the Use-Limited Resource at a level no less than the minimum criteria set forth by the Local Regulatory Authority for qualification of the resource.

40.6.4.3 Bidding Requirements on Use-Limited Resources

40.6.4.3.1 Non-Hydro, Non-RDRR, and Dispatchable Use-Limited Resources

Use-Limited Resources, other than those subject to the provisions of 40.6.4.3.2, must submit a Supply Bid or Self-Schedule for their Resource Adequacy Capacity in the Day-Ahead Market whenever the Use-Limited Resources are physically capable of operating in accordance with their operating criteria, including environmental or other regulatory requirements. Use-Limited Resources will also provide a daily Energy limit as part of their Day-Ahead Market offer to enable the CAISO to schedule them for the period in which they are capable of providing the Energy. To the extent that the daily Energy limit has been reached through Self-Schedules, no further action will be taken by the CAISO, unless rescheduling of the

Energy is necessary for System Reliability. Use-Limited Resources will attempt to reschedule the Energy in recognition of the System Reliability concern, to the extent that the change is possible without violating a Use-Limited Resource's operating criteria.

40.6.4.3.2 Hydro, RDRR, and Non-Dispatchable Use-Limited Resources

Hydroelectric Generating Units, Pumping Load, and Non-Dispatchable Use-Limited Resources, but not Reliability Demand Response Resources, shall submit Self-Schedules or Bids in the Day-Ahead Market for their expected available Energy or their expected as-available Energy, as applicable, in the Day-Ahead Market and HASP. Such resources shall also revise their Self-Schedules or submit additional Bids in HASP based on the most current information available regarding expected Energy deliveries.

Hydroelectric Generating Units, Pumping Load, Reliability Demand Response Resources, and Non-Dispatchable Use-Limited Resources will not be subject to commitment in the RUC process. The CAISO will retain discretion as to whether a particular resource should be considered a Non-Dispatchable Use-Limited Resource, and this decision will be made in accordance with the provisions of Section 40.6.4.1.

40.6.4.3.3 Availability of Use-Limited Resources During System Emergencies

All Use-Limited Resources remain subject to Section 7.7.2.3 regarding System Emergencies to the extent the Use-Limited Resource is owned or controlled by a Participating Generator.

40.6.4.3.4 Availability of Intermittent Resources

Any Eligible Intermittent Resource that provides Resource Adequacy Capacity may, but is not required to, submit Bids in the Day-Ahead Market.

* * * * *

40.6.12 Participating Loads, PDRs, and RDRRs

Participating Loads, Reliability Demand Response Resources, or Proxy Demand Resources that are included in a Resource Adequacy Plan and Supply Plan, if the Scheduling Coordinator for the Participating Loads, Reliability Demand Response Resources, 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.

* * * *

40.8.1.14 Reliability Demand Response Resources

The Net Qualifying Capacity of a Reliability Demand Response 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 Reliability Demand Response Resource with fewer than three years of performance history, for all months for which there is no historic data, the CAISO will use 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 Reliability Demand Response Resource.

* * * *

- 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, Reliability Demand Response Resources, and Proxy Demand Resources. A System Resource that has a Schedule that results from Bids submitted in violation of Section 30.5.5 shall not be a Bid Cost Recovery Eligible Resource for any Settlement Interval that occurs during the time period covered by the Schedule that results from Bids submitted in violation of Section 30.5.5.

* * * *

- Customer Baseline

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

* * * *

- Demand Response Event

A time period, deadline, and transition during which a Proxy Demand Resource or Reliability Demand Response Resource provides Demand Response Services.

* * * *

- Demand Response Provider

An entity that is responsible for delivering Demand Response Services from a Proxy Demand Resource or Reliability Demand Response 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 Provider Agreement (DRPA)

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

* * * *

- Demand Response Services

Demand from a Proxy Demand Resource or Reliability Demand Response 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 and Reliability Demand Response Resources.

* * * *

- Discrete Real-Time Dispatch Option

The option selected by a Reliability Demand Response Resource pursuant to Section 30.6.2.1.2 to be dispatched as a discrete resource in the Real-Time Market.

* * * *

- DRPA

Demand Response Provider Agreement

* * * *

- Electric Facility

An electric resource, including a Generating Unit, System Unit, Participating Load, Reliability Demand Response Resource, 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, Reliability Demand Response Resources, 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 or Reliability Demand Response Resource that is located within a Local Capacity Area capable of contributing toward the amount of capacity required in a particular Local Capacity Area.

* * * *

- Marginal Real-Time Dispatch Option

The option selected by a Reliability Demand Response Resource pursuant to Section 30.6.2.1.2 to be dispatched as a marginal resource in the Real-Time Market.

* * * *

- Meter Data

Either (1) Energy usage or generation data collected by a metering device or as may be otherwise derived by the use of Approved Load Profiles or (2) a statistical sampling of Energy usage data that is derived pursuant to a methodology approved by the CAISO pursuant to Section 10.1.7 in cases where interval metering is not available for the entire population of underlying service accounts for a Reliability Demand Response Resource or a Proxy Demand Resource.

* * * *

- 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, Reliability Demand Response Resource,

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 Bid

The Bid component that indicates the Minimum Load Cost for the Generating Unit, Participating Load, Reliability Demand Response Resource, 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, Reliability Demand Response Resource, or Proxy Demand Resource incurs operating at Minimum Load, which in the case of Participating Load, Reliability Demand Response Resource, or Proxy Demand Resource may not be negative.

* * * *

[Not Used]- Demand Response Energy Measurement

The Energy quantity calculated by comparing the Customer Baseline of a Proxy Demand Resource or Reliability Demand Response Resource against its actual underlying Load for a Demand Response Event.

* * * *

- Proxy Demand Resource (PDR)

A Load or aggregation of Loads that has the characteristics of a Proxy Demand Resource set forth in Section 4.13.5, satisfies all other requirements applicable to a Proxy Demand Resource set forth in the CAISO Tariff, and is capable of measurably and verifiably providing Demand Response Services pursuant to the Demand Response Provider Agreement, including but not limited to Sections 4.1 and 4.2 of the Demand Response Provider Agreement and excluding Section 4.3 of the Demand Response Provider Agreement.

[Not Used]

* * * *

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

* * * *

- RDRR

Reliability Demand Response Resource

- RDRR Availability Limit

A limit applicable to a Reliability Demand Response Resource that is reached when the Reliability Demand Response Resource has been dispatched in Real-Time for at least a total of fifteen (15) Demand Response Events or a total of forty-eight (48) hours during a Reliability Demand Response Services Term.

* * *

- Reliability Demand Response Resource (RDRR)

A Load or aggregation of Loads that has the characteristics of a Reliability Demand Response Resource set forth in Section 4.13.5, satisfies all other requirements applicable to a Reliability Demand Response Resource set forth in the CAISO Tariff, and is capable of measurably and verifiably providing Demand Response Services pursuant to the Demand Response Provider Agreement, including but not limited to Sections 4.1 and 4.3 of the Demand Response Provider Agreement and excluding Section 4.2 of the Demand Response Provider Agreement.

- Reliability Demand Response Services Term

A six (6) month time period during which or within which a Reliability Demand Response Resource is available to provide Demand Response Services as specified in the Business Practice Manual.

* * * *

- Resource ID

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

- Resource Location

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

* * * *

- Scheduling Coordinator Metered Entity

A Generator, Eligible Customer, End-User, Reliability Demand Response Resource, 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 or a Reliability Demand Response Resource.

* * * *

Appendix B.14

Demand Response Provider Agreement

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

AND

[DEMAND RESPONSE PROVIDER]

DEMAND RESPONSE PROVIDER AGREEMENT (DRPA)

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

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

and

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

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

Whereas:

- A.** The CAISO Tariff provides that the CAISO shall only accept Bids for a Proxy Demand Resource or a Reliability Demand Response 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 and/or Reliability Demand Response 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 or Reliability Demand Response Resources to the CAISO through a Scheduling Coordinator, the Demand Response Provider must register its Proxy Demand Resources or Reliability Demand Response 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 and Reliability Demand Response 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 or Reliability Demand Response 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 4.1.2, the Demand Response Provider may eliminate from the Demand Response System Proxy Demand Resources or Reliability Demand Response Resources which it no longer provides for and such modification shall be effective upon receipt of notice by the CAISO; provided that a Demand Response Provider with Reliability Demand Response Resources is not permitted to terminate this Agreement effective as of a date within a Reliability Demand Response Services Term to which those Reliability Demand Response Resources are subject; 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 or Reliability Demand Response 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 General Terms and Conditions Applicable to Both Proxy Demand Resources and Reliability Demand Response Resources.

4.1.1 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 Serving Entities or other agreements required by the Local Regulatory Authority are fully executed.

4.1.2 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.

4.1.3 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.

4.2 General Terms and Conditions Applicable Solely to Proxy Demand Resources

4.2.1 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.

4.2.2 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.

4.2.3 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.

4.2.4 Obligations Relating to Ancillary Services

4.2.4.1 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 4.2.4.1, 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.

4.2.4.2 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.

4.3 General Terms and Conditions Applicable Solely to Reliability Demand Response Resources

4.3.1 Metering. 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.

4.3.2 Notification of Changes. The Demand Response Provider shall notify the CAISO of any proposed change(s) to the registration of technical information. The CAISO will update the Master File in accordance with Section 30.7.3.2 of the CAISO Tariff. This Agreement shall not apply to any Reliability Demand Response Resources which the Demand Response Provider no longer owns or operates or to which it no longer has a contractual entitlement.

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, solely with regard to Proxy Demand Resources, 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 and Reliability Demand Response 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 and Reliability Demand Response 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 and Reliability Demand Response 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:

Attachment B – Marked

Reliability Demand Response Resource Compliance

California Independent System Operator Corporation

August 19, 2013

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 ~~notify~~ 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 or Reliability Demand Response 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).

* * * *

4.9.12.1 A MSS Operator may aggregate one or more Generating Units, Participating Loads, Reliability Demand Response Resources, 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, Reliability Demand Response Resources, 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 and Reliability Demand Response 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, Reliability Demand Response Resource, 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.

* * * *

4.13 Demand Response Providers DRPs, RDRRs, and PDRs Proxy Demand Resources

4.13.1 Relationship Between CAISO and DRPs

The CAISO shall only accept Bids for Energy from Reliability Demand Response Resources, and shall only accept Bids for Energy or Ancillary Services from Proxy Demand Resources, 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 Reliability Demand Response Resources or Proxy Demand Resources are represented by a Demand Response Provider that has entered into a Proxy-Demand Response Provider Resource Agreement with the CAISO, has accurately provided the information required in the Demand Response System, has satisfied all Reliability Demand Response Resource or 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 RDRRs, PDRs and DRPs

A single Demand Response Provider must represent each Reliability Demand Response Resource or Proxy Demand Resource and may represent more than one (1) Reliability Demand Response Resource or Proxy Demand Resource. Each Reliability Demand Response Resource or 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 Reliability Demand Response Resource or 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 Reliability Demand Response Resource or Proxy Demand Resource is required to be located in a single Sub-LAP. All underlying Locations of a Reliability Demand Response Resource or Proxy Demand Resource must be located in a single Sub-LAP. The Meter Data for each Reliability Demand Response Resource or 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 [Reliability Demand Response Resources or 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. [A Location cannot be registered to both a Reliability Demand Response Resource and a Proxy Demand Resource for the same Trading Day.](#)

4.13.3 Identification of [RDRRs and PDRs](#) ~~Proxy Demand Resources~~

Each Demand Response Provider shall provide data, as described in the Business Practice Manual, identifying each of its [Reliability Demand Response Resources or Proxy Demand Resources](#) and such information regarding the capacity and the operating characteristics of the [Reliability Demand Response Resource or 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 [and RDRRs](#)

4.13.4.1 Ten in Ten Non-Event Day Selection Method

For each Proxy Demand Resource [or Reliability Demand Response Resource](#), the CAISO will calculate the Customer Baseline as follows:

- (a) The CAISO will collect Meter Data for the Proxy Demand Resource [or Reliability Demand Response Resource](#) for calendar days preceding the Trading Day on which the Demand ~~R~~Response ~~e~~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) or the Reliability Demand Response Resource was subject to an Outage as described in the Business Practice Manual or previously provided Demand Response Services, 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 was subject to an Outage or previously provided Demand Response Services (other than capacity awarded for AS or RUC) or the Reliability Demand Response Resource was subject to an Outage as described in the Business Practice Manual or 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 in the forty-five (45) calendar days prior to the Trading Day.

- (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 or Reliability Demand Response 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 or Reliability Demand Response Resource during the second, third, and fourth hours preceding the hour of the Trading Day on which the Proxy Demand Resource or Reliability Demand Response Resource provided the Demand Response Services during

the Demand ~~r~~Response ~~e~~Event to (ii) the average load of the Proxy Demand Resource or Reliability Demand Response 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.

4.13.5 Characteristics of PDRs and RDRRs

4.13.5.1 Availability to Provide Demand Response Services

Each Proxy Demand Resource and Reliability Demand Response Resource shall become available to provide Demand Response Services pursuant to the Demand Response Provider Agreement following the date on which the Demand Response Provider Agreement is executed by all parties thereto, as specified by the parties, and shall be available to provide Demand Response Services until the Demand Response Provider Agreement is terminated as set forth in the Demand Response Provider Agreement.

4.13.5.2 Size Limits for PDRs and RDRRs

4.13.5.2.1 PDRs

The minimum Load curtailment of a Proxy Demand Resource shall be no smaller than 0.1 MW. Loads may be aggregated together to achieve the 0.1 MW threshold. There is no upper limit on the maximum Load curtailment of a Proxy Demand Resource.

4.13.5.2.2 RDRRs

The minimum Load curtailment of a Reliability Demand Response Resource shall be no smaller than 0.5 MW. Loads may be aggregated together to achieve the 0.5 MW threshold. The maximum Load curtailment of a Reliability Demand Response Resource that selects the Discrete Real-Time Dispatch Option shall be no larger than 50 MW. There is no upper limit on the maximum Load curtailment of a Reliability Demand Response Resource that selects the Marginal Real-Time Dispatch Option.

4.13.5.3 Dispatch Parameters for RDRRs

Each Reliability Demand Response Resource shall be capable of reaching its maximum Load curtailment within forty (40) minutes after it receives a Dispatch Instruction, and shall be capable of providing

Demand Response Services for at least four (4) consecutive hours per Demand Response Event. Each Reliability Demand Response Resource shall have a minimum run time of no more than one (1) hour.

* * * *

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 or which have been scheduled to provide Energy from Reliability Demand Response 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.

* * * *

10.1.7 Provision of Statistically Derived Meter Data

A Demand Response Provider representing a Reliability Demand Response Resource or a Proxy Demand Resource may submit a written application to the CAISO for approval of a methodology for deriving Settlement Quality Meter Data for the Reliability Demand Response Resource or Proxy Demand Resource that consists of a statistical sampling of Energy usage data, in cases where interval metering is not available for the entire population of underlying service accounts for the Reliability Demand Response Resource or Proxy Demand Resource. As specified in the Business Practice Manual, the CAISO and the Demand Response Provider will then engage in written discussion which will result in the CAISO either approving or denying the application.

* * * *

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 or the day specified in Section 10.3.6.4, as applicable. Each Scheduling Coordinator for a Demand Response Provider shall aggregate the Settlement Quality Meter Data of the underlying Proxy Demand Resource or Reliability Demand Response Resource to the level of the registration configuration of the Proxy Demand Resource or Reliability Demand Response 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.

* * * *

10.3.6.5 Submission of Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for Reliability Demand Response Resources that Provide Demand Response Services in Real-Time

Each Scheduling Coordinator for a Demand Response Provider representing a Reliability Demand Response Resource that provides Demand Response Services only in Real-Time shall submit Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for the Reliability Demand Response Resource by noon of the fifth Business Day after the Trading Day (T+5B) on which the Demand Response Services were provided, including Actual Settlement Quality Meter Data

or Scheduling Coordinator Estimated Settlement Quality Meter Data for a Demand Response Event and for the forty-five (45) calendar days preceding the Trading Day for use in the CAISO's calculation of the Customer Baseline pursuant to Section 4.13.4.

* * * *

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, Reliability Demand Response 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).

* * * *

11.5.2 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.~~52.25~~.4. For Generating Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources and all Participating Load, Reliability Demand Response Resources, 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. 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 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.

* * * *

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 ~~Demand Response~~ PDR Energy Measurement delivered by a Proxy Demand Resource or Reliability Demand Response Resource that is also served by that Load Serving Entity and that is paid a Market Clearing Price below the threshold Market Clearing Price set forth in Section 30.6.3.1 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 or Reliability Demand Response 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, Reliability Demand Response Resources, 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, Reliability Demand Response Resource, 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 PDRs or RDRRs~~Proxy Demand Resources~~

11.6.1 Settlement of Energy Transactions Involving PDRs or RDRRs

Settlements for Energy provided by Demand Response Providers from Proxy Demand Resources or Reliability Demand Response Resources shall be based on the Demand Response~~PDR~~ Energy Measurement for the Proxy Demand Resources or Reliability Demand Response Resources. The Demand Response~~PDR~~ Energy Measurement for a Proxy Demand Resource or Reliability Demand Response Resource shall be the quantity of Energy equal to the difference between (i) the Customer Baseline ~~for~~ the Proxy Demand Resource or Reliability Demand Response Resource and (ii) either the actual underlying Load or the quantity of Energy calculated pursuant to Section 10.1.7 ~~for~~ the Proxy Demand Resource or Reliability Demand Response Resource for a Demand ~~r~~Response ~~e~~Event. For each Proxy Demand Resource or Reliability Demand Response 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, a Reliability Demand Response Resource, 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. Virtual Awards are not eligible for Bid Cost Recovery.

Virtual Awards are eligible for make-whole payments due to price corrections pursuant to Section 11.21.2. 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. Scheduling Coordinators for Non-Generator Resources are not eligible to recover Start-Up Costs, Minimum Load Costs, Pumping Costs, Pump Shut-Down Costs, or Transition Costs but are eligible to recover Energy Bid Costs, RUC Availability Payments and Ancillary Service Bid Costs.

* * * *

30.6 Bidding and Scheduling of PDRs and RDRRs~~Proxy Demand Resources~~

30.6.1 Bidding and Scheduling of PDRs~~Generally~~

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, and subject to Section 30.6.3, 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. The Demand Response Provider's Demand Response Services for Proxy Demand Resources will be bid separately and independently from the LSE's underlying Demand Bid.

30.6.2 ~~[NOT USED]~~ Bidding and Scheduling of RDRRs

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, and subject to Section 30.6.3, the CAISO will treat Bids for Energy on behalf of Reliability Demand Response Resources like Bids for Energy on behalf of other types of supply resources. A Scheduling Coordinator for a Demand Response Provider representing a Reliability Demand Response Resource may submit Energy Bids for the Reliability Demand Response Resource only in the Day-Ahead Market and in the Real-Time Market, but may not submit Energy Self-Schedules for the Reliability Demand Response Resource, may not Self-Provide Ancillary Services from the Reliability Demand Response Resource, and may not submit RUC Availability Bids or Ancillary Service Bids for the Reliability Demand Response Resource. The Demand Response Provider's Demand Response Services for Reliability Demand Response Resources will be bid separately and independently from the LSE's underlying Demand Bid.

30.6.2.1 Bidding and Scheduling of RDRRs in the Real-Time Market

30.6.2.1.1 Limitations on Obligation to Bid in the Real-Time Market

Within each Reliability Demand Response Services Term, any capacity of a Reliability Demand Response Resource that remains uncommitted after the Day-Ahead Market shall be bid in the Real-Time Market in order to be available to provide Demand Response Services in Real-Time until such time as the Reliability Demand Response Resource has reached the RDRR Availability Limit for the Reliability Demand Response Services Term. Within each Reliability Demand Response Services Term, any capacity of a Reliability Demand Response Resource that remains uncommitted after the Day-Ahead Market may be (but is not required to be) bid in the Real-Time Market in order to be available to provide

Demand Response Services in Real-Time after the Reliability Demand Response Resource has reached the RDRR Availability Limit during the Reliability Demand Response Services Term.

30.6.2.1.2 Real-Time Dispatch Options

For purposes of bidding and scheduling in the Real-Time Market, each Scheduling Coordinator for a Demand Response Provider representing a Reliability Demand Response Resource shall select either the Marginal Real-Time Dispatch Option or the Discrete Real-Time Dispatch Option prior to the start of the initial Reliability Demand Response Services Term applicable to the Reliability Demand Response Resource. The selection for each Reliability Demand Response Resource shall remain in effect until such time as the Scheduling Coordinator for the Reliability Demand Response Resource chooses to change its selection from the Marginal Real-Time Dispatch Option to the Discrete Real-Time Dispatch Option or vice versa, in which case the change in selection shall go into effect at the start of the next Reliability Demand Response Services Term applicable to the Reliability Demand Response Resource.

A Reliability Demand Response Resource that is subject to either the Marginal Real-Time Dispatch Option or the Discrete Real-Time Dispatch Option shall have Minimum Load Costs of zero (0) dollars registered in the Master File.

30.6.2.1.2.1 Marginal Real-Time Dispatch Option

A Reliability Demand Response Resource that is subject to the Marginal Real-Time Dispatch Option:

- (a) May submit either a single-segment Bid or a multi-segment Bid in the Real-Time Market that must be at least ninety-five (95) percent of the applicable maximum Bid price and can be no greater than one hundred (100) percent of the applicable maximum Bid price set forth in Section 39.6.1.1.
- (b) Shall be dispatched as a marginal resource if it is dispatched by the CAISO.

30.6.2.1.2.2 Discrete Real-Time Dispatch Option

A Reliability Demand Response Resource that is subject to the Discrete Real-Time Dispatch Option:

- (a) May submit only a single-segment Bid in the Real-Time Market that must be at least ninety-five (95) percent of the applicable maximum Bid price and can be no greater than one hundred (100) percent of the applicable maximum Bid price set forth in Section 39.6.1.1.

(b) Shall be dispatched as a discrete (non-marginal) resource if it is dispatched by the CAISO.

30.6.3 Net Benefits Test for Scheduling of PDRs or RDRRs

The CAISO will apply a net benefits test to determine whether Bids for Proxy Demand Resources or Reliability Demand Response Resources qualify as a Schedule as set forth in Section 31.

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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 CAISO shall model Start-Up Times for Multi-Stage Generating Resource at the MSG Configuration level and Transition Times are validated based on the Transition Matrix submitted as provided in Section 27.8. 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 or Reliability Demand Response Resource, a single Shut-Down time in minutes is the time required for the resource to Shut-Down after receiving a

Dispatch Instruction. For Multi-Stage Generating Resources, the Scheduling Coordinator must provide Start-Up Costs for each MSG Configuration into which the resource can be started.

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. In addition, if the Proxy Cost option pursuant to Section 30.4 applies to the resource, the Scheduling Coordinator for that resource may submit a daily Bid for the Start-Up Cost that must not be negative but may be less than or equal to the Proxy Cost. For a resource that has elected the Registered Cost option pursuant to Section 30.4, if a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Registered Cost reflected in the Master File. 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.

The Start-Up cost for a Reliability Demand Response Resource shall be zero (0). 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. For Multi-Stage Generating Resources, the Scheduling Coordinator must provide Start-Up Costs for each MSG Configuration into which the resource can be started.

* * * *

31. Day-Ahead Market

The DAM consists of the following functions performed in sequence: the MPM, 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, Reliability Demand Response Resources, and Proxy Demand Resources, pursuant to their Bids as provided in this Section 31.

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31.3.1.4 Eligibility to Set the Day-Ahead LMP

All Generating Units, Participating Loads, non-Participating Loads, Proxy Demand Resources, Reliability Demand Response 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, non-Participating Load, Proxy Demand Resources, Reliability Demand Response Resources, 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.

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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 applicable forward-looking time period 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 RTDD and 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. For Multi-Stage Generating Resources the determination of the point of reference is further affected by the MSG Configuration and the information contained in the Transition Matrix;
- (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 forward-looking time period, 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 forward-looking time period 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, considering the applicable MSG Configuration;
- (7) Through Start-Up Instructions the CAISO may instruct resources to start up or shut down, or may reduce Load for Participating Loads, [Reliability Demand Response Resources](#), and Proxy Demand Resources, over the forward-looking time period 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, or for Multi-Stage Generating Resource as appropriate for the applicable MSG Configuration, 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 applicable time periods of the various CAISO Markets Processes that comprise the RTM;
- (9) The RTM optimization may result in resources being shut down consistent with their Bids and operating characteristics provided that: (a) the resource does not need to be on-line to provide Energy, (b) the resource is able to start up within the applicable time periods of the processes that comprise the RTM, (c) the Generating Unit is not providing Regulation or Spinning Reserve, and (d) 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;
- (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;
- (11) For Multi-Stage Generating Resources the CAISO will issue Dispatch Instructions by Resource ID and Configuration ID;
- (12) The CAISO may issue Transition Instructions to instruct resources to transition from one MSG Configuration to another over the forward-looking time period for the RTM based on submitted Bids, Transition Costs and Minimum Load Costs, as appropriate for the MSG Configurations involved in the MSG Transition, consistent with Transition Matrix and operating characteristics of these MSG Configurations. The RTM optimization will factor in limitations on Minimum Up Time and Minimum Down Time defined for each MSG configuration and Minimum Up Time and Minimum Down Time at the Generating Unit or Dynamic Resource-Specific System Resource.

(13) The CAISO may make Reliability Demand Response Resources eligible for Dispatch in accordance with applicable Operating Procedures either: (a) after issuance of a warning notice and immediately prior to a need for the CAISO to attempt to obtain assistance from neighboring Balancing Authorities or imports; (b) during stage 1, stage 2, or stage 3 of a System Emergency; or (c) for a transmission-related System Emergency.

34.6 Dispatch of ~~Dispatch to~~ Units, Participating Loads, ~~and PDRs~~, and RDRRs

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;
- (f) Dispatch necessary to respond to a System Emergency or imminent emergency;
- ~~or~~
- (g) Transition Instructions; ~~or-~~
- (h) Dispatch of Reliability Demand Response Resources pursuant to Section 34.18.

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34.9.1 System Reliability Exceptional Dispatches

The CAISO may issue a manual Exceptional Dispatch for Generating Units, System Units, Participating Loads, Proxy Demand Resources, [Reliability Demand Response 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.

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34.9.3 Transmission-Related Modeling Limitations

The CAISO may also manually Dispatch resources in addition to or instead of resources with a Day-Ahead Schedule or dispatched by the RTM optimization software, during or prior to the Real-Time as appropriate, to address transmission-related modeling limitations in the Full Network Model. Transmission-related modeling limitations for the purposes of Exceptional Dispatch, including for settlement of such Exceptional Dispatch as described in Section 11.5.6, shall consist of any FNM modeling limitations that arise from transmission maintenance, lack of Voltage Support at proper levels as well as incomplete or incorrect information about the transmission network, for which the Participating TOs have primary responsibility. The CAISO shall also manually Dispatch resources under this Section 34.9.3 in response to system conditions including threatened or imminent reliability conditions for which the timing of the Real-Time Market optimization and system modeling are either too slow or incapable of

bringing the CAISO Controlled Grid back to reliable operations in an appropriate time-frame based on the timing and physical characteristics of available resources to the CAISO. All reliability-based Exceptional Dispatch Instructions for Reliability Demand Response Resources, including for testing, will be issued under this Section 34.9.3.

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34.18 ~~[NOT USED]~~Real-Time Dispatch of RDRRs

The CAISO may issue an Exceptional Dispatch Instruction for the Reliability Demand Response Resource for reliability or to perform a test as provided in Section 34.9.3. An entity other than the CAISO that has a contractual or tariff-based right to do so may dispatch a Reliability Demand Response Resource in Real-Time in order to (1) mitigate a local transmission or distribution system emergency pursuant to applicable state or local programs, contracts, or regulatory requirements not set forth in the CAISO Tariff or (2) perform a test. If an entity other than the CAISO dispatches a Reliability Demand Response Resource in Real-Time in order to mitigate a local transmission or distribution system emergency or perform a test, the Scheduling Coordinator for the Demand Response Provider representing the Reliability Demand Response Resource shall immediately inform the CAISO, through the CAISO's Outage reporting system, that such dispatch has occurred or will occur and the MW amount of the dispatch.

34.18.1 Testing of RDRRs

The CAISO may issue one (1) unannounced Exceptional Dispatch Instruction per year to each Reliability Demand Response Resource pursuant to Section 34.9.2 in order to test the availability and performance of the Reliability Demand Response Resource. The Demand Response Provider representing the Reliability Demand Response Resource may also test its Reliability Demand Response Resources in coordination with the CAISO. Any Demand Response Provider initiated testing will not trigger any CAISO settlement. The CAISO will share the results of all tests of the Reliability Demand Response Resource with the applicable Local Regulatory Authority. All tests of the Reliability Demand Response Resource shall count toward its RDRR Availability Limit. If, prior to the performance of a CAISO unannounced

yearly test, the Reliability Demand Response Resource provides Demand Response Services in that year, its provision of Demand Response Services will eliminate the need for that year's test. Testing of Reliability Demand Response Resources will be conducted as described in the applicable Operating Procedure or Business Practice Manual.

34.19 Pricing Imbalance Energy

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, Reliability Demand Response Resources, 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 Determining Real-Time LMPs

34.19.2.1 Dispatch Interval Real-Time LMPs

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, Reliability Demand Response Resources, 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, Reliability Demand Response Resources (other than those Reliability Demand Response Resources addressed below in this Section 34.19.2.3), 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 Reliability Demand Response 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. [A Reliability Demand Response Resource that is dispatched in Real-Time by an entity other than the CAISO in order to mitigate a local transmission or distribution system emergency pursuant to applicable state or local programs, contracts, or regulatory requirements not set forth in the CAISO Tariff, or to perform a test, will not be eligible to set the LMP.](#) 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 applicable time periods that comprise 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.

34.19.2.4 [NOT USED]

34.19.2.5 Price for Uninstructed Deviations for Participating Intermittent Resources

Deviations associated with each Participating Intermittent Resource in a Scheduling Coordinator's portfolio shall be settled as provided in Section 11.12 at the monthly weighted average Dispatch Interval

LMP, as calculated in accordance with Section 11.5.4.1 at each Pnode associated with the Participating Intermittent Resource, and using the monthly weighted average with weights equal to total Real-Time Generation.

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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 or Reliability Demand Response 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.

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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, [Reliability Demand Response Resources](#), 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.

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40.6.4 Use-Limited Resources Additional Availability Requirements

40.6.4.1 Registration of Use-Limited Resources

Hydroelectric Generating Units, Proxy Demand Resources, [Reliability Demand Response 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.

40.6.4.2 Use Plan

The Scheduling Coordinator shall provide for the following Resource Adequacy Compliance Year a proposed annual use plan for each Use-Limited Resource that is a Resource Adequacy Resource. For each Use-Limited Resource that is a Resource Adequacy Resource but is not a Reliability Demand Response Resource, the proposed annual use plan will delineate on a month-by-month basis the total MWhs of Generation, total run hours, expected daily supply capability (if greater than four hours) and the daily Energy limit, operating constraints, and the timeframe for each constraint. The CAISO will have an opportunity to discuss the proposed annual use plan with the Scheduling Coordinator and suggest potential revisions to meet reliability needs of the system. The Scheduling Coordinator shall then submit its final annual use plan. Scheduling Coordinators for Use-Limited Resources must submit the proposed and final annual use plans in accordance with the schedule set forth in the Business Practice Manual. The Scheduling Coordinator will be able to update the projections made in the annual use plan in the monthly Resource Adequacy Plans. Hydroelectric Generating Units and Pumping Load will be able to update use plans intra-monthly as necessary to reflect evolving hydrological and meteorological conditions. The annual use plan must reflect the potential operation of the Use-Limited Resource at a level no less than the minimum criteria set forth by the Local Regulatory Authority for qualification of the resource.

40.6.4.3 Bidding Requirements on Use-Limited Resources

40.6.4.3.1 Non-Hydro, Non-RDRR, and Dispatchable Use-Limited Resources

Use-Limited Resources, other than those subject to the provisions of 40.6.4.3.2, must submit a Supply Bid or Self-Schedule for their Resource Adequacy Capacity in the Day-Ahead Market whenever the Use-Limited Resources are physically capable of operating in accordance with their operating criteria, including environmental or other regulatory requirements. Use-Limited Resources will also provide a daily Energy limit as part of their Day-Ahead Market offer to enable the CAISO to schedule them for the period in which they are capable of providing the Energy. To the extent that the daily Energy limit has been reached through Self-Schedules, no further action will be taken by the CAISO, unless rescheduling of the

Energy is necessary for System Reliability. Use-Limited Resources will attempt to reschedule the Energy in recognition of the System Reliability concern, to the extent that the change is possible without violating a Use-Limited Resource's operating criteria.

40.6.4.3.2 Hydro, RDRR, and Non-Dispatchable Use-Limited Resources

Hydroelectric Generating Units, Pumping Load, and Non-Dispatchable Use-Limited Resources, but not Reliability Demand Response Resources, shall submit Self-Schedules or Bids in the Day-Ahead Market for their expected available Energy or their expected as-available Energy, as applicable, in the Day-Ahead Market and HASP. Such resources shall also revise their Self-Schedules or submit additional Bids in HASP based on the most current information available regarding expected Energy deliveries.

Hydroelectric Generating Units, Pumping Load, Reliability Demand Response Resources, and Non-Dispatchable Use-Limited Resources will not be subject to commitment in the RUC process. The CAISO will retain discretion as to whether a particular resource should be considered a Non-Dispatchable Use-Limited Resource, and this decision will be made in accordance with the provisions of Section 40.6.4.1.

40.6.4.3.3 Availability of Use-Limited Resources During System Emergencies

All Use-Limited Resources remain subject to Section 7.7.2.3 regarding System Emergencies to the extent the Use-Limited Resource is owned or controlled by a Participating Generator.

40.6.4.3.4 Availability of Intermittent Resources

Any Eligible Intermittent Resource that provides Resource Adequacy Capacity may, but is not required to, submit Bids in the Day-Ahead Market.

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40.6.12 Participating Loads, PDRs, and RDRRs~~Proxy Demand Resources~~

Participating Loads, Reliability Demand Response Resources, or Proxy Demand Resources that are included in a Resource Adequacy Plan and Supply Plan, if the Scheduling Coordinator for the Participating Loads, Reliability Demand Response Resources, 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.

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40.8.1.14 Reliability Demand Response Resources

The Net Qualifying Capacity of a Reliability Demand Response 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 Reliability Demand Response Resource with fewer than three years of performance history, for all months for which there is no historic data, the CAISO will use 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 Reliability Demand Response Resource.

* * * *

- 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, Reliability Demand Response Resources, and Proxy Demand Resources. A System Resource that has a Schedule that results from Bids submitted in violation of Section 30.5.5 shall not be a Bid Cost Recovery Eligible Resource for any Settlement Interval that occurs during the time period covered by the Schedule that results from Bids submitted in violation of Section 30.5.5.

* * * *

- Customer Baseline

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

* * * *

- Demand Response Event

A time period, deadline, and transition during which a Proxy Demand Resource or Reliability Demand Response Resource provides Demand Response Services.

* * * *

- Demand Response Provider

An entity that is responsible for delivering Demand Response Services from a Proxy Demand Resource or Reliability Demand Response 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 Provider Agreement (DRPA)

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

* * * *

- Demand Response Services

Demand from a Proxy Demand Resource or Reliability Demand Response 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 and Reliability Demand Response Resources.

* * * *

- Discrete Real-Time Dispatch Option

The option selected by a Reliability Demand Response Resource pursuant to Section 30.6.2.1.2 to be dispatched as a discrete resource in the Real-Time Market.

* * * *

- DRPA

Demand Response Provider Agreement

* * * *

- Electric Facility

An electric resource, including a Generating Unit, System Unit, Participating Load, Reliability Demand Response Resource, 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, Reliability Demand Response Resources, 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 or Reliability Demand Response Resource that is located within a Local Capacity Area capable of contributing toward the amount of capacity required in a particular Local Capacity Area.

* * * *

- Marginal Real-Time Dispatch Option

The option selected by a Reliability Demand Response Resource pursuant to Section 30.6.2.1.2 to be dispatched as a marginal resource in the Real-Time Market.

* * * *

- Meter Data

Either (1) Energy usage or generation data collected by a metering device or as may be otherwise derived by the use of Approved Load Profiles or (2) a statistical sampling of Energy usage data that is derived pursuant to a methodology approved by the CAISO pursuant to Section 10.1.7 in cases where interval metering is not available for the entire population of underlying service accounts for a Reliability Demand Response Resource or a Proxy Demand Resource.

* * * *

- 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, Reliability Demand Response Resource,

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 Bid

The Bid component that indicates the Minimum Load Cost for the Generating Unit, Participating Load, Reliability Demand Response Resource, 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, Reliability Demand Response Resource, or Proxy Demand Resource incurs operating at Minimum Load, which in the case of Participating Load, Reliability Demand Response Resource, or Proxy Demand Resource may not be negative.

* * * *

-PDRA [Not Used]

Proxy Demand Resource Agreement

- Demand ResponsePDR Energy Measurement

The Energy quantity calculated by comparing the Customer Baseline of a Proxy Demand Resource or Reliability Demand Response Resource against its actual underlying Load for a Demand ~~R~~Response ~~e~~Event.

* * * *

- Proxy Demand Resource (PDR)

A Load or aggregation of Loads that has the characteristics of a Proxy Demand Resource set forth in Section 4.13.5, satisfies all other requirements applicable to a Proxy Demand Resource set forth in the CAISO Tariff, and is capable of measurably and verifiably providing Demand Response Services pursuant to thea Proxy-Demand Response ProviderResource Agreement, including but not limited to Sections 4.1 and 4.2 of the Demand Response Provider Agreement and excluding Section 4.3 of the Demand Response Provider Agreement.

- Proxy Demand Resource Agreement (PDRA) [Not Used]

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

* * * *

- RDRR

Reliability Demand Response Resource

- RDRR Availability Limit

A limit applicable to a Reliability Demand Response Resource that is reached when the Reliability Demand Response Resource has been dispatched in Real-Time for at least a total of fifteen (15) Demand Response Events or a total of forty-eight (48) hours during a Reliability Demand Response Services Term.

* * *

- Reliability Demand Response Resource (RDRR)

A Load or aggregation of Loads that has the characteristics of a Reliability Demand Response Resource set forth in Section 4.13.5, satisfies all other requirements applicable to a Reliability Demand Response Resource set forth in the CAISO Tariff, and is capable of measurably and verifiably providing Demand Response Services pursuant to the Demand Response Provider Agreement, including but not limited to Sections 4.1 and 4.3 of the Demand Response Provider Agreement and excluding Section 4.2 of the Demand Response Provider Agreement.

- Reliability Demand Response Services Term

A six (6) month time period during which or within which a Reliability Demand Response Resource is available to provide Demand Response Services as specified in the Business Practice Manual.

* * * *

- Resource ID

Identification characters assigned by the CAISO to Generating Units, Loads, Participating Loads, Proxy Demand Resources, [Reliability Demand Response Resources](#), System Units, System Resources, and Physical Scheduling Plants.

- Resource Location

The Resource ID for a Generating Unit, Participating Load, Proxy Demand Resource, [Reliability Demand Response Resource](#), or System Resource.

* * * *

- Scheduling Coordinator Metered Entity

A Generator, Eligible Customer, End-User, [Reliability Demand Response Resource](#), 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 [or a Reliability Demand Response Resource](#).

* * * *

Appendix B.14

~~Proxy~~-Demand Response Provider~~Resource~~ Agreement

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

AND

[DEMAND RESPONSE PROVIDER]

~~PROXY DEMAND RESOURCE AGREEMENT~~

~~PROXY DEMAND~~ RESPONSE PROVIDER ~~RESOURCE~~ AGREEMENT (PDRPA)

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

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

and

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

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

Whereas:

- A. The CAISO Tariff provides that the CAISO shall only accept Bids for a Proxy Demand Resource or a Reliability Demand Response 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 and/or Reliability Demand Response 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 or Reliability Demand Response Resources to the CAISO through a Scheduling Coordinator, the Demand Response Provider must register its Proxy Demand Resources or Reliability Demand Response 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 and Reliability Demand Response 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 or Reliability Demand Response 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 4.1.25, the Demand Response Provider may eliminate from the Demand Response System Proxy Demand Resources or Reliability Demand Response Resources which it no longer provides for and such modification shall be effective upon receipt of notice by the CAISO; provided that a Demand Response Provider with Reliability Demand Response Resources is not permitted to terminate this Agreement effective as of a date within a Reliability Demand Response Services Term to which those Reliability Demand Response Resources are subject; 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 or Reliability Demand Response 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 General Terms and Conditions Applicable to Both Proxy Demand Resources and Reliability Demand Response Resources.

4.1.1 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 Serving Entities or other agreements required by the Local Regulatory Authority are fully executed.

4.1.2 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.

4.1.3 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.

4.2 General Terms and Conditions Applicable Solely to Proxy Demand Resources

4.2.1 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.

4.2.2 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.

4.2.3 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.

4.2.4 Obligations Relating to Ancillary Services

4.2.4.1 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 4.2.4.1, 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.

4.2.4.2 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.

4.3 General Terms and Conditions Applicable Solely to Reliability Demand Response Resources

4.3.1 Metering. 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.

4.3.2 Notification of Changes. The Demand Response Provider shall notify the CAISO of any proposed change(s) to the registration of technical information. The CAISO will update the Master File in accordance with Section 30.7.3.2 of the CAISO Tariff. This Agreement shall not apply to any Reliability Demand Response Resources which the Demand Response Provider no longer owns or operates or to which it no longer has a contractual entitlement.

~~**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 Serving 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, solely with regard to Proxy Demand Resources, 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 and Reliability Demand Response 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 and Reliability Demand Response 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 and Reliability Demand Response 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:
