California Independent System
Operator Corporation

December 19, 2011

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20246

**Re: California Independent System Operator Corporation
Docket No. ER11-3616-___**

Response to the November 18, 2011 Letter Regarding Reliability Demand Response Resources Tariff Amendment and Request for Modified Effective Date and Amendment to Tariff Filing

Dear Secretary Bose:

On May 20, 2011, the California Independent System Operator Corporation ("CAISO") filed proposed tariff revisions to allow reliability demand response resources to participate in the CAISO markets.[1] As explained in its filing, the CAISO's proposal reflects the results of a comprehensive settlement agreement, approved by the California Public Utilities Commission ("CPUC"), among the CAISO, state investor-owned utilities, large energy consumers, a third-party demand response aggregator, and other interested parties addressing how emergency-triggered demand response resources in California available under state retail demand response programs will be integrated into the CAISO's wholesale market design. As explained in the CAISO's prior filings in this proceeding, the CAISO's proposal to integrate reliability demand response resources complies with the Commission's directives in Order No. 719,[2] which require independent system operators and regional transmission organizations to allow aggregated retail customers to bid demand response directly into the wholesale energy market to the extent permitted by applicable state laws and regulations.

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[1] Capitalized terms not otherwise defined herein have the meanings set forth in Appendix A to the CAISO tariff and in the reliability demand response tariff amendment.

[2] *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, FERC Stats. & Regs. ¶ 31,281 (2008), *order on reh'g*, Order No. 719-A, FERC Stats. & Regs. ¶ 31,292, *order on reh'g and clarification*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

The reliability demand response tariff amendment was developed and submitted for Commission approval following an extensive stakeholder process.[3] The CAISO's filing included detail consistent with similar filings accepted by the Commission. However, on August 26, 2011, Commission Staff issued a letter requesting additional information in order to process the filing. The CAISO filed a response to the August 26 letter on September 21, 2011.

On November 18, 2011, Commission Staff issued a second letter requesting additional information in order to process the CAISO's filing. The CAISO submits this response to Commission Staff's November 18 request for additional information. The CAISO requests that the Commission accept the reliability demand response tariff amendment with the amendments to the tariff language proposed in this filing as supported by the additional information included with this response.[4] Also, as discussed below, the CAISO modifies its requested effective date for the proposed demand response provider agreement included in the tariff revisions pending before the Commission.

I. Responses to Requests for Additional Information

The following are the CAISO's responses to the requests for additional information contained in the November 18 letter.

1. Request for Additional Information – *CAISO states in its [September 21] response to our original request for information that:*

> *Reliability demand response resources will be subject to bidding and dispatch restrictions in the real-time market, where economic dispatch can only occur once real-time threshold operating conditions are met. Moreover, as discussed below, reliability demand response resources will be subject to additional special dispatch rules to address abnormal system and system-modeling conditions.*

CAISO's [September 21] deficiency response describes both the "bidding and dispatch restrictions" and the "additional special dispatch rules" to which Reliability Demand Response Resources will be subject. However, CAISO does not describe the "threshold operating conditions" that must be met before economic dispatch can occur in real-time. Please describe these "threshold operating conditions." Please submit any necessary tariff revisions.[5]

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[3] *See* reliability demand response tariff amendment at Attachment D.

[4] The CAISO submits this addition information pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d.

[5] November 18 letter at 1-2 (citation omitted).

Response –

The reliability demand response tariff amendment explained that the development of reliability demand response resources in the CAISO's markets was a necessary step to implement the settlement agreement approved last year in a demand response rulemaking proceeding (R.07-01-041) established by the CPUC.[6] This settlement agreement specified that the following threshold operating conditions must be met before economic dispatch of reliability demand response resources can occur in real-time:

> The RDRP [CAISO wholesale reliability demand response] product design will modify the existing system trigger from pre-Stage 1 imminent to the point immediately prior to the CAISO need to canvas neighboring balancing authorities and other entities for available exceptional dispatch energy/capacity. That is, the DR [demand response] resource will be eligible for dispatch 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. . . . When RDRP is eligible for dispatch by the CAISO, notification will take place through normal CAISO notification channels, i.e. Automated Dispatch System (ADS) to the responsible Scheduling Coordinator.[7]

Thus, the settlement agreement set forth the threshold operating conditions for economic dispatch of reliability demand response resources in real-time.

Further, as explained in the reliability demand response tariff amendment, reliability demand response resources will be able to satisfy the resource adequacy requirements of the CAISO tariff.[8] Because they will be resource adequacy resources, reliability demand response resources must be made available to the CAISO to prevent a system emergency or to minimize the impact of a system emergency.

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6 Transmittal letter for reliability demand response tariff amendment at 4. As explained in the tariff amendment, this settlement agreement is available on the CPUC's website at http://docs.cpuc.ca.gov/efile/MOTION/114111.pdf. Transmittal letter for reliability demand response tariff amendment at fn. 8. For ease of reference, the settlement agreement is also provided in Attachment C to the instant filing.

7 Settlement agreement at Section A(4)(l).

8 *See* transmittal letter for reliability demand response tariff amendment at 21-22.

Under the current version of the CAISO emergency operating procedures referenced in the provision of the settlement agreement quoted above, reliability demand response resources would count as resource adequacy but would not be available to the CAISO until a system emergency is ongoing and fairly far advanced, *i.e.*, at stage 2 of the system emergency. The CAISO has determined that making reliability demand response resources available in that manner is not optimal. Therefore, consistent with the settlement agreement, the CAISO is now revising its emergency operating procedures to make reliability demand response resources available to the CAISO upon the issuance of a warning notice, so they can be available to the CAISO to prevent a system emergency before it begins or to assist in keeping an existing system emergency from reaching a later stage. Reliability demand response resources will be triggered further down the list of types of resources set forth in the emergency operating procedures during a warning-notice period, because reliability demand response resources are use-limited resources and should not be the first "go-to" resources, especially if other market resources are still available to the CAISO for dispatch.

The current public version of the CAISO emergency operating procedures referenced in the provision of the settlement agreement quoted above are provided for ease of reference in Attachment D to the instant filing.[9] The CAISO had always contemplated including the threshold operating conditions for reliability demand response resources in its emergency operating procedures. As discussed above, the CAISO is in the process of drafting revisions to include the threshold operating conditions that must be met before economic dispatch of reliability demand response resources can occur in real-time, consistent with the settlement agreement. Those revisions to the emergency operating procedures will go into effect at the time the tariff provisions regarding reliability demand response resources are made effective.

The CAISO believes that including the real-time threshold operating conditions for economic dispatch of reliability demand response resources in the revised emergency operating procedures is appropriate, because that information constitutes implementation detail that does not need to be included in the CAISO tariff pursuant to the Commission's "rule of reason."[10] However, in light of the particular

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[9] These CAISO Operating Procedures are also available on the CAISO website at http://www.caiso.com/Documents/4420.pdf.

[10] *See, e.g.*, *California Independent System Operator Corp.*, 119 FERC ¶ 61,076, at P 656 (2007) ("We have consistently rejected arguments that every manual or operating procedure should be on file with the Commission. Requiring such documents to be on file would thwart our "rule of reason" and undermine the practical purpose of having a tariff on file with the Commission, supported by detail included in Business Practice Manuals [and operating procedures] not on file."); *ANP Funding I, LLC v. ISO New England, Inc. and New*

interest expressed in the November 18 letter regarding the threshold operating conditions" that must be met before economic dispatch of reliability demand response resources can occur in real-time", the CAISO proposes also to include that information in Section 34.5 of its tariff.

Section 34.5 sets forth general principles under which the CAISO conducts dispatch activities. In the reliability demand response tariff amendment, the CAISO proposed to revise Section 34.5(7) to add reliability demand response resources to the types of resources that the CAISO may instruct to reduce load. The CAISO now proposes also to add new Section 34.5(13) to specify that 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, or during stage 1, stage 2, or stage 3 of a system emergency, or (b) for a transmission-related system emergency.[11] The additional proposed tariff language incorporates the provisions of the settlement agreement quoted above and appropriately reflects the treatment of reliability demand response resources as resource adequacy. In this and all other respects, the CAISO will dispatch reliability demand response resources consistent with the requirements of the settlement agreement.[12]

2. <u>Request for Additional Information</u> – *CAISO states in its original [May 20] filing that "energy dispatched in real-time from reliability demand response resources is only available for dispatch under specific conditions." CAISO also states in its original filing that Reliability Demand Response Resources "are available for dispatch as specified in the ISO emergency operating procedures." It is unclear whether these "specific conditions" and these specifications in the emergency*

England Power Pool, 110 FERC ¶ 61,040, at P 22 (2005) ("The issue of whether operating procedures must be filed under section 205 is subject to a "rule of reason," which governs the types of documents that must be filed for Commission approval. As we have stated, only those that significantly affect rates and services fall within the directive of section 205(c) of the FPA [Federal Power Act].").

[11] The addition of Section 34.5(13) is shown in yellow highlighting in the marked tariff document contained in Attachment B to the instant filing. Attachment A to the instant filing contains a clean tariff document showing Section 34.5 as revised by this filing. In addition to these tariff provisions, issuance of exceptional dispatch instructions to reliability demand response resources is addressed in the revisions to Sections 34.9 and 34.18 of the CAISO tariff proposed in the reliability demand response tariff amendment.

[12] *See, e.g.*, transmittal letter for reliability demand response tariff amendment at 15 (explaining that proposed CAISO tariff language is "consistent with the provisions in the [settlement agreement] stating that, when reliability demand response resources are eligible for dispatch by the ISO, notification will take place through normal ISO channels"); *id.* at 18 (explaining that proposed CAISO tariff language is "consistent with the provisions in the [settlement agreement] stating that reliability demand response resources will be economically dispatched once triggered").

operating procedures are equivalent to the "threshold operating conditions" CAISO references in its deficiency response, discussed above. Please describe these "specific conditions" and specifications and their relationship to the "threshold operating conditions" mentioned above. Please submit any necessary tariff revisions.[13]

Response –

The "specific conditions" referenced in the above-quoted discussion are the threshold operating conditions described in Response #1, above. As discussed in that response, the CAISO proposes to add new Section 34.5(13) to its tariff to set forth the threshold operating conditions.

II. Request for Modified Effective Date for Tariff Revisions to Modify the Demand Response Provider Agreement

In the reliability demand response tariff amendment, the CAISO requested that the Commission make the CAISO's proposed tariff revisions to the demand response provider agreement (formerly called the proxy demand resource agreement) effective as of October 1, 2011, and make the remainder of the proposed tariff revisions effective as of April 1, 2012. The CAISO requested the earlier effective date for the tariff revisions to the demand response provider agreement in order to give the CAISO and market participants sufficient time to prepare their systems and make other necessary arrangements for the planned implementation to incorporate reliability demand response resources in April 2012, including time for the investor-owned utilities to conduct their communication, conversion, and registration process prior to the planned implementation date, consistent with the understanding reached with stakeholders during the policy development process.[14]

The CAISO's September 21 response to the Commission Staff's August 26 letter noted that, in light of the August 26 letter, the October 1 effective date originally requested for the demand response provider agreement was most likely impracticable. Therefore, the CAISO modified its requested effective date of the demand response provider agreement from October 1, 2011 to December 1, 2011.

Now, in light of the Commission Staff's November 18 letter requesting additional information, the CAISO recognizes that its requested December 1 effective date for the demand response provider agreement is most likely impracticable. Therefore, the CAISO hereby modifies its requested effective date of the demand response provider agreement from December 1, 2011 to

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[13] November 18 letter at 2 (citations omitted).

[14] Transmittal letter for reliability demand response tariff amendment at 2, 30.

February 20, 2012. The CAISO believes that a February 20 effective date will give the CAISO and market participants as much time as possible to make the arrangements necessary for the planned changes to permit incorporation of reliability demand response resources in April 2012. Unfortunately, the CAISO is not certain that within this limited timeframe all of the reliability demand response resources expected to participate and authorized by the settlement agreement to participate will be able to be registered with the CAISO by the investor owned utility. The CAISO continues to request that the Commission make the remainder of the proposed tariff revisions, including the tariff revisions contained in this response, effective as of April 1, 2012.[15]

III. Communications

Communications regarding this filing should be addressed to the same individuals that were designated to receive service in the underlying tariff amendment filing to incorporate reliability demand response resources, namely:

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IV. Service

The CAISO has served copies of the instant filing upon all parties in the above-referenced proceeding. The CAISO has also served copies of this filing on the California Public Utilities Commission, the California Energy

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15 In the reliability demand response tariff amendment (at 2) and the September 21 response (at 7), the CAISO requested that the Commission address all aspects of these tariff revisions in a single order. Because the Commission Staff's requests for additional information do not relate to the demand response provider agreement, however, the CAISO notes that the tariff revisions to implement the demand response provider agreement could have been addressed in a Commission order issued separately from a Commission order that addresses the remainder of the proposed tariff revisions. The modified requested effective dates, however, make it appropriate for the Commission to address all aspects of these tariff revisions in a single order prior to the requested February 20 effective date for the demand response provider agreement.

Commission, and all parties with effective Scheduling Coordinator Service Agreements. In addition, the CAISO is posting the filing on its website.

V. Conclusion

The CAISO respectfully requests that the Commission accept this response as fully providing the additional information requested in the Commission Staff's November 18, 2011 letter. The Commission should approve the CAISO's reliability demand response tariff amendment, as supplemented by the CAISO's September 21, 2011 response, this response, and the attached proposed tariff revisions, as just and reasonable and compliant with Order No. 719.

If there are any further questions or comments, please contact the undersigned.

Respectfully submitted,

/s/ John C. Anders

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cc: Marion Whitaker, Commission Staff

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Attachment A - Clean Tariff

Response to November 18, 2011 Letter
requesting additional information re: Reliability Demand Response Resources

December 19, 2011

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 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 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, or during stage 1, stage 2, or stage 3 of a System Emergency, or (b) for a transmission-related System Emergency.

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Attachment B - Marked Tariff

Response to November 18, 2011 Letter
requesting additional information re: Reliability Demand Response Resources

December 19, 2011

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 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 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, or during stage 1, stage 2, or stage 3 of a System Emergency, or (b) for a transmission-related System Emergency.

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Attachment C

Response to November 18, 2011 Letter
requesting additional information re: Reliability Demand Response Resources

December 19, 2011

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

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Order Instituting Rulemaking Regarding Policies and Protocols for Demand Response Load Impact Estimates, Cost-Effectiveness Methodologies, Megawatt Goals and Alignment with California Independent System Operator Market Design Protocols	Rulemaking 07-01-041 (Filed January 25, 2007)

JOINT MOTION OF CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION, DIVISION OF RATEPAYER ADVOCATES, ENERNOC, INC., PACIFIC GAS AND ELECTRIC COMPANY (U 39-E), SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E), SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E), AND THE UTILITY REFORM NETWORK FOR ADOPTION OF SETTLEMENT; SETTLEMENT ATTACHED

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Dated: February 22, 2010

JOINT MOTION OF CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION, DIVISION OF RATEPAYER ADVOCATES, ENERNOC, INC., PACIFIC GAS AND ELECTRIC COMPANY (U 39-E), SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E), SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E), AND THE UTILITY REFORM NETWORK FOR ADOPTION OF SETTLEMENT; SETTLEMENT ATTACHED

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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies and Protocols for Demand Response Load Impact Estimates, Cost-Effectiveness Methodologies, Megawatt Goals and Alignment with California Independent System Operator Market Design Protocols	Rulemaking 07-01-041 (Filed January 25, 2007)

JOINT MOTION OF CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION, DIVISION OF RATEPAYER ADVOCATES, ENERNOC, INC., PACIFIC GAS AND ELECTRIC COMPANY (U 39-E), SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E), SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E), AND THE UTILITY REFORM NETWORK FOR ADOPTION OF SETTLEMENT; SETTLEMENT ATTACHED

Pursuant to Rule 12.1 *et seq.* of the California Public Utilities Commission's (Commission) Rule of Practice and Procedure, the California Independent System Operator Corporation (ISO), California Large Energy Consumers Association (CLECA), Division of Ratepayer Advocates (DRA), EnerNOC, Inc. (EnerNOC), Pacific Gas And Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE), and The Utility Reform Network (TURN) (collectively, the Settling Parties) request that the Commission adopt and find reasonable the settlement regarding the integration and operation of the emergency-triggered demand response (DR) programs of the investor-owned utilities (IOUs) in the wholesale electricity market ("Settlement"), which is attached hereto as **Exhibit A**. The Settling Parties comprise representatives from five groups of active parties in Phase 3 of this proceeding: wholesale market interests (ISO), bundled ratepayer interests, including residential and small business customers (DRA, TURN), representatives of large customers participating in the IOU emergency-triggered DR programs (CLECA), third-party DR providers (EnerNOC), and the IOUs (PG&E, SCE and SDG&E). One other party in this Phase, Alliance for Retail Energy Markets (AReM) did not join the Settlement, but has indicated it does not oppose the Settlement.

This motion seeks Commission approval of the Settlement as presented herein and without revision.

I. BACKGROUND

The Commission opened this rulemaking on January 31, 2007 as part of a "continuing effort to develop effective demand response (DR) programs" and identified consideration of "modifications to DR programs needed to support the [ISO's] efforts to incorporate DR into market design protocols"[1] as an objective of the rulemaking.

Phases 1 and 2 were initiated to address DR program cost-effectiveness, load impacts, and goals.[2] One specific issue that arose in Phase 2 was whether existing emergency-triggered DR programs should be modified to facilitate their integration into the ISO's Market Redesign and Technology Upgrade (MRTU). Comments on this issue were requested by a Ruling issued June 9, 2008.[3] In response, the ISO provided its rationale for reducing the amount of emergency-triggered DR in the IOUs' service areas.[4] The IOUs and other parties provided their reasons for maintaining the level of emergency-triggered DR.[5]

On July 18, 2008, the Commission initiated Phase 3 of this rulemaking to address the "operation of the IOUs' emergency-triggered DR programs in the future electricity wholesale

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1 *See* Order Instituting Rulemaking Regarding Policies and Protocols for Demand Response Load Impact Estimates, Cost-Effectiveness Methodologies, Megawatt Goals and Alignment with California Independent System Operator Market Design Protocols, effective January 25, 2007, p. 1.

2 A decision on DR load impact protocols was issued on April 24, 2008 (D.08-04-050). Resolution of other matters in Phases 1 and 2 is pending.

3 *See* Administrative Law Judge's Ruling Requesting California Independent System Operator Information On Emergency-Triggered Demand Response, issued June 9, 2008.

4 *See* Comments of the ISO, filed June 25, 2008, in which the ISO's analysis led it to conclude that between 1 to 2 percent of peak system load is an appropriate quantity of emergency-triggered DR.

5 *See e.g.*, Reply Comments on SCE, filed July 9, 2008; *also* Reply Comments of PG&E and Reply Comments of CLECA.

market.[6] Parties were asked to file pre-hearing statements on nine questions regarding the emergency-triggered DR programs, as follows:

1. Can any of the existing emergency-triggered programs be used prior to a CAISO declared stage 1, 2 emergency?
2. How are emergency-triggered programs useful for resource adequacy purposes?
3. What is the effect and usefulness of the emergency triggered DR programs to mitigate scarcity pricing under MRTU?
4. Should the emergency-triggered DR programs, as currently configured, be counted toward the Commission's Planning Reserve Margin? Why? or Why not?
5. Should the Commission direct the utilities to close existing Resource Adequacy (RA)-qualifying emergency-triggered DR programs to new entrants? Why or Why not?
6. Should the Commission direct the utilities to transition customers on these emergency programs to price-responsive DR programs? In what time period should this happen?
7. Should there be an option for existing and new customers to provide non-RA qualifying emergency responsive DR? What would the attributes be fore such a product?
8. How should the current IOU emergency-triggered DR programs be changed, if at all, to integrate better with MRTU? What changes might be appropriate?
9. How should utility emergency-triggered DR programs be changed, if at all, to help with the integration of intermittent renewable resources?[7]

Pre-hearing statements were filed on July 27, 2008, and a pre-hearing conference was held on August 20, 2008, during which the ISO, the IOUs and other parties largely reiterated their positions as stated in their filings on July 9 and July 27, 2008.[8] Thereafter, Phase 3 was informally suspended pending the operation of MRTU Subsequently, the IOUs, working in collaboration with the ISO and other stakeholders, proposed to modify their Base Interruptible Programs (BIP) by adding a new trigger condition to the program: a Warning notice issued by the ISO along with a determination by the ISO that a Stage 1 emergency is imminent, consistent with ISO operating procedure E-508B. The IOUs, the ISO and other stakeholders agreed to

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6 *See* Assigned Commissioner's and Administrative Law Judge's Amended Scoping Memo and Ruling, issued July 18, 2008.

7 *See* Assigned Commissioner's and Administrative Law Judge's Amended Scoping Memo and Ruling, dated July 18, 2008, pp. 6-7.

8 *See generally* Reporter's Transcript, Pre-Hearing Conference, August 20, 2008 in this proceeding.

continue to pursue efforts to voluntarily transition emergency-based DR program participants to price-responsive DR. The proposed modifications were approved in Resolution E-4220 on January 29, 2009. Shortly thereafter, SCE modified its other emergency-based DR programs to include the same "Stage 1 Imminent" trigger.[9]

On June 30, 2009, a proposed decision (PD) was issued in Application (A.) 08-06-001 *et al.* (regarding the IOUs' 2009 – 2011 DR program portfolios), recommending an interim cap on the emergency-triggered DR programs at then-current enrollment levels. The PD explained:

> "Currently, these [emergency-triggered DR] programs account for approximately 2,000 megawatts. In this and other proceedings, CAISO has sought access to these resources prior to a Stage 2 emergency. In 2008, the Commission initiated Phase 3 of R.07-01-041 to examine more closely the amount and type of emergency-triggered demand response that is needed for system reliability and may appropriately be triggered in response to a system Stage 1, 2, or 3 emergency, and the amount that can or should be transitioned to price-responsive triggers more integrated with the [ISO's] new markets.[10] Phase 3 of R.07-01-041 is intended to determine the direction of emergency-triggered programs, such as the appropriate amount of capacity (in megawatts) to enroll in these programs, and how to transition any excess capacity to non-emergency programs with price responsive triggers integrated with the CAISO's new markets. . . . In recognition of the ongoing examination of the appropriate size and role of emergency programs in R.07-01-041 Phase 3, we decline to expand existing emergency triggered programs or adopt new emergency programs with similarly limited triggers. Instead, we cap these programs at their current enrollment (in megawatts) and funding levels pending the resolution of R.07-01-041 Phase 3, with a limited exception for the PG&E SmartAC program. . . . [E]xpansion or replacement of these programs is postponed until the underlying policy issues are addressed in R.07-01-041."[11]

The final decision (D.09-08-027) was adopted August 20, 2009, imposing the interim caps on the IOUs' emergency-triggered DR programs.

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[9] *See* SCE's Advice 2325-E, proposing "Stage 1 Imminent" triggers for SCE's Summer Discount Plan and the Agricultural and Pumping Interruptible programs, approved effective March 29, 2009.

[10] The PD (at p. 32) noted that the BIP program "is not well integrated with MRTU, though the recent change that allows it to be called in advance of a Stage 1 emergency does increase the flexibility of the program."

[11] *See* PD, pp. 26-27.

Following the issuance of the PD in A.08-06-001 *et al.*, Phase 3 was re-activated on July 8, 2009 to hold workshops on the emergency-triggered DR programs.[12] Three workshops were scheduled to examine the optimal size of the emergency-triggered DR programs, consider alternatives to the emergency-triggered DR programs, and address implementation and transition issues for any alternatives identified in Workshop 2.[13]

Workshop 1 was held on August 10, 2009, and addressed the optimal size for emergency-triggered DR programs in each IOU's service area to maintain grid reliability. Stakeholders participated in panels to discuss positions and address questions. As documented in the Workshop Report[14] and the post-Workshop comments,[15] filed August 20, 2009 and August 27, 2009, respectively, parties engaged in vigorous debate on whether the emergency-triggered DR programs should be reduced from their current size, and little party consensus was achieved.

On September 23, 2009, ALJ Sullivan issued a Ruling summarizing parties' positions on the Workshop 1 issues, and providing additional guidance on Workshop 2:

> "SCE, SDG&E, and PG&E advocated for no cap on emergency-triggered DR programs. . . . SCE, SDG&E, PG&E and CLECA asserted that Commission Resolution E-4220, which added a pre-Stage 2 trigger to the affected programs, resolved all issues associated with emergency-triggered DR programs. Furthermore, PG&E and SCE viewed emergency-triggered DR programs as a cost-effective alternative to traditional supply resources (generators) and argued that the programs should be uncapped. . . . And PG&E, SCE, SDG&E and CLECA argued that emergency-triggered programs are also needed for local transmission and distribution emergencies.
>
> The CAISO advocated a cap on emergency-triggered programs of from 500 MWs to 1,000 MWs and further proposed allocations to each IOU consistent with this cap and based on the CAISO's Emergency Operating Procedure E-508A Load Shedding Guide. . . . The CAISO further maintained that Resolution E-4220 did not

[12] *See* Assigned Commissioner's Ruling Amending the Scoping Memo and the Schedule of Phase 3 of this Proceeding (the Amended Scoping Memo), issued July 8, 2009.

[13] *See id.,* Section 3.2.

[14] *See* Report of SCE on Workshop 1 of Phase 3, filed August 20, 2009 in this proceeding.

[15] *See generally* comments of SCE, PG&E, SDG&E, CAISO, CLECA, TURN, and DRA on the Workshop 1 Report, filed August 27 and 28, 2009 in this proceeding.

resolve the issue of double procurement. DRA supported the CAISO concerns and the need to reevaluate emergency-triggered DR programs and the use of the 500 MW-1000 MW cap. . . .

The Amended Scoping Memo explicitly states that this proceeding will focus on 'the amount of emergency-triggered DR that is needed, by IOU service territory, to maintain grid reliability.' The argument that emergency-triggered DR programs provide local transmission and distribution benefits is a relevant issue that is within the scope of this proceeding. It is reasonable to conclude that emergency-triggered DR programs may provide transmission and distribution benefits on constrained circuits. However, the information provided by the IOUs to date is insufficient to determine the amount of emergency-triggered DR that should be maintained to support that purpose.

The Amended Scoping Memo also explicitly states regarding the CAISO-proposed optimal size of emergency-triggered programs: '[i]f there are no alternatives submitted, then the Commission may assume that the recommendations made by CAISO are valid and proceed towards an emergency-triggered DR that resolves the issues raised by CAISO.'"[16]

While making no final determination regarding a cap on the emergency-triggered DR programs, the Ruling directed parties to assume for purposes of Workshop 2 a cap on the emergency-triggered DR programs of 1,000 MW statewide, allocated based on the ISO's Emergency Operating Procedure E-508A Load Shedding Guide.[17]

Pre-workshop comments were filed on October 12, 2009, and Workshop 2 was held on October 20, 2009 to examine alternatives to emergency-triggered DR programs. Parties discussed, among other issues, the merits of a 1,000 MW statewide cap and allocation as proposed by the ISO; however little consensus was reached, as documented in the Workshop 2 Report, filed October 30, 2009.[18]

At the conclusion of Workshop 2, parties requested additional time prior to Workshop 3 to work together to explore possible resolutions for proposal to the Commission. In a November

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16 *See* September 23, 2009 Administrative Law Judge's Ruling Regarding Workshop 2, pp. 3-4, 8 (footnotes omitted).

17 *See* September 23, 2009 Administrative Law Judge's Ruling Regarding Workshop 2, p. 10.

18 *See* Report of PG&E on Workshop 2 of Phase 3, filed October 30, 2009 in this proceeding.

4, 2009 e-mail ruling, ALJ Sullivan granted the parties' request, removing Workshop 3 from the Commission's calendar to allow time for settlement discussions.[19]

Subsequent to Workshop 2, the Settling Parties met on numerous occasions to explore settlement. These efforts eventually resulted in a settlement in principle among the Settling Parties. On January 20, 2010, the Settling Parties noticed a settlement conference pursuant to Rule 12.1 of the Commission's Rules of Practice and Procedure. A settlement conference was convened on January 29, 2010. Participating parties were the Settling Parties and AReM. After the settlement conference, the Settling Parties worked to finalize their settlement efforts, resulting in the Settlement attached hereto as **Exhibit A**.

Although AReM did not join the Settlement, it has indicated it does not oppose the Settlement.

In recognition of the foregoing, and to fully resolve the issues in Phase 3 of this rulemaking, the Settling Parties jointly support and recommend adoption of the Settlement, which is summarized below.

II. SUMMARY OF THE SETTLEMENT

A. The Settlement Resolves All Issues in Phase 3

The Settlement resolves all material issues identified in the July 8, 2009 Amended Scoping Memo regarding the integration and operation of the IOUs' emergency-triggered DR in the wholesale electricity markets.

B. Summary of the Material Provisions of the Settlement

The material provisions of the Settlement are summarized below; however the Settlement is the governing document over this summary in case of any unintended inconsistency.

[19] ALJ Sullivan's e-mail to the parties on the service list for R.07-01-041, issued November 4, 2009.

1. Applicability

The Settlement applies to all IOU emergency-triggered DR programs, which are referred to in the Settlement as "emergency-based" or "reliability-based DR programs," and are described as "programs in which customer load reductions are triggered only in response to abnormal and adverse operating conditions, such as imminent operating reserve violations or transmission constraint violations (i.e., emergencies)."[20] The reliability-based DR programs subject to the Settlement are:

- Base Interruptible Program (BIP):
- Air Conditioning Cycling programs of PG&E and SCE (A/C Cycling);[21]
- Agricultural and Pumping Interruptible Programs of SCE (AP-I); and
- Any future reliability-based DR program offered by an IOU.

DR programs that are not triggered strictly for emergencies are not considered by the Settlement to be "emergency-based" or "reliability-based," even if they include emergency-based (or reliability-based) triggers.

2. The ISO Wholesale Reliability DR Product

Section A of the Settlement describes the ISO's development of a wholesale reliability DR product (the "RDRP") that will be compatible with the IOUs' reliability-based DR programs and enable those programs to be bid into the RDRP product. The key features of the RDRP product are:

- Its design will accommodate the primary features of the existing IOU reliability-based DR programs;
- RDRP capacity will count for RA, subject to a MW limit specified in Section C of the Settlement.

[20] Settlement, Exhibit A, pp. 1-3.
[21] SDG&E's A/C Cycling program (called Summer Saver) is already price-responsive, and is not considered a reliability-based DR program.

- The amount of RDRP capacity will not be limited; however, the amount of RDRP capacity that can count for RA will be limited, as specified in Section C of the Settlement (summarized below).
- RDRP can be triggered at the point immediately prior to the ISO's need to canvas neighboring balancing authorities and other entities for available exceptional dispatch energy or capacity. Once triggered, RDRP will be economically dispatched by location and quantity through the ISO's Automated Dispatch System (ADS).
- RDRP will not preclude the IOUs' use of the RDRP capacity for transmission and local distribution purposes;
- RDRP will allow for an annual test event; however an actual event in a given year is expected to eliminate the need for a test event for that year.
- RDRP will be open to all qualified DR providers.[22]

The Settlement requires the ISO to develop a stakeholder process in 2010 to develop RDRP, with the objective of obtaining the ISO board approval in the fourth quarter of 2010, so that RDRP can be incorporated into the IOUs' 2012 – 2014 DR program cycle applications in January 2011.

3. <u>Reliability-Based DR Program Transition</u>

Section B of the Settlement requires the IOUs to implement and promote price-responsive options for reliability-based DR program participants, as follows:

- SDG&E's A/C Cycling program (called Summer Saver) is already price-responsive, and is not considered a reliability-based DR program.
- PG&E has proposed to transition customers on its existing reliability-based A/C Cycling program (called SmartAC™) to a program that includes a price trigger in Application (A.) 09-08-018. PG&E will begin the transition SmartAC™ to the price-responsive option upon the Commission's approval of A.09-08-018.

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[22] The Settlement does not address how the allocation of RDRP RA-eligible capacity might be shared among the IOUs and other qualified DRPs in the future.

- SCE will propose a voluntary, price-responsive option for its A/C Cycling program (called Summer Discount Plan (SDP)) by the end of the second quarter 2010, including an option to allow SDP to be bid into the ISO market. Implementation of transition is expected to occur over the 2011-2014 timeframe. SCE agrees to actively promote customer transition to the price-responsive option through customer communications and by decreasing incentives from current levels for reliability-based MW.

To the extent a customer participating in a reliability-based DR program also participates in a price-responsive program/option, the MW from such customer's participation in the price-responsive program/option will not be considered to be reliability-based DR MW subject to the MW limit specified in Section C of the Settlement (as summarized below), to extent that the MW from these dual participation customers can be identified and measured in accordance with the DR load impact protocols established by the Commission in D.08-04-050.

If the Commission does not authorize PG&E or SCE to incorporate a price trigger into their A/C Cycling programs, it would be considered a fundamental change in regulatory conditions under the Settlement, triggering the right of a Settling Party to seek reconsideration of the Settlement.

4. Reliability-Based DR Program Caps

Section C of the Settlement recommends the removal, by May 2010, of the existing MW enrollment caps on the IOUs' reliability-based DR programs adopted in D.09-08-027, and the imposition of specific, annual limits on these programs starting in 2012. The annual limits apply to the total MW in the IOUs' reliability-based DR programs, and are expressed as percentages of the ISO's recorded all-time coincident peak demand (currently 50,270 MW),[23] as follows:

- In 2012, the limit will be 3%;
- In 2013, the limit will be 2.5%;

[23] The MW limits are subject to upward revision if a new recorded ISO all-time coincident peak demand is set. For example, the 2% limit is currently 1005 MW, but would be adjusted upward if a new recorded ISO all-time coincident peak demand is set.

- In 2014 and beyond, the limit will be 2%.

The timing and size of the annual limits on the reliability-based DR MW are intended to allow sufficient time for the IOUs to develop, propose and implement price-responsive options for reliability-based DR participants and reasonably promote transition to such options, while also ensuring reasonable progress toward to final, agreed-upon 2% limit.

The IOUs will report compliance with the annual limits in their DR load impact reports, due April 1 of each year pursuant to D.08-04-050. The reliability-based DR MW quantities counted toward the annual limits will be determined using the load impact protocols adopted in D.08-04-050 and will exclude any price-responsive DR MW. **Attachment 1** of the Settlement includes details on the process for measuring, reporting and acting on performance to meet the annual limits.

A 10% tolerance band will be used for enforcement of the annual limits through 2015, after which no further tolerance band will apply.

To the extent the total IOU reliability-based DR MW do not achieve any of the annual limits – as determined by the load impact protocols – plus a tolerance band of 10% through 2015 and 0% thereafter the responsibility for the resulting "oversupply" will be determined based on whether each IOU's share of the total reliability-based DR MW exceeds the following proportional allocation:

- PG&E: 400 MW
- SCE: 800 MW
- SDG&E: 20 MW

In addressing a condition of any IOU oversupply, the Settlement provides that the Commission would determine the appropriate remedial action for any IOU oversupply, including (i) eliminating the RA counting for the oversupply; and/or (ii) ordering program modifications to reduce participation in one or more of the IOU's reliability-based DR programs.

The Settling Parties also agree that any reconsideration of the 2% limit or the IOU-specified MW limits in the Settlement would benefit from inputs such as (i) a properly structured resource planning analysis, and (ii) consideration of whether the 2% limit should be formalized as part of the approach for counting limited-use resources for RA and whether the limit value should be modified. However, the Settling Parties agree that no Settling Party would seek such reconsideration for any compliance year prior to 2014. The Settling Parties also agree that any party seeking reconsideration would bear the burden of proof if it sought change of either (i) the 2% limit on what counts for RA; or (ii) the allocation method for allocating the specific MW to each IOU based on applying the limit to each IOU individually. Once approved by the Commission, parties may seek reconsideration of the Settlement in the event of (i) the inability of the ISO to establish the agreed-upon RDRP product by the end of 2011; or (ii) major changes in load, resource, regulatory or economic conditions from those anticipated at the time of the Settlement.

5. **Regulatory Approval**

The Settling Parties agree that the Settlement should be approved in its entirety and without modification. Any Settling Party may withdraw from the Settlement if the Commission modifies it, subject to good faith negotiations to try to restore the balance of benefits and burdens of any modified settlement adopted by the Commission.

III. **REQUEST FOR ADOPTION OF THE SETTLEMENT**

The Settlement is submitted pursuant to Rule 12.1 *et seq.* of the Commission's Rules of Practice and Procedure (Rules). The Settlement is consistent with Commission decisions on settlements, which express the strong public policy favoring settlement of disputes if they are fair and reasonable in light of the whole record.[24] This policy supports many worthwhile goals, including conserving scarce Commission resources, and allowing parties to reduce the risk that litigation will produce unacceptable results.[25] This strong public policy favoring settlements also

24 *See, e.g.,* D.88-12-083 (30 CPUC 2d 189, 221-223) and D.91-05-029 (40 CPUC 2d, 301, 326).
25 D.92-12-019, 46 CPUC 2d 538, 553.

weighs in favor of the Commission resistance to altering the results of the negotiation process. As long as a settlement taken as a whole is reasonable in light of the record, consistent with the law, and in the public interest it should be adopted without modification.

The Settlement complies with Commission guidelines and relevant precedent for settlements. The general criteria for Commission approval of settlements are stated in Rule 12.1(d), which states:

> The Commission will not approve settlements, whether contested or uncontested, unless the settlement is reasonable in light of the whole record, consistent with law, and in the public interest.

The Settlement meets the criteria for a settlement pursuant to Rule 12.1(d), as discussed below.

A. The Settlement is Reasonable In Light of the Record as a Whole

The Settling Parties have reached the Settlement after filing numerous comments and reply comments in Phases 2 and 3 of this proceeding, as well as in A.08-06-001 *et al.*, setting forth their legal and policy arguments on the issues within the scope of this Phase 3 proceeding, participating in the August 20, 2008 pre-hearing conference, conducting discovery, participating in two full-day workshops to present and discuss their positions, having the opportunity to evaluate their respective positions on the issues, and after having many informal discussions regarding the merits of the issues. Each Settling Party has obtained substantial information on the other Settling Parties' positions on the issues. Armed with that information, the Settling Parties strongly believe that the Settlement accomplishes mutually acceptable outcomes regarding the integration and operation of the IOUs' emergency-triggered DR programs in the wholesale electricity market.

The Settling Parties are reflective of the affected interests in Phase 3 of this proceeding. The ISO represents wholesale market interests; DRA and TURN represents bundled ratepayer interests, including residential and small business customers; CLECA represents the interests of large customers participating in the IOUs' emergency-triggered DR programs; EnerNOC represents the interests of third-party DR providers; and PG&E, SCE and SDG&E represent their interests as IOUs offering DR programs to their customers.

The Settlement reasonably enables the integration and operation of the IOUs' reliability-based DR programs in the wholesale electricity market because:

- The Settlement establishes a process for the development of a wholesale product that will allow for the participation of reliability-based DR in the wholesale market and maintain an appropriate level of reliability-based DR for grid reliability and RA purposes. The RDRP product design reasonably recognizes the value of service of the participating reliability-based DR MW and the need to trigger such resources after conventional supply-side resources. RDRP enables all DR providers to bid in capacity, with no limits on the amount of RDRP capacity (limits are on the amount of RDRP capacity that can count for RA), and allows the IOUs to continue to use the RDRP capacity for local transmission and distribution needs.
- The Settlement limits the amount of reliability-based DR that will count for RA, and reasonably commits the IOUs to implement and promote price-responsive options for reliability-based DR program participants, while appropriately mitigating concerns over removal of customers from reliability-based DR programs in the absence of reasonable alternatives and sufficient transition time. The Settlement provides adequate time and incentive for the IOUs to implement price-responsive transition efforts to effectively reduce reliability-based DR participation to the 2% limit by 2014, and for creation of remedial measures for failure to do so. The final 2% limit on the reliability-based DR sufficiently addresses the ISO's concerns over the level of statewide emergency DR MW, while accommodating the current IOU BIP enrollment of large interruptible customers for whom price-responsive options may not be feasible.
- The Settlement provides a reasonable measure of stability to BIP participants and mitigates the uncertainty that they have faced in the last several years about the continued nature of the BIP program.

- The Settlement reasonably resolves a variety of transitional issues for the reliability-based DR programs during a period of considerable change in the DR landscape, including the installation of advanced metering and implementation of dynamic pricing for residential and small commercial customers; the integration and operation of DR into the new wholesale market design; and the development of scarcity pricing. The Settlement provides a reasonable means of addressing the reliability-based DR programs while DR developments are in flux and until advanced metering, dynamic pricing, and scarcity pricing are in place.
- The Settlement advances the Commission's objectives for expanding use of price-responsive DR by committing SCE to introduce a price-responsive option in its A/C Cycling program, the largest such program in the State; and by using the Commission's rules on dual participation to help maximize participation on price-responsive DR options. Specifically to the latter point, the Settlement does not limit reliability-based MW that dual-participate in a price-responsive program/option as long as the dual MWs can be identified and measured in accordance with the DR load impact protocols established by the Commission in D.08-04-050. The current caps on the reliability-based DR programs preclude any MW above the caps irrespective of whether such MW dual-participate in a price-responsive program/option.
- The Settlement provides a reasonable process for modifying the reliability-based DR programs while seeking to preserve existing participation levels in the IOU DR programs.
- The Settlement recognizes the contribution of the reliability-based DR programs to local reliability value.
- The Settlement provides the opportunity to reexamine the limit on reliability-based DR programs as well as the IOU allocation (beginning in compliance year 2014) as circumstances may change in the future.

The Settlement addresses all material issues in Phase 3 of this proceeding, and represents a reasonable compromise of the Settling Parties' positions. The filings of the parties in Phases 2 and Phase 3 of this proceeding, as well as in A.08-06-001 *et al.*, the pre-hearing conference transcript, the workshop reports, the Settlement itself, and this motion provide the necessary record for the Commission to find the Settlement reasonable.

B. **The Settlement is Consistent with Law and Prior Commission Decisions**

The Settling Parties represent that Settlement is fully consistent with law and prior Commission decisions. The Settling Parties are not aware of any basis on which it could be alleged that the Settlement is not consistent with law. The Settling Parties reached agreement in accordance with Rule 12.1 of the Commission's Rules of Practice and Procedure.

The Settlement is consistent with the Commission's and the State's objectives to encourage participation in preferred price-responsive DR programs, and integrate DR into the wholesale electricity markets to promote cost-effective DR as a priority resource, as articulated in numerous prior Commission decisions issued in various DR-related proceedings.

C. **The Settlement is in the Public Interest**

The Settlement is a reasonable compromise of the Settling Parties' respective positions. The Settlement is in the public interest because it enables the integration and operation of the IOUs' reliability-based DR programs in the wholesale electricity market in a manner that ensures the continued availability of reliability-based DR for grid reliability and RA purposes while encouraging the transition of IOU customers to preferred price-responsive DR options.

The Settlement, if adopted by the Commission, will reduce the Commission resources that must be devoted to resolving the issues in Phase 3 of this proceeding. The saved resources of the Commission may then be devoted to matters than involve greater cost or policy issues. Given that the Commission's workload is extensive, the impact on Commission resources is doubly important.

Each portion of the Settlement is dependent upon the other portions of the Settlement. Changes to one portion of the Settlement would alter the balance of interests and the mutually agreed upon compromises and outcomes contained in the Settlement. As such, the Settling Parties request that the Settlement be adopted as a whole and without modification by the Commission, as it is reasonable in light of the whole record, consistent with law, and in the public interest.

* * *

For the foregoing reasons, the Commission should find that the Settlement is a reasonable resolution of the disputes regarding the integration and operation of the IOUs' reliability-based DR programs in the wholesale electricity market in light of the whole record; is consistent with law and prior Commission decisions, and in the public interest.

D. The Settling Parties Have Complied with the Requirements of Rule 12.1(b)

The Settling Parties noticed the convention of a settlement conference on January 20, 2010, and convened a settlement conference on January 29, 2010 in San Francisco to describe and discuss the terms of the Settlement. The settlement conference was attended by representatives of Settling Parties as well as by AReM. The Settlement was executed after the settlement conference held on January 29, 2010.

E. The Settlement is Not Opposed by any Active Party in this Proceeding

The Settlement is not opposed by any active party in this proceeding. Although AReM did not sign the Settlement, it has indicated that it does not oppose the Settlement.

IV. EXPEDITED CONSIDERATION OF THE SETTLEMENT IS WARRANTED

Expedited consideration and adoption of this Settlement is warranted to ensure sufficient time for the ISO to develop a stakeholder process in 2010 to develop RDRP and obtain ISO board approval in the fourth quarter of 2010, so that RDRP can be incorporated into the IOUs' 2012 – 2014 DR program cycle applications in January 2011. In this regard, the ISO process generally involves such steps as issuance of issue papers or straw proposals for comment and refinement, workshops and/or stakeholder meetings or conference calls to refine policy and refine iterations for product design, board approval, followed by tariff amendment development involving further stakeholder review and tariff amendment filing to Federal Energy Regulatory Commission (FERC). For the ISO's proxy demand resource product, the time needed for this process has been more than nine (9) months.

Accordingly, the Settling Parties request that the comment period for the Settlement, as provided under Rule 12.2, be shortened from 30 days to 15 days, with reply comments due 5 days thereafter; and that the Commission act promptly at the conclusion of the comment period to grant this Motion and approve the Settlement by no later than April 30, 2010.

V. CONCLUSION

WHEREFORE, the Settling Parties respectfully request that the Commission grant this motion and:

1. Suspend the procedural schedule in this proceeding, shorten the comment period for the Settlement from 30 days to 15 days, with 5 days for reply comments, and give expeditious consideration to the Settlement;
2. Issue a final decision by no later than April 30, 2010 adopting the attached Settlement in its entirety and without modification as reasonable in light of the record, consistent with law, and in the public interest; and
3. Order the IOUs to file advice letters within 20 days of the issuance of the Commission's final decision approving the Settlement to modify their reliability-based DR program tariffs in compliance with that decision.

Respectfully submitted,

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

By: /s/ Baldassaro "Bill" Di Capo
BALDASSARO "BILL" DI CAPO

PACIFIC GAS AND ELECTRIC COMPANY

By: /s/ Shirley A. Woo
SHIRLEY A. WOO

SAN DIEGO GAS & ELECTRIC COMPANY

By: /s/ Steven D. Patrick
STEVEN D. PATRICK

CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION

By: /s/ William H. Booth
WILLIAM H. BOOTH

DIVISION OF RATEPAYER ADVOCATES

By: /s/ Lisa Marie Salvacion
LISA MARIE SALVACION

ENERNOC, INC.

By: /s/ Sara Steck Myers
SARA STECK MYERS

THE UTILITY REFORM NETWORK

By: /s/ Michel Peter Florio
MICHEL PETER FLORIO

SOUTHERN CALIFORNIA EDISON COMPANY

By: /s/ Janet S. Combs
JANET S. COMBS

Dated: February 22, 2010

Exhibit A

SETTLEMENT

Reliability-Based Demand Response Settlement
(CPUC Rulemaking 07-01-041, Phase 3)

This settlement (Settlement) in Phase 3 of the Demand Response rulemaking (DR OIR) proceeding (R.07-01-041 or this Rulemaking) is entered into by the undersigned Parties in fulfillment of the objective of this proceeding phase to address the operation of investor-owned utilities' emergency triggered DR programs in the wholesale electricity market and the integration of emergency triggered DR into wholesale market design.[1]

PARTIES

The parties to this Settlement are Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas and Electric Company (SDG&E), the California Independent System Operator (CAISO), the California Large Electricity Consumers Association (CLECA), the Division of Ratepayer Advocates (DRA), The Utility Reform Network (TURN), and EnerNOC, Inc. (collectively, the Parties).

PG&E, SCE, and SDG&E are investor-owned utilities (collectively, the Utilities or IOUs) and are subject to the jurisdiction of the California Public Utilities Commission (CPUC) with respect to providing electric service to their CPUC-jurisdictional retail customers.

CAISO is the systems operator of the bulk power electrical system with the CAISO balancing area. This area includes the bulk transmission systems owned by the three IOUs (PG&E, SCE, and SDG&E). The CAISO also administers California's wholesale electricity markets pursuant to the CAISO tariff.

CLECA is an organization of large, high-voltage industrial customers of PG&E and SCE, most of whom take interruptible service.

DRA is an independent division of the CPUC that advocates solely on behalf of utility ratepayers.

TURN is an independent, non-profit consumer advocacy organization that represents the interest of residential and small commercial utility customers.

EnerNOC is a demand response aggregator operating in one or more of the IOUs' service areas.

RECITALS

PG&E, SCE and SDG&E manage emergency-based (also described as reliability-based) demand response (DR) programs under the authority of the CPUC. These programs are the Base

[1] See Assigned Commissioner's and Administrative Law Judge's Amended Scoping Memo and Ruling, July 18, 2008, R.07-01-041, page 1. See also Assigned Commissioner's Ruling Amending the Scoping Memo and the Schedule of Phase 3 of this Proceeding, July 8, 2009, page 1.

Interruptible Program (or BIP), the air conditioning cycling programs (A/C Cycling), and the agricultural pumping-interruptible program (AP-I), which are offered by one or more of the IOUs. The IOUs call their air conditioning cycling programs by different names:

PG&E: SmartAC™
SCE: Summer Discount Plan (SDP)
SDG&E: Summer Saver

The SDG&E Summer Saver program is price-responsive and thus not considered emergency-based. PG&E has proposed to add a price trigger to its existing SmartAC™ program in Application 09-08-018.

In A.08-06-001 et. al. (the DR Cycle Applications), the CPUC capped emergency triggered demand response programs (as therein defined) at their current levels of enrolled MW, with a limited exemption for PG&E's SmartAC™ program, pending resolution in this Rulemaking proceeding. (See D.09-08-027, Ordering Paragraph 11).

The CPUC opened this Rulemaking on January 31, 2007 as part of a "continuing effort to develop effective demand response (DR) programs" and identified consideration of "modifications to DR programs needed to support the California Independent System Operator's (CAISO) efforts to incorporate DR into market design protocols" as an objective of the rulemaking.

Subsequently, on July 18, 2008 the CPUC issued an amended scoping memo opening Phase 3 of this proceeding and a subsequent ruling (on July 8, 2009) scheduling workshops.

As part of Phase 3, the CPUC held two workshops on August 10, 2009 and October 20, 2009 to discuss a cap on emergency-triggered DR and alternatives to current IOU emergency-triggered DR programs, respectively. A third workshop to address implementation/transition concerns was taken off the CPUC's calendar at the request of the parties participating in the second workshop in order to facilitate settlement efforts.[2].

In recognition of the foregoing, and in order to resolve the issues extant in the R.07-01-041, Phase 3, the Parties jointly support and recommend adoption of the following Agreement.

AGREEMENT

The reliability-based DR programs subject to this Settlement are the Base Interruptible Program (or BIP), the air conditioning cycling programs of PG&E and SCE (A/C Cycling[3]), the agricultural pumping-interruptible program (AP-I) and any future reliability-based program offered by one or more of the IOUs (provided that those programs are consistent with the terms of this Settlement). For the purposes of this Settlement, reliability-based DR programs refer to programs in which customer load reductions are triggered only in response to abnormal and adverse operating conditions, such as imminent operating reserve violations or transmission

2 ALJ Sullivan e-mail to the parties, November 4, 2009
3 SDG&E's air conditioning cycling program is not included because it is already price responsive.

constraint violations (i.e., emergencies). Programs that are triggered for reasons not exclusively limited to emergencies, which may include prices (or implied market heat rates), temperature, or system load, and "at utility discretion" programs triggered for such reasons, are not considered to be reliability-based programs even if they include an emergency-based (aka reliability-based) trigger.

A. CAISO WHOLESALE RELIABILITY DEMAND RESPONSE PRODUCT

1. The CAISO will initiate a stakeholder process in 2010, with the objective of developing a wholesale reliability demand response product (RDRP) that is compatible with IOU reliability-based demand response programs, generally referred to as BIP, A/C Cycling and AP-I.

2. The intended timeframe for CAISO board adoption of the RDRP will be fourth quarter 2010 (with a CAISO tariff filing with FERC shortly thereafter), so that information on the RDRP can be incorporated into IOU DR Cycle applications for 2012-2014, which are expected to be filed in January 2011.

3. To the extent the timing of CAISO's RDRP development and approval process permits, the IOUs will address transitional issues associated with integrating their reliability-based DR programs into the RDRP in their DR Cycle applications. To the extent that timing does not allow transitional issues to be addressed in IOU DR Cycle applications, IOUs and the CAISO will jointly seek an alternative forum to resolve such transitional issues, such as a request for the opportunity to submit supplemental testimony or a subsequent phase of the DR Cycle proceeding.

4. The RDRP will be designed to support demand response products with the following attributes:

   a. For CPUC jurisdictional entities, there will be a MW limit on the amount of RDRP (or other reliability based DR Programs if RDRP does not capture them) that qualifies for RA, as specified in Section C of this Agreement.

   b. Subject to the MW limit of RA that will be accepted from the RDRP (as specified in Section C of this Agreement), the MW offered into this product category will qualify as RA capacity, in accordance with the RA counting rules of the applicable local regulatory authority. There is no limit on the MW amount of RDRP, only on the amount that counts for RA as determined by the CPUC. IOUs may develop new forms of reliability-based DR that will count towards the MW caps described in Section C if the IOUs seek to count them for RA. The CAISO RDRP product will be designed to accommodate the primary features (such as notice period and number/duration of program calls) of the existing BIP, reliability-based SDP, and AP-I programs.

c. Utilities are not precluded from developing and seeking CPUC approval for new types of reliability-based DR programs that may or may not be appropriate for RDRP and may or may not count for RA. In particular, utilities are interested in preserving an option to offer reliability-based programs that compensate participating customers on a per event basis and programs that would be called as a last resort prior to rotating outages. Any such new reliability based DR program would count toward the MW caps described in Section C if it counts for RA and is integrated with the CAISO. Utilities recognize that it may be appropriate to place an additional MW cap on such programs if they count for RA, and that these additional MW would be a subset of the 2% overall Limit (as defined below).

d. RDRP resources must meet minimum operating requirements, and also must meet certain technical requirements developed in the CAISO's stakeholder process. RDRP also may have maximum availability limitations.

e. RDRP is not “price responsive”, but will be economically dispatched once triggered.

f. CAISO dispatch of RDRP will recognize that participating customers have a high “strike price” that is well above the running cost of conventional supply-side resources

g. Participating RDRP MW may have multiple reliability-only uses (system, transmission and local reliability), and may be triggered by IOUs for reasons other than CAISO needs, such as IOU-controlled distribution circuit operations. IOUs will work with the CAISO to establish procedures to 1) provide timely notice of when these participating RDRP MW are triggered for non-CAISO needs and 2) allow for potential dispatch by the CAISO for purposes of recognition within the CAISO systems.

h. RDRP will help mitigate, or limit the duration of, Scarcity Pricing events.

i. RDRP will allow up to one test event each year to ensure compliance and performance. This limitation does not preclude an RDRP provider from scheduling additional test events in coordination with the CAISO. Parties expect that actual events would normally, under most circumstances, eliminate the need for a test. Parties expect there will be at least one event per year.

j. All qualified Demand Response Providers (DRPs) will be allowed to participate in supplying RDRP. Providers will be subject to certain performance and compliance requirements. Aggregation of customers under a DRP will be subject to the rules established by the Local Regulatory Authority (LRA), if any.

k. Payments associated with the RDRP will be settled through the CAISO settlement system; any additional incentives or payments, if appropriate, will be the prerogative of the LRA and handled outside the CAISO.

l. The RDRP product design will modify the existing system trigger from pre-Stage 1 imminent to the point immediately prior to the CAISO need to canvas neighboring balancing authorities and other entities for available exceptional dispatch energy/capacity. That is, the DR resource will be eligible for dispatch 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. Parties will not propose to change this RDRP trigger for any year prior to 2015. When RDRP is eligible for dispatch by the CAISO, notification will take place through normal CAISO notification channels, i.e. Automated Dispatch System (ADS) to the responsible Scheduling Coordinator.

m. Once triggered, MWs under this product will be dispatchable by location and quantity.

n. Use of the RDRP product will be formally incorporated and documented into CAISO processes and operating procedures.

B. RELIABILITY-BASED DR PROGRAM TRANSITION

1. Upon CPUC approval of its pending Application 09-08-018 filing, PG&E will begin transitioning its existing reliability-based SmartAC™ customers to a program that adds a price trigger as directed in the CPUC Decision. PG&E's application proposed a target date of summer 2012 for this additional trigger that includes bidding into CAISO markets. This settlement does not prevent parties to the A.09-08-018 proceeding from advocating for an alternative price responsive trigger implementation in the A.09-08-018 proceeding, or subsequent application addressing SmartAC™ or its successor.

2. SCE will submit an Application to create a price-responsive option for its SDP (SCE's AC Cycling program) by the end of the second quarter of 2010 that will modify the program to include a proposal to allow SDP to be bid into CAISO markets. SCE will make participation in the price-responsive option voluntary to customers, and will actively promote customer transition to the price-responsive option through customer communication and by decreasing current incentives for customers who chose to stay on the reliability-based option. This Agreement does not restrict SCE from making the price-responsive option mandatory for its customers.

3. Upon CPUC approval of the request in the filing referenced in Section B.2 above, SCE will begin a multi-year transition effort and process that takes into consideration the roll-out of SmartConnect™ metering and potential replacement of customer premises hardware devices with new technology that enables a price-responsive program offering that can be bid into CAISO markets. The anticipated time period of this transition will be 2011-2014.

4. PG&E, SDG&E and SCE may continue to offer dual participation options to BIP A/C Cycling and AP-I customers who are willing to participate in a price-responsive DR program (e.g. Demand Bidding Program, Peak Day Pricing, CPP, etc.) where such dual participation is allowed by the CPUC. Megawatt quantities from such dual-participation-

customers will not be considered to be supplying reliability-based DR MWs, as determined in the Load Impact Protocol Compliance filing, to the extent that the protocol identifies the MW quantities from such dual participation customers that participate in a price responsive program.

C. RELIABILITY-BASED DEMAND RESPONSE PROGRAM CAPS

1. The freeze on IOU DR reliability–based program participation that was adopted in D.09-08-027 will be removed by May 2010 and replaced with the CPUC enforced annual limit designed to limit reliability-based demand response program capacity to a specified percent of the CAISO's all-time coincident peak demand, which is currently 50,270 MW. Currently, IOU reliability-based DR programs are about 3.5% of the CAISO all-time peak load. (This calculation omits capacity in PG&E's A/C Cycling program, since PG&E has sought CPUC approval to transition this program to fully price-responsive.) The annual limits are as follows:

    a. For 2012 the limit will be 3%.

    b. For 2013 the limit will be 2.5%

    c. For 2014 and forward, the limit will be set at 2% of the recorded all-time coincident CAISO peak load (the "2% Limit"), unless revised as discussed in item 6 below.

    The 2012 and 2013 limits are above the 2% limit which the parties recognize as the CAISO's determination of the optimal level of reliability based DR resources from an operating standpoint but the Parties also recognize the IOU's desire to accommodate concerns that removing customers from the existing programs without developing a reasonable alternative and transition time is problematic.

2. In their annual April 1st Load Impact Compliance Protocol reports, the IOUs will include, in a discrete section, a summary of BIP, A/C Cycling and AP-I capacity (ex-post and ex-ante) categorized between reliability-based and price-responsive, and will compare the reliability-based capacity to each IOU's share of the overall limit (plus tolerance), as determined in Section C.4.a.v.

    a. MW quantities will be determined using CPUC-adopted load impact protocols as established in D.08-04-050 for counting both reliability and price based DR.

    b. For PG&E and SDG&E, A/C Cycling MW will not be counted towards the limit, because these MWs are programs that are considered to be price responsive. For SCE, only the reliability-based portion of A/C Cycling MW will be counted towards the limit. If the CPUC does not approve a price trigger in PG&E's pending application A.09-08-018 (as described in Section B.1) or SCE's planned SDP application (as described in Section B.2) the parties recognize this as a fundamental change in the regulatory conditions as described in Section C.7.

    c. RA MW from customers also participating in price-responsive DR programs (e.g., BIP customers participating in DBP, PDP, CPP etc.) will not be counted against the limit as determined by the Load Impact Protocols developed in the Load Impact Protocol Compliance filing, to the extent that the protocol identifies the MW quantities from such dual participation customers that participate in a price responsive program.

d. For illustration, the following represents utilities' expectations of MW enrollment level in reliability-based DR programs in comparison to the 2% of peak load limit:

   i. **Starting situation is 1721 MW of reliability-based DR (2010-2011). Note that this number would be higher if PG&E and SDG&E A/Cycling programs were included.**

      1. PG&E: BIP = 300 MW
      2. SCE: BIP + AC Cycling + AP-I = 1414 MW
      3. SDG&E: BIP = 7 MW

   ii. **In 2014 with SCE's roll out of price-responsive A/C Cycling, reliability-based DR declines to between 1032 and 1220 MW**

      1. PG&E BIP = 300- 400 MW
      2. SCE BIP and AP-I adjusted for DBP= 650 MW
      3. SCE reliability-based DR (assumes 10- 20 % of existing SDP customers stay on reliability-based program) = 75 - 150 MW
      4. SDG&E BIP = 7 -20 MW
      5. Total = 1032 - 1220 MW

   iii. **The 2% limit is currently 1005 MW, but subject to upward revision if a new all-time peak is set.**

      1. 2% of CAISO all time peak (50,270 MW) = 1005 MW

   iv. **Also a 10 % "tolerance band" will be utilized for enforcement purposes.**

      1. With consideration of a 10% tolerance band, the level of IOU MW that would count for RA is 1.1(1005) = 1106 MW
      2. The tolerance band will decline after 2015 as follow:
         a. 2015 – 10%
         b. 2016 and beyond – 0%

Note: The actual IOU MW will be determined in the Load Impact Protocol Compliance Filing made April 1 of each year. See Attachment 1 to the Agreement for details on the process for measuring, reporting and acting on performance to meet these limits. Also, if the CAISO all-time peak is higher, then the limit will be proportionally higher

3. The Utilities shall undertake reasonable efforts to promote customer participation in price-responsive demand response programs consistent with 1) the CPUC policy stated in D.09-08-027 (pages 30 to 31) to increase price-responsive demand response that aligns with the CAISO wholesale markets and 2) the limits and transition period described in Section C. 1 above. In upcoming 2012 to 2014 DR cycle applications, the Utilities will address and seek approval for their program marketing efforts and funding associated with these efforts for the 2012 to 2014 period.

4. To the extent that the reliability–based MW do not achieve the annual limit described in Section C.1, the CPUC will take remedial action in RA or other appropriate proceedings as described below in C.4.b. The process, options and considerations for the remedial action are described below:

    a. The parties agree the following processes are appropriate for CPUC consideration of how to address an "oversupply" of the reliability-based program MWs

        i. The total amount of BIP, SDP and AP-I MW that are identified in the Load Impact (LI) Protocol Compliance filing made April 1 of each year (as subject to adjustment by the CPUC, as noted in Attachment 1) will be summed for each IOU and totaled for all IOUs.

        ii. The amounts in C.4.a.i will then be reduced by the amount of non-reliability based DR MW that are provided by the customers in BIP, SDP and AP-I that are also in non-reliability based DR programs (e.g. DBP, CPP, etc.). These MW reductions will also come from the LI Protocol Compliance filing made on April 1.

        iii. The parties recognize that a "Tolerance Band" of 10% is reasonable to allow for a variety of uncertainties in achieving the MW limit shown in Section C.1, including uncertainty in the rate of economic rebound from the current recession, and (for SCE) the degree and timing of customer acceptance of SDP transitioning to price-responsive demand response. In addition, the parties recognize that a "tolerance band" (or deviation from reaching limit) of 10% is reasonable in measuring the utilities' performance limit in transitioning customers to price responsive programs, and that such tolerance band would be considered appropriate for enforcement purposes. The tolerance band concept applies between years 2012 and 2015. By the year 2016, the tolerance band would terminate, as the utilities should have completed the transition of existing customers.

        iv. To the extent that the total MW from C.4.a.ii for all IOUs combined exceeds the limit plus tolerance band from C.4.a.iii, an "oversupply" is identified.

v. If an “oversupply” has been identified, responsibility for the “oversupply” will be allocated to the IOUs as follows:

1. The annual limit in Section C.1 plus the tolerance band amount in Section C.4.a.iii will be allocated in proportion to the following[4]:

   a. PG&E: 400 MW

   b. SCE: 800 MW

   c. SDG&E: 20 MW

2. The individual IOU total from C.4.a.ii will be compared to the individual IOU limit from C.4.a. v. 1. This will establish the “oversupply” (if any) attributed to each IOU.

vi. CPUC will provide details on any RA adjustment due to “oversupply” for each IOU.

b. The CPUC will then determine the appropriate action to take with regards to the “oversupply” for each individual IOU. The CPUC would have several options to address an “over supply” of reliability based DR including the following:

1. The CPUC could eliminate the counting for RA of MW of reliability-based DR that is determined to be “oversupply”, while allowing the “oversupply” to be used for its additional reliability value including local distribution needs, and/or

2. The CPUC could order the IOU to modify the program (BIP, SDP and AP-I) so as to reduce participation (e.g. lower incentives, increase requirements like calls per year, etc.).

See Attachment 1 for a flow diagram on how the CPUC could deal with the “oversupply”.

5. Any A/C Cycling program where a price trigger proposal that has been filed with the CPUC will not be restricted in actively recruiting customers. This settlement does not prevent parties to the A.09-08-018 proceeding from advocating for a limit on the size of PG&E’s A/C Cycling program in the A.09-08-018 proceeding, or subsequent application addressing SmartAC™ or its successor. Also participation in both a reliability and price-responsive program will be encouraged where such dual participation is allowed.

[4] This settlement does not address how this allocation might be shared between IOUs and other qualified Demand Response Providers in the future. Resolution of this issue, with respect to CPUC-jurisdictional end-use customers, is the responsibility of the CPUC.

6. The parties agree that any re-consideration of the 2% reliability-based DR limit and the IOU specific limit MW (per Section C.4.a.v.1) in any future proceeding (e.g. CPUC RA or Planning Reserve Margin (PRM)) would benefit from the following inputs:

   a. A properly structured resource planning analysis submitted to a formal regular CPUC proceeding (such as RA, LTPP, PRM, DR, etc.)

   b. Consideration of (1) whether the limit should be formalized as part of the maximum cumulative capacity (MCC) "buckets" approach for counting limited use resources for RA; and (2) whether the limit value should be modified.

   c. The burden of proof for changing the 2% of all-time system coincident peak limit for reliability-based demand response program capacity that counts for RA would be on the party advocating for the change.

   d. A party advocating an allocation method that is not based on the application of the 2% Limit (or revised limit) to each IOU individually to set the IOU specific MW allocations would bear the burden of proof. If no party seeks reconsideration of the IOU allocation described in Section C.4.a.v, then the IOU allocation described in Section C.4.a.v will remain in effect as currently stated in this Settlement

   e. Any such reconsideration would not take place before a proceeding covering compliance year 2014, except as provide in Section 7.

7. Parties are not precluded from seeking reconsideration of the terms of this Settlement in an appropriate CPUC proceeding prior to 2014 in the event of either (1) failure of the CAISO to establish a CAISO Board approved final design proposal for RDRP consistent with the attributes specified above by the end of 2011; or (2) major changes in load, resource, regulatory or economic conditions from those anticipated at the time of this Settlement.

8. The primary operational features of the reliability-based programs covered by this settlement (set forth in Section A.4) will be maintained through at least 2014 in a manner that preserves their ability to count for resource adequacy and to participate in RDRP. Parties will not oppose reliability-based programs that qualify as RDRP from counting for RA, as long as the MW limits are not exceeded.

<u>REGULATORY APPROVAL</u>

The Parties shall use their best efforts to obtain CPUC approval of this Settlement and shall jointly request that the CPUC adopt this agreement in its entirety as reasonable in light of the record, consistent with law, and in the public interest.

It is the intent of the Parties that the CPUC adopt this Settlement in its entirety and without modification. This Settlement is to be treated as a complete package and not as a collection of separate agreements on discrete issues. To accommodate the interests related to various issues, the Parties acknowledge that changes, concessions or compromises by a Party or Parties in one section of this Settlement resulted in changes, concessions or compromises by a Party or Parties in other sections. Consequently, the Parties agree to oppose any modification of this Settlement not agreed to by all Parties. Any Party may withdraw from this Settlement if the CPUC modifies it. The Parties agree, however, to negotiate in good faith with regard to any CPUC-ordered changes in order to restore the balance of benefits and burdens, and to exercise the right to withdraw only if such negotiations are unsuccessful. The terms and conditions of this Settlement may only be modified in writing subscribed to by the Parties.

NON PRECEDENTIAL

Consistent with Rule 12.5 of the CPUC's Rules of Practice and Procedure, this Agreement is not precedential in any other proceeding before this Commission, except as provided in this Settlement or unless the Commission expressly provides otherwise.

PREVIOUS COMMUNICATION

This Settlement contains the entire agreement and understanding between the Parties as to the subject matter of this Settlement, and supersedes all prior agreements, commitments, representation, and discussions between the Parties. In the event there is any conflict between the terms and scope of the Agreement and the terms and scope of the accompanying joint motion, this Settlement shall govern.

NON-WAIVER

None of the provisions of this Settlement shall be considered waived by any Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Settlement or to take advantage of any of their rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

SUBJECT HEADINGS

Subject headings in this Settlement are inserted for convenience only, and shall not be construed as interpretations of the text.

GOVERNING LAW

This Settlement shall be interpreted, governed and construed under the laws of the State of California, including CPUC decisions, orders and rulings, as if executed and to be performed wholly within the State of California.

[continued on next page]

NUMBER OF ORIGINALS

This Agreement is executed in counterparts, each of which shall be deemed an original. The undersigned represent that they are authorized to sign on behalf of the Party represented.

ENERNOC, INC.

By: Mona Tierney-Lloyd
Mona Tierney-Lloyd

Title: Senior Manager, Western Regulatory Affairs

Date: 2 - 3, 2010

CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION

By:____________________
William H. Booth

Title: Counsel for CLECA

Date: ____________________, 2010

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

By:____________________
Keith Casey, Ph.D.

Title: Vice President, Market & Infrastructure Development

Date: ____________________, 2010

THE UTILITY REFORM NETWORK

By:____________________
Michel Peter Florio

Title: Senior Attorney

Date: ____________________, 2010

DIVISION OF RATEPAYER ADVOCATES

By:____________________
Dana Appling

Title Director

Date: ____________________, 2010

PACIFIC GAS AND ELECTRIC COMPANY

By:____________________
Steven McCarty

Title: Director

SAN DIEGO GAS & ELECTRIC COMPANY

By:____________________
Hal D. Snyder

Title: Vice President, Customer Solutions

Date: ____________________, 2010

SOUTHERN CALIFORNIA EDISON COMPANY

By:____________________
Lynda R. Ziegler

Title: Senior Vice President, Customer Service

Date: ____________________, 2010

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ENERNOC, INC.

By:________________________
Mona Tierney-Lloyd

Title: Senior Manager, Western Regulatory Affairs

Date: ____________________, 2010

CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION

By:________________________
William H. Booth

Title: Counsel for CLECA

Date: ____________________, 2010

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

By: [signature]
Keith Casey, Ph.D.

Title: Vice President, Market & Infrastructure Development

Date: Feb 3, 2010

THE UTILITY REFORM NETWORK

By:________________________
Michel Peter Florio

Title: Senior Attorney

Date: ____________________, 2010

DIVISION OF RATEPAYER ADVOCATES

By:________________________
Dana Appling

Title Director

Date: ____________________, 2010

PACIFIC GAS AND ELECTRIC COMPANY

By:________________________
Steven McCarty

Title: Director

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Mona Tierney-Lloyd

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Date: __________________, 2010

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By:____________________
William H. Booth

Title: Counsel for CLECA

Date: __________________, 2010

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

By:____________________
Keith Casey, Ph.D.

Title: Vice President, Market & Infrastructure Development

Date: __________________, 2010

THE UTILITY REFORM NETWORK

By:____________________
Michel Peter Florio

Title: Senior Attorney

Date: __________________, 2010

DIVISION OF RATEPAYER ADVOCATES

By: Dana Appling
Dana Appling

Title Director

Date: 2-2-2010, 2010

PACIFIC GAS AND ELECTRIC COMPANY

By:____________________
Steven McCarty

Title: Director

SAN DIEGO GAS & ELECTRIC COMPANY

By:____________________
Hal D. Snyder

Title: Vice President, Customer Solutions

Date: __________________, 2010

SOUTHERN CALIFORNIA EDISON COMPANY

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Lynda R. Ziegler

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Date: __________________, 2010

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ENERNOC, INC.

By:____________________

Mona Tierney-Lloyd

Title: Senior Manager, Western Regulatory Affairs

Date: ________________, 2010

CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION

By:____________________

William H. Booth

Title: Counsel for CLECA

Date: ________________, 2010

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

By:____________________

Keith Casey, Ph.D.

Title: Vice President, Market & Infrastructure Development

Date: ________________, 2010

THE UTILITY REFORM NETWORK

By:____________________

Michel Peter Florio

Title: Senior Attorney

Date: ________________, 2010

DIVISION OF RATEPAYER ADVOCATES

By:____________________

Dana Appling

Title Director

Date: ________________, 2010

PACIFIC GAS AND ELECTRIC COMPANY

By:____________________

Steven McCarty

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SAN DIEGO GAS & ELECTRIC COMPANY

By:____________________

Hal D. Snyder

Title: Vice President, Customer Solutions

Date: February 3, 2010

SOUTHERN CALIFORNIA EDISON COMPANY

By:____________________

Lynda R. Ziegler

Title: Senior Vice President, Customer Service

Date: ________________, 2010

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ENERNOC, INC.

By:____________________
Mona Tierney-Lloyd

Title: Senior Manager, Western Regulatory Affairs

Date: ________________, 2010

CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION

By: William H. Booth
William H. Booth

Title: Counsel for CLECA

Date: 2/2/, 2010

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

By:____________________
Keith Casey, Ph.D.

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Date: ________________, 2010

THE UTILITY REFORM NETWORK

By:____________________
Michel Peter Florio

Title: Senior Attorney

Date: ________________, 2010

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By:____________________
Dana Appling

Title Director

Date: ________________, 2010

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Steven McCarty

Title: Director

SAN DIEGO GAS & ELECTRIC COMPANY

By:____________________
Hal D. Snyder

Title: Vice President, Customer Solutions

Date: ________________, 2010

SOUTHERN CALIFORNIA EDISON COMPANY

By:____________________
Lynda R. Ziegler

Title: Senior Vice President, Customer Service

Date: ________________, 2010

NUMBER OF ORIGINALS

This Agreement is executed in counterparts, each of which shall be deemed an original. The undersigned represent that they are authorized to sign on behalf of the Party represented.

ENERNOC, INC.

By:________________________

Mona Tierney-Lloyd

Title: Senior Manager, Western Regulatory Affairs

Date: ____________________, 2010

CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION

By:________________________

William H. Booth

Title: Counsel for CLECA

Date: ____________________, 2010

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

By:________________________

Keith Casey, Ph.D.

Title: Vice President, Market & Infrastructure Development

Date: ____________________, 2010

THE UTILITY REFORM NETWORK

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Michel Peter Florio

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Date: Feb. 3, 2010

DIVISION OF RATEPAYER ADVOCATES

By:________________________

Dana Appling

Title Director

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PACIFIC GAS AND ELECTRIC COMPANY

By:________________________

Steven McCarty

Title: Director

SAN DIEGO GAS & ELECTRIC COMPANY

By:________________________

Hal D. Snyder

Title: Vice President, Customer Solutions

Date: ____________________, 2010

SOUTHERN CALIFORNIA EDISON COMPANY

By:________________________

Lynda R. Ziegler

Title: Senior Vice President, Customer Service

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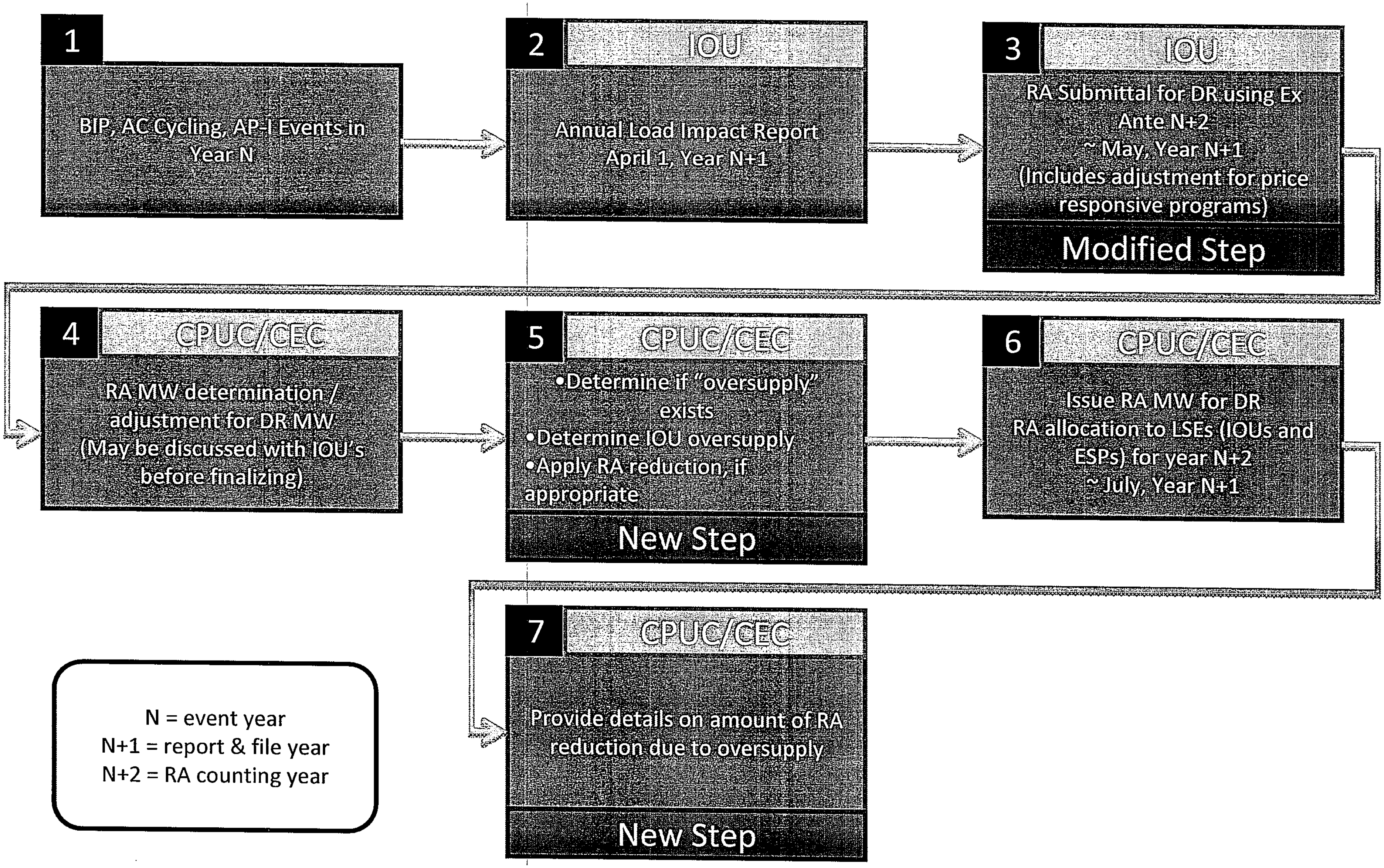
ATTACHMENT 1

MEASURING & ENFORCING COMPLIANCE

Attachment 1: MEASURING & ENFORCING COMPLIANCE



2010/01/12 Ken Abreu

LAW #1705255

<u>CERTIFICATE OF SERVICE</u>

I hereby certify that, pursuant to the Commission's Rules of Practice and Procedure, I have this day served a true copy of JOINT MOTION OF CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION, DIVISION OF RATEPAYER ADVOCATES, ENERNOC, INC., PACIFIC GAS AND ELECTRIC COMPANY (U 39-E), SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E), SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E), AND THE UTILITY REFORM NETWORK FOR ADOPTION OF SETTLEMENT; SETTLEMENT ATTACHED on all parties identified on the attached service list(s).

Transmitting the copies via e-mail to all parties who have provided an e-mail address. First class mail will be used if electronic service cannot be effectuated.

Executed this **22nd day of February 2010**, at Rosemead, California.

/s/ Melissa Schary
Melissa Schary
Project Analyst

CPUC Home

CALIFORNIA PUBLIC UTILITIES COMMISSION
Service Lists

PROCEEDING: R0701041 - CPUC-PG&E, SDG&E, ED
FILER: CPUC-PG&E, SDG&E, EDISON
LIST NAME: LIST
LAST CHANGED: FEBRUARY 17, 2010

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California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Attachment D

**Response to November 18, 2011 Letter
requesting additional information re: Reliability Demand Response Resources**

December 19, 2011

California Independent
System Operator Corporation

May 20, 2011

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

Re: California Independent System Operator Corporation
Docket No. ER11-____-000
Tariff Amendment to Implement the
Reliability Demand Response Resource Product

Dear Secretary Bose:

The California Independent System Operator Corporation ("ISO") submits this filing to modify the ISO tariff in order to reduce barriers to the participation of demand response in the ISO markets by allowing a new wholesale demand response resource to participate in the ISO's markets.[1] This enhancement will enable retail emergency-triggered demand response programs, including interruptible, air conditioning, and agricultural pumping load programs, to be integrated into ISO markets and operations. The tariff revisions proposed in this filing are similar in most respects to the tariff revisions that the Commission approved within the last year to allow the ISO to implement a similar demand response resource, the proxy demand resource, to participate in the ISO's markets.[2] These tariff revisions are the result of a comprehensive settlement

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[1] The ISO submits this filing pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Section 35.13 of the Commission's regulations, 18 C.F.R. § 35.13. The ISO is also sometimes referred to as the CAISO. Capitalized terms not otherwise defined herein have the meanings set forth in Appendix A to the ISO tariff, and except where otherwise noted herein, references to section numbers are references to sections of the tariff.

[2] *See California Independent System Operator Corp.*, 132 FERC ¶ 61,045 (2010) ("July 15, 2010 Order"), *order on compliance and reh'g*, 134 FERC ¶ 61,004 (2011) ("January 4, 2011 Order"). Due to the similarities between the reliability demand response resource product and the proxy demand resource product, much of the discussion in this transmittal letter is comparable to the discussion in the transmittal letter for the ISO tariff amendment requesting Commission

agreement among the ISO, state investor-owned utilities, and other interested parties addressing how a large percentage of emergency-triggered demand response resources in California made available under state retail demand response programs will be integrated into the ISO's wholesale market design. This settlement agreement was reached after several years of discussions of these issues by interested stakeholders and was approved by the California Public Utilities Commission. The ISO has long supported the principles underlying this settlement and believes the resulting proposal to integrate reliability demand response resources into the ISO's markets furthers the demand response objectives set by the Commission.

Adding reliability demand response resources will increase demand response participation in the ISO markets and will facilitate integration into the ISO markets of a significant quantity of existing emergency-triggered retail demand programs and newly configured demand response resources that desire to be dispatched only under certain system conditions compatible with their operation. The tariff provisions implementing the reliability demand response resource product will satisfy the directives of the Commission's Order No. 719 that independent system operators should develop the capability to permit an aggregator of retail customers to bid demand response on behalf of retail customers directly into the ISO's organized markets to the extent permitted by applicable laws and regulations regarding retail customers.

The ISO respectfully requests the Commission make the tariff revisions to the demand response provider agreement (Appendix B.14 to the tariff) contained in this filing effective as of October 1, 2011, and make the remainder of the proposed tariff revisions effective as of April 1, 2012.[3] Granting that October 1, 2011 effective date with respect to the demand response provider agreement will give the ISO and market participants sufficient time to prepare for the planned implementation of the reliability demand response resource product on April 1, 2012, including time for the investor-owned utilities to conduct their communication, conversion, and registration process prior to the planned operation date, consistent with the understanding that was reached with stakeholders during the policy development process. A Commission order on the entire set of tariff revisions is therefore respectfully requested by October 1, 2011.

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approval of the proxy demand resource product, which was filed on February 16, 2010, in Docket No. ER10-765-000.

[3] In order to permit these effective dates, the ISO requests waiver, pursuant to Section 35.11 of the Commission's regulations (18 C.F.R. § 35.11), of the notice requirements set forth in Section 35.3 of the Commission's regulations (18 C.F.R. § 35.3).

I. Background

A. Development and Benefits of the Reliability Demand Response Resource Product

Wholesale demand response resources, such as the ISO's proposed reliability demand response resource, are designed to compensate market participants at the full locational marginal price ("LMP") by reducing customer electricity use in response to ISO dispatch instructions. Under the ISO's proposal, a reliability demand response resource is a load or an aggregation of loads capable of measurably and verifiably reducing their electric demand in response to ISO dispatch instructions. Reliability demand response resources will be able to provide energy in the ISO's day-ahead and real-time markets.

The design of the reliability demand response resource tariff amendment is based on the market rules and software platform developed for the proxy demand resource approved by the Commission. However, as explained below, there are some notable differences between the two types of resources.

As with each proxy demand resource, a reliability demand response resource is registered with the ISO by an entity referred to as a "demand response provider", but bids and schedules for that resource are submitted in the ISO markets through an ISO-certified scheduling coordinator.[4] The scheduling coordinator for a reliability demand response resource submits schedules and bids for that resource to curtail load at a pricing node ("PNode") or aggregated PNode located within a sub-load aggregation point ("Sub-LAP").[5] The scheduling coordinator that represents the load serving entity in the geographic location where the reliability demand response resource is located will continue to schedule forecasted load at the default load aggregation point ("DLAP"). The load serving entity and the demand response provider may be the same entity or different entities. Similarly, the load serving entity and demand response provider can be represented by the same scheduling coordinator or two different scheduling coordinators.

The settlement for the curtailed portion of the load will be settled by the ISO directly with the demand response provider's scheduling coordinator at the reliability demand response resource's specified PNode or aggregated PNode. Determination of actual delivery by the reliability demand response resource will be calculated as the difference between metered load for the reliability demand

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4 A demand response provider can also be an ISO-certified scheduling coordinator, which will allow the demand response provider to schedule and bid its own reliability demand response resources in the ISO markets.

5 A Sub-LAP is defined in the ISO tariff as a subset of PNodes within a Default LAP.

response resource and a pre-determined baseline. The scheduling coordinator for the demand response provider will receive the full locational marginal price for these quantities. Pursuant to existing Section 11.5.4.2 of the ISO tariff, the real-time dispatch cost will be allocated to the market based on measured demand just like other imbalance energy. The day-ahead dispatch cost will be allocated to the buyers of the energy like any other supply resource pursuant to existing Section 11.2 of the tariff. The load serving entity and the demand response provider for the reliability demand response resource may enter into a bilateral agreement that addresses compensation for the energy procured by the load serving entity but not consumed as a result of load curtailment actions taken by the demand response provider. Alternatively, this compensation issue may be addressed by the applicable rules or regulations of the local regulatory authority. For example, the compensation issue is currently being considered in the demand response rulemaking proceeding of the California Public Utilities Commission ("CPUC") discussed below. Accordingly, the ISO tariff will not indicate if and how revenues will be shared between the load serving entity and the demand response provider.

The development of the reliability demand response resource product grew out of a settlement agreement approved last year in a CPUC demand response rulemaking proceeding (R.07-01-041) that included the resolution of a number of issues regarding the quantity, use, and resource adequacy treatment of retail emergency-triggered demand response programs.[6] This settlement resolved years of discussion in various CPUC proceedings as to how emergency demand response resources can participate in the ISO market. The express purpose of this "Reliability-Based Demand Response Settlement," which was agreed to by the ISO, the three investor-owned utilities in California, and other parties after extensive negotiations,[7] is to "address the operation of investor-owned utilities' emergency triggered DR [demand response] programs in the wholesale electricity market and the integration of emergency triggered DR into wholesale market design."[8] The settlement requires the ISO to "initiate a

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6 *See* CPUC Decision 10-06-034, issued in Proceeding R.07-01-041 (June 25, 2010). This CPUC decision is available on the CPUC's website at http://docs.cpuc.ca.gov/published/FINAL_DECISION/119815.htm. Further information regarding the CPUC demand response rulemaking proceeding is provided in the ISO's "Reliability Demand Response Product, Revised Draft Final Proposal (Version 2.0)," at 3-4 (Oct. 14, 2010) ("Reliability Demand Response Resource Final Proposal"). This ISO document is available on the ISO's website at http://www.caiso.com/281a/281abd55ec00.pdf.

7 The parties to the Reliability-Based Demand Response Settlement are: the ISO; Pacific Gas and Electric Company ("PG&E"); Southern California Edison Company ("SCE"); San Diego Gas & Electric Company ("SDG&E"); the California Large Energy Consumers Association; the Division of Ratepayer Advocates; EnerNOC, Inc.; and The Utility Reform Network. PG&E, SCE, and SDG&E are the three California investor-owned utilities.

8 Reliability-Based Demand Response Settlement at 1. This settlement agreement is available on the CPUC's website at http://docs.cpuc.ca.gov/efile/MOTION/114111.pdf.

stakeholder process in 2010, with the objective of developing a wholesale reliability demand response product (RDRP) that is compatible with IOU reliability-based demand response programs."[9] The settlement also specifies a number of requirements for the wholesale product to be developed in the ISO's stakeholder process.[10] As discussed in Section II below, this tariff amendment reflects these requirements of the settlement.

The ISO initiated the stakeholder process for the general design of the reliability demand response resource product in June 2010.[11] This phase of the stakeholder process included a total of seven meetings and conference calls and six opportunities for written stakeholder comments. The stakeholder process resulted in a final proposal for implementing the reliability demand response resource product that was presented to and approved by the ISO Governing Board ("Board") at its meeting held on November 1, 2010.[12]

Subsequent to this Board approval, the ISO began developing the specific tariff provisions needed to incorporate the reliability demand response resource with stakeholder input. These new provisions will enable qualifying reliability demand response resources to provide energy in the day-ahead and real-time

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[9] *Id.* at Section A(1). These IOU reliability-based demand response programs include: the investor-owned utilities' interruptible load programs, such as the Base Interruptible Program or "BIP"; direct load programs, such as SCE's Summer Discount (*i.e.*, air conditioning cycling) Plan; and agricultural and interruptible pumping load programs, such as SCE's AP-I program. *Id.* at Section A(1), 4. In 2009, retail emergency-triggered demand response programs accounted for nearly four percent (approximately 2,150 MW) of the total resource adequacy capacity obligation of CPUC-jurisdictional entities. This significant amount of resource adequacy capacity is not integrated into the ISO market and systems but is made available to the ISO only during an emergency through a manual process. However, a manual process does not provide ISO operators of such resources with clear visibility regarding the location and quantity of these emergency resources and does not allow the value of the resources to be reflected in the locational marginal price. The reliability demand response resource product resolves these concerns by providing a wholesale market mechanism to integrate emergency retail demand response into the ISO markets. "External Business Requirements Specification for Reliability Demand Response Product (Version 1.1)," at 5 (Mar. 3, 2011) ("Reliability Demand Response Resource Business Requirements Specification"). This ISO document is available on the ISO's website at http://www.caiso.com/2b51/2b519218728d0.pdf.

[10] Reliability-Based Demand Response Settlement at Section A(4).

[11] A list of key dates in the ISO stakeholder process for the reliability demand response resource product is provided in Attachment D to this tariff amendment. Materials related to the stakeholder process are available on the ISO's website at http://www.caiso.com/27ab/27ab6e875c2e0.html and http://www.caiso.com/27e3/27e379e953560.html.

[12] Materials related to the Board's approval of the final proposal are provided in Attachment E to this tariff amendment and are available on the ISO's website at http://www.caiso.com/283b/283bbce226670.html.

markets.[13] The ISO is also developing the related software changes and business practice requirements to allow ISO market participation by reliability demand response resources. The ISO anticipates that these software changes and business practice requirements will be completed in time to permit parties to enter into demand response provider agreements on behalf of reliability demand response resources and to begin the resource registration process in October 2011. It is important that the ISO open the registration process well in advance of the planned operation date of April 1, 2012 to allow the investor-owned utilities sufficient time to communicate with their customers about participation as reliability demand response resources, enter into the necessary agreements, and register the resources with the ISO. A Commission order by October 1 will provide the certainty required for all interested parties to proceed with this process.

By increasing the quantity of resources participating in the energy markets, reliability demand response resources will provide greater market liquidity, help to mitigate potential market power concerns, and augment the resources available for ISO dispatch in real-time in order to mitigate an imminent or actual system emergency or mitigate an imminent or threatened operating reserve deficiency. In particular, the ISO believes that adding reliability demand response resources will provide the following benefits:

- Integrate retail emergency demand response programs into the ISO market;
- Reflect the value of these emergency resources in the ISO market;
- Provide access to emergency demand response resources earlier in the ISO's emergency operating procedures;
- Reduce the cost of serving load at the applicable load aggregation point by reducing demand, which will reduce congestion costs, resulting in a lower locational marginal price at high-priced nodes; and
- Support the goals of the ISO's Five-Year Strategic Plan for 2011-2015, which states that the ISO will provide for demand response participation, including the implementation of "new products aimed at making demand price-responsive and emergency demand response dispatchable through the wholesale markets."[14]

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[13] Reliability Demand Response Resource Final Proposal at 4.

[14] *See* ISO Five-Year Strategic Plan for 2011-2015, at 18-19 (Dec. 15, 2010), available on the ISO's website at http://www.caiso.com/2875/287586401b3c0.pdf.

B. Order Nos. 719 and 745

In addition to enhancing the ISO's demand response capabilities, the addition of reliability demand response resources satisfies applicable requirements of the Commission's Order No. 719.[15] Among other things, Order No. 719 established a number of requirements for independent system operators ("ISOs") and regional transmission organizations ("RTOs") related to demand response. Relevant to the instant filing, in Order No. 719, the Commission directed ISOs and RTOs to take actions that included amending their market rules as necessary to permit aggregators of retail customers to bid demand response on behalf of retail customers into the organized electricity markets operated by the ISOs and RTOs (unless prohibited by the laws or regulations of the relevant electric retail regulatory authority).[16] The Commission also explained that it would permit each ISO or RTO to design provisions for aggregators of retail customers that account for differences in each region's market design. Therefore, instead of developing *pro forma* language or requiring RTOs and ISOs to make detailed generic market rule amendments, the Commission "direct[ed] RTOs and ISOs to amend their tariffs and market rules as necessary to allow an aggregator of retail customers to bid demand response directly into the RTO's or ISO's organized market in accordance with" a number of "criteria and flexibilities" specified in Order No. 719.[17]

As explained in Section III, below, the ISO's reliability demand response resource proposal satisfies each of the criteria and flexibilities contained in Order No. 719. The reliability demand response resource proposal will allow demand response providers to aggregate retail customers for the purpose of bidding demand response directly into the ISO markets and will meet the objectives set forth in Order No. 719.

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15 *Wholesale Competition in Regions with Organized Electric Markets*, FERC Stats. & Regs. ¶ 31,281 (2008) ("Order No. 719"), *order on reh'g*, Order No. 719-A, FERC Stats. &

Regs. ¶ 31,292, *order on reh'g and clarification*, Order No. 719-B, 129 FERC ¶ 61,252 (2009). Order Nos. 719, *et seq.* also added to the Commission's regulations 18 C.F.R. § 35.28(g), which includes demand response requirements applicable to independent system operators and regional transmission organizations.

16 Order No. 719 at PP 3, 154. The Commission defined the relevant electric retail regulatory authority as "the entity that establishes the retail electric prices and any retail competition policies for customers, such as the city council for a municipal utility, the governing board of a cooperative utility, or the state public utility commission." *Id.* at P 158. The ISO tariff uses the term demand response providers to describe the entities in the ISO markets that Order No. 719 refers to as aggregators of retail customers.

17 *Id.*

The ISO recognizes that, in March 2011, the Commission issued Order No. 745.[18] The ISO timely filed a motion for clarification and request for rehearing in the alternative of Order No. 745, which is currently pending before the Commission.[19] Among other things, the April 14 ISO Filing requested that the Commission clarify whether reliability demand response resources are subject to the requirements of Order No. 745.[20] The April 14 ISO Filing also stated that, if the Commission does not issue an order granting the ISO's request for clarification that Order No. 745 does not require any change to the "default load adjustment" mechanism set forth in the ISO tariff by July 22, 2011 (*i.e.*, the due date of the ISO's filing to comply with Order No. 745), the ISO intends to proceed assuming that Order No. 745 does not require any change to the default load adjustment mechanism.[21]

The ISO will also explain below why its proposed pricing threshold for reliability demand response resources will satisfy whatever net benefits test the ISO intends to propose in compliance with Order No. 745 for both proxy demand resources and reliability demand response resources.[22] Further, Order No. 745 expressly exempts emergency-triggered demand response programs of regional transmission organizations and independent system operators that are operated outside of the day-ahead and real-time markets.[23] The ISO believes it should not now be disadvantaged for having incorporated emergency-triggered demand response into its markets in a manner that makes these reliability demand response resources more transparent to market participants and more effective to the ISO in addressing reliability needs and that aligns well with the requirements of Order No. 719.

II. Requirements For Reliability Demand Response Resources and Proposed Tariff Changes

A. Overview

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[18] *See Demand Response Compensation in Wholesale Organized Energy Markets*, Order No. 745, 134 FERC ¶ 61,187, 76 Fed. Reg. 16658 (2011) ("Order No. 745").

[19] *See* Motion for Clarification, Request for Rehearing, and Request for Substantive Order Within 30 Days of the California Independent System Operator Corporation, Docket No. RM10-17-001, at 21-34 (April 14, 2011) ("April 14 ISO Filing"). Order No. 745 and the April 14 ISO Filing are discussed further in Sections II.E and II.H, below.

[20] April 14 ISO Filing at 32-33.

[21] *Id*. at 24, fn. 56, and 32. As discussed in Section II.H, below, the default load adjustment mechanism applies to proxy demand resources and will apply to reliability demand response resources.

[22] *See* Section II,E, below.

[23] Order No. 745 at P 2, fn. 4.

The features of the proposed reliability demand response resources are for the most part similar to the features of the proxy demand response resources already approved by the Commission. Reliability demand response resources represented by demand response providers may be authorized to take part in the ISO's day-ahead and real-time energy markets once they have executed a *pro forma* demand response provider agreement (previously approved by the Commission as the proxy demand resource agreement) with the ISO and satisfied other applicable requirements to participate in the ISO markets through a certified scheduling coordinator, including requirements of the local regulatory authority.[24]

As with proxy demand resources, the process for reliability demand response resources to participate in the ISO markets will begin with the registration of such resources by the demand response provider that represents them. Information provided to the ISO and completion of the registration steps will be included within the ISO's existing demand response system. Through the registration process, the demand response provider will identify the certified scheduling coordinator that will represent the discrete reliability demand response resources to which the demand response provider wishes to assign a resource ID (as defined in the ISO tariff) and the load serving entity that serves the underlying demand of the load customer(s) that enables the demand reduction. Each load serving entity is also represented by a certified scheduling coordinator (or acts as its own scheduling coordinator) in the ISO markets.

Like the design of the proxy demand resource program, the reliability demand response resource program design separates the functions of these two scheduling coordinators (although a single scheduling coordinator could be utilized to represent both the load serving entity and the demand response provider), in that the scheduling coordinator that represents the load serving entity will continue to schedule the demand for the end-use customers in the day-ahead market, while the scheduling coordinator representing the demand response provider will schedule and bid its reliability demand response resources into the ISO markets. This will allow the settlement for energy delivered (defined in this tariff amendment as the demand response energy measurement, which was formerly called the "PDR energy measurement") to be paid to the demand response provider's scheduling coordinator. Through identification of the scheduling coordinator representing the load serving entity, the quantity of the demand response energy measurement will be added to the measured demand of the scheduling coordinator representing the load serving entity to prevent that scheduling coordinator from being compensated for the imbalance energy

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[24] The local regulatory authority is defined in Appendix A to the ISO tariff as "[t]he state or local governmental authority, or the board of directors of an electric cooperative, responsible for the regulation or oversight of a utility."

resulting from the reduction in demand by the reliability demand response resource.

Specific details of the ISO's reliability demand response resource proposal, and the tariff changes needed to implement the proposal, are discussed below.

B. Definitions of Entities and Services

The ISO proposes to add or modify the following defined terms, in order to set forth in Appendix A to the ISO tariff the types of entities and services that implement the reliability demand response resource product:

- The existing term *demand response provider* has been modified to mean an entity responsible for delivering demand response services from a proxy demand resource <u>or reliability demand response resource</u> providing demand response services that has undertaken in writing by execution of the applicable agreement to comply with all applicable provisions of the ISO tariff.

- The existing term *proxy demand resource agreement* has been renamed the *demand response provider agreement* and revised as discussed in Section II.C, below. The demand response provider agreement applies to both proxy demand resources and reliability demand response resources.

- The new term *reliability demand response resource* has been defined as a load or aggregation of loads capable of measurably and verifiably providing demand response services pursuant to the demand response provider agreement.

- The existing term *demand response services* has been modified to mean demand from a proxy demand resource <u>or reliability demand response resource</u> that can be bid into the day-ahead market and real-time market and dispatched at the direction of the ISO.[25]

Additional terms to be added to Appendix A are discussed in the context of related tariff provisions below.

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[25] While the current functionality for proxy demand resources and reliability demand response resources is only demand *reduction*, the ISO has used the broader term *services* in contemplation of potential future demand response products with the ability to accept a dispatch to increase load (*i.e.*, increase consumption). *See* February 16, 2010, filing in Docket No. ER10-765 at 11.

C. Demand Response Provider Agreement

A *pro forma* version of the demand response provider agreement will be included in Appendix B.14 to the ISO tariff, which is currently the location of the *pro forma* proxy demand resource agreement. In addition to renaming it, the ISO proposes to modify the agreement so that it continues to apply to proxy demand resources and now also applies to reliability demand response resources.

Pursuant to these modifications, reliability demand response resources will for the most part be subject to the same provisions under the agreement as proxy demand resources.[26] One of the few points of difference is that the termination provisions set forth in Section 3.2.2 of the agreement have been modified to state that a demand response provider with reliability demand response resources is not permitted to terminate the agreement effective as of a date within a *reliability demand response services term* to which those reliability demand response resources are subject. This provision is necessary to ensure that each reliability demand response resource is available for the entirety of a reliability demand response services term, which the ISO proposes to define in Appendix A to the tariff as a six (6) month time period during which a reliability demand response resource is available to provide demand response services as specified in the business practice manual. A six-month reliability demand response services term enables participation by both seasonal and annual reliability demand response resources under retail demand response programs and is a reasonable length of time for establishing and evaluating the availability limits of such resources.[27]

The ISO also proposes to modify the general terms and conditions set forth in Article IV of the agreement to distinguish among the following: (1) terms and conditions applicable to both proxy demand resources and reliability demand response resources; (2) terms and conditions applicable solely to proxy demand resources; and (3) terms and conditions applicable solely to reliability demand response resources. The first of these categories consists of provisions in the agreement identical to those the Commission approved in the July 15, 2010 Order and the January 4, 2011 Order,[28] except that the provisions have been

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[26] For example, Section 2.2 of the agreement has been modified to state that "[t]he Demand Response Provider and CAISO acknowledge that to submit Bids for Proxy Demand Resources <u>or Reliability Demand Response Resources</u> to the CAISO through a Scheduling Coordinator, the Demand Response Provider must register its Proxy Demand Resources <u>or Reliability Demand Response Resources</u> in the CAISO's Demand Response System."

[27] Reliability Demand Response Resource Final Proposal at 6, 17. The availability limits applicable to reliability demand response resources are discussed further in Section II.E, below.

[28] *See* July 15, 2010 Order, 132 FERC ¶ 61,045 at PP 45-47; January 4, 2011 Order, 134 FERC ¶ 61,004 at P 23.

relocated within the agreement and have been made applicable to reliability demand response resources.[29] The second category consists of provisions approved in the July 15, 2010 Order that have been renumbered and relocated within the agreement and that relate to the provision of ancillary services.[30] As discussed below, proxy demand resources are eligible to provide ancillary services but reliability demand response resources are not. The third category consists of new Sections 4.3.1 and 4.3.2 of the agreement, which apply to reliability demand response resources requirements regarding metering and notification of changes that are similar to requirements that apply to proxy demand resources pursuant to new (*i.e.*, renumbered and relocated) Sections 4.2.2 and 4.2.3 of the agreement, except for requirements in new Sections 4.2.2 and 4.2.3 that are related to ancillary services.

Further, the ISO has modified Section 4.13.1 of the tariff and the definition of the term proxy demand resource in Appendix A to the tariff in order to refer to the demand response provider agreement rather than the proxy demand resource agreement.

D. Roles and Responsibilities of Demand Response Providers and Requirements Applicable to Reliability Demand Response Resources

The ISO has modified Section 4.13 of the ISO tariff to set forth requirements for reliability demand response resources and the roles and responsibilities of demand response providers that represent such resources. These provisions are similar to the provisions that already apply under Section 4.13 to proxy demand resources and their representative demand response providers.

Section 4.13.1 has been modified to state that the ISO will only accept bids for energy from reliability demand response resources represented by a demand response provider that has entered into a demand response provider agreement with the ISO. Section 4.13.1 has also been modified to obligate each such demand response provider to accurately provide the information required in the ISO's demand response system, satisfy all reliability demand response

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[29] Specifically, the provisions in former Section 4.3 have been moved to new Section 4.1.1 of the agreement; the provisions in former Section 4.5 have been moved to new Section 4.1.2 of the agreement; and the provisions in former Section 4.7 have been moved to new Section 4.1.3 of the agreement.

[30] *See* July 15, 2010 Order, 132 FERC ¶ 61,045 at P 45. Specifically, former Section 4.1 has been renumbered as Section 4.2.1 of the agreement; former Section 4.2 has been renumbered as Section 4.2.2 of the agreement; the provisions in former Section 4.4 have been moved to new Section 4.2.3 of the agreement; and the provisions in former Section 4.6 have been moved to new Section 4.2.4 of the agreement.

resource registration requirements, and meet standards adopted by the ISO and published on its website.

The ISO has modified Section 4.13.2 to state that each reliability demand response resource must be represented by only a single demand response provider, although a demand response provider may represent more than one reliability demand response resource. Each reliability demand response resource is required to be associated with a single load serving entity and a single utility distribution company (or with a single load serving entity in the case of a reliability demand response resource within a metered subsystem), and all underlying locations of a single reliability demand response resource must be located in a single Sub-LAP. Further, modified Section 4.13.2 states that a location cannot be registered to both a reliability demand response resource and a proxy demand resource for the same trading day. This is because the same resource cannot operate simultaneously as a reliability demand response resource and a proxy demand resource.[31]

The ISO has modified Section 4.13.4 of the ISO tariff to apply to reliability demand response resources virtually the same methodology for calculating the customer baseline,[32] using the ten-in-ten non-event day selection method set forth in Section 4.13.4, as the Commission approved for proxy demand resources. Like the calculation for a proxy demand resource, the calculation of the customer baseline for a reliability demand response resource generally excludes calendar days on which the reliability demand response resource previously provided demand response services or was subject to an outage as described in the business practice manual. Prior to implementation of this tariff amendment, the ISO will modify the business practice manual to state that the exclusion for an outage of a reliability demand response resource will apply to calendar days on which the load curtailment capability of the resource is reduced by 50 percent or more of the resource's normal load curtailment capability.[33]

New Section 4.13.5 of the tariff sets forth the characteristics of proxy demand resources and reliability demand response resources. Section 4.13.5.1 states that each proxy demand resource and reliability demand response resource will become available to provide demand response services pursuant to the demand response provider agreement following the date on which that

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[31] *See* Reliability Demand Response Resource Business Requirements Specification at 14 (RDRP-BRQ060).

[32] The customer baseline is addressed further in the discussion of the metering and settlement of demand response services contained in Section II.H, below.

[33] See Reliability Demand Response Resource Final Proposal at 29-30; Reliability Demand Response Resource Business Requirements Specification at 19 (RDRP-BRQ350).

agreement is executed by all parties thereto, as specified by the parties, and will be available to provide demand response services until the agreement is terminated.

Section 4.13.5.2.1 sets forth size limits for proxy demand resources. Consistent with the Business Requirements Specification applicable to proxy demand resources, the minimum load curtailment of a proxy demand resource can be no smaller than 0.1 MW and there is no upper limit on the maximum load curtailment of a proxy demand resource.[34]

Section 4.13.5.2.2 contains size limits for reliability demand response resources. Consistent with the Reliability Demand Response Resource Final Proposal and the Reliability Demand Response Resource Business Requirements Specification, the minimum load curtailment of a reliability demand response resource can be no smaller than 0.5 MW in the aggregate, the maximum load curtailment of a reliability demand response resource that selects the *discrete real-time dispatch option* (discussed in Section II.E, below) can be no larger than 50 MW, and there is no upper limit on the maximum load curtailment of a reliability demand response resource that selects the *marginal real-time dispatch option* (also discussed in Section II.E, below).[35] The ISO established a minimum aggregated quantity of 0.5 MW for reliability demand response resources to increase the certainty that its unit commitment software would commit the resource in the market optimization, as the optimization algorithms balances the derivation of an optimal solution against the time required to derive that optimal solution. In certain instances, very small resources may not be consistently detected as economic by the optimization software and, therefore, not dispatched.[36] It is particularly important that

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[34] *See* "Business Requirements Specification for Demand Response – Proxy Demand Resource (Version 1.8), at 41 (PDR.DAM.BRQ001200), 52 (PDR.DAM.BRQ004100) (Dec. 23, 2009). This ISO document is available on the ISO's website at http://www.caiso.com/2494/249473613ffe0.pdf. As set forth in proposed Section 4.13.5.2.1, loads may be aggregated together to achieve the 0.1 MW threshold for minimum load curtailment of a proxy demand resource.

[35] *See* Reliability Demand Response Resource Business Requirements Specification at 15 (RDRP-BRQ090), 16 (RDRP-BRQ150), 26 (RDRP-BRQ820).

[36] To minimize the unit commitment gap, the ISO employs a Mixed Integer Programming (MIP) technique to derive the optimal power flow solution in its day-ahead and real-time markets. The unit commitment gap is the difference in the objective costs between a theoretical optimal solution, ignoring commitment-type decisions, and what the solution can derive in a reasonable time. As with all optimization algorithms, to effectively evaluate the market, the ISO must derive an optimal power flow solution and produce market results in a timely manner. The unit commitment gap is an issue with very small resources. In certain instances, a small bid (100 kilowatts) could be "economic" but could be overlooked in the final market solution, because it appears sub-optimal, and therefore not be awarded or dispatched.

reliability demand response resources be dispatched since their operation is critical during a system or transmission emergency.

Section 4.13.5.3 sets forth dispatch parameters for reliability demand response resources. Each reliability demand response resource can have a minimum run time of no more than one hour.[37] Further, each reliability demand response resource must be capable of reaching its maximum load curtailment within forty minutes after it receives a dispatch instruction, and capable of providing demand response services for at least four consecutive hours per *demand response event*.[38] The ISO proposes to define a demand response event in Appendix A to the tariff as a "time period, deadline, and transition during which a Proxy Demand Resource or Reliability Demand Response Resource provides Demand Response Services." This is the definition of a demand response event established by the Wholesale Energy Quadrant of the North American Energy Standards Board ("NAESB"),[39] with changes to incorporate terms defined in the ISO tariff.

The proposed language in Sections 4.13.5.2.2 and 4.13.5.3 is consistent with the provisions in the Reliability-Based Demand Response Settlement stating that reliability demand response resources must meet minimum operating requirements, must meet certain technical requirements developed in the ISO's stakeholder process, and may have maximum availability limitations.[40] That tariff language is also consistent with the provisions in the Reliability-Based Demand Response Settlement stating that, when reliability demand response resources are eligible for dispatch by the ISO, notification will take place through normal ISO channels, *i.e.*, the ISO will provide notification to the responsible scheduling coordinator through the automated dispatch system.[41]

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[37] *See* Reliability Demand Response Resource Business Requirements Specification at 15 (RDRP-BRQ120).

[38] *See id.* at 15 (RDRP-BRQ120, RDRP-BRQ130).

[39] See Reliability Demand Response Resource Final Proposal at Attachment 1, page A-3 (explaining that NAESB defines a demand response event as the "time periods, deadlines and transitions during which Demand Resources perform. The System Operator shall specify the duration and applicability of a Demand Response Event. All deadlines, time periods and transitions may not be applicable to all Demand Response products or services."). As described in the Reliability Demand Response Resource Final Proposal (at 7-9), the reliability demand response resource product must be designed in compliance with the standards established by NAESB for the measurement and verification of demand response provided in the wholesale electricity markets.

[40] *See* Reliability-Based Demand Response Settlement at Section A(4)(d).

[41] *See id.* at Section A(4)(l).

E. Bidding and Scheduling of Reliability Demand Response Resources

The ISO proposes to add new Section 30.6.2 to the tariff to set forth the requirements for bidding and scheduling reliability demand response resources. Section 30.6.2 states that, unless otherwise specified in the tariff and applicable business practice manuals, the ISO will treat bids for energy on behalf of reliability demand response resources like bids for energy on behalf of other types of supply resources. Pursuant to that provision, a scheduling coordinator submitting a bid for energy for a reliability demand response resource will be subject to the same processes, bid validation, and market timelines as a scheduling coordinator that submits a bid for any other type of resource, unless otherwise specified in the tariff or a business practice manual. For bidding and scheduling purposes, reliability demand response resources will be modeled in the ISO's systems in the same manner as generators.

Section 30.6.2 specifies that a scheduling coordinator for a demand response provider representing a reliability demand response resource may submit economic energy bids only in the day-ahead and real-time markets but may not submit energy self-schedules for the reliability demand response resource, may not bid or self-provide ancillary services from the reliability demand response resource, and may not submit residual unit commitment availability bids for the reliability demand response resource. The ISO prohibits self-scheduling and requires economic bids to ensure the value of the resource is reflected in the ISO markets. The ISO prohibits reliability demand response resources from bidding ancillary services and residual unit commitment capacity because the energy dispatched in real-time from reliability demand response resources is only available for dispatch under specific conditions that do not similarly apply to the real-time dispatch of energy behind an ancillary service or residual unit commitment capacity award.[42] Pursuant to Section 30.6.2, the demand response provider's demand response services for reliability demand response resources will be bid separately and independently from the load serving entity's underlying demand bid. Apart from the provisions specifying that a reliability demand response resource may submit energy bids only in the day-ahead and real-time markets, Section 30.6.2 is similar to existing Section 30.6.1, regarding the requirements for bidding and scheduling proxy demand resources.

Section 30.6.2.1 addresses bidding and scheduling of reliability demand response resources in the real-time market. Section 30.6.2.1.1 requires that, within each reliability demand response services term, any capacity of a reliability demand response resource that remains uncommitted after the day-ahead

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[42] Reliability demand response resources are available for dispatch as specified in the ISO emergency operating procedures. Such dispatch restrictions do not apply to the energy associated with residual unit commitment or ancillary service capacity.

market must 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.[43] Within each reliability demand response services term and after the reliability demand response resource has reached the RDRR availability limit, 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.

Section 30.6.2.1.2 sets forth two alternative real-time dispatch options for reliability demand response resources – the marginal real-time dispatch option and the discrete real-time dispatch option. Each scheduling coordinator for a demand response provider representing a reliability demand response resource must select one of these options prior to the start of the initial reliability demand response services term applicable to the reliability demand response resource. That selection will remain in effect until such time as the scheduling coordinator chooses to switch it, in which case the switch will 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 subject to either option must have minimum load costs of zero dollars registered in the master file.

Pursuant to Section 30.6.2.1.2.1, a reliability demand response resource subject to the marginal real-time dispatch option may submit either a single-segment bid or a multi-segment bid in the real-time market that must be at least ninety-five percent of the applicable maximum bid price and can be no greater than one hundred percent of the applicable maximum bid price set forth in Section 39.6.1.1.[44] Such a resource will be dispatched as a marginal resource if it is dispatched by the ISO. Pursuant to Section 30.6.2.1.2.2, a reliability demand response resource subject to the discrete real-time dispatch option may submit

[43] The ISO proposes to define the RDRR availability limit in Appendix A to the tariff as 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." This RDRR availability limit generally aligns with the historical use limits of retail emergency-triggered demand response programs, consistent with the provisions of the Reliability-Based Demand Response Settlement. *See* Reliability-Based Demand Response Settlement at Section A(4)(b); Reliability Demand Response Resource Final Proposal at 6.

[44] Section 39.6.1.1 of the existing ISO tariff sets forth a maximum energy bid price of $500/MWh for the first twelve months after the effective date of the section, a maximum energy bid price of $750/MWh after the twelfth month following the effective date of the section, and a maximum energy bid price of $1,000/MWh after the twenty-fourth month following the effective date of the section.

only a single-segment bid in the real-time market that must be at least ninety-five percent of the applicable maximum bid price and can be no greater than one hundred percent of the applicable maximum bid price set forth in Section 39.6.1.1.[45]

The ISO established this bid price threshold to reflect the high value of emergency-triggered, use-limited resources and to minimize the opportunity for a load serving entity that is also the demand response provider to bid reliability demand response resources at less than their marginal value in an attempt to influence prices during periods of stressed system conditions. Such resources will be dispatched as discrete (non-marginal) resources if they are dispatched by the ISO. Under the discrete real-time dispatch option, there is only one bid segment and the ISO must dispatch the entire cleared quantity of the reliability demand response resource. This protects certain emergency-triggered demand resources that may not be capable of a more granular dispatch and that operate under a firm service level agreement. Under the marginal real-time dispatch option, the reliability demand response resource is dispatched according to the cleared bid quantity similar to other resources. For example, if a resource under the discrete real-time dispatch option bids 10 MW, the ISO must dispatch the full 10 MW even if only 7 MW is needed; whereas a resource under the marginal real-time dispatch option could have a multi-segment bid curve and in this example the ISO could dispatch that resource for only 7 MW.

The tariff language in Sections 39.6.2.1.2.1 and 39.6.2.1.2.2 is consistent with the provisions in the Reliability-Based Demand Response Settlement stating that reliability demand response resources will be economically dispatched once triggered, and stating that ISO dispatch of such resources will recognize that participating customers have a high "strike price" that is well above the running cost of conventional supply-side resources.[46] The ISO expects this high "strike price" would satisfy whatever net benefits test the ISO intends to propose in compliance with Order No. 745 for both proxy demand resources and reliability demand response resources. In addition, the ISO has modified Section 30.7.9 of the ISO tariff to state that the start-up cost for a reliability demand response resource is zero.

As the ISO explained when it sought approval of tariff provisions to implement proxy demand resources,[47] the existing language in the ISO tariff

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[45] The ISO also proposes to add definitions of the terms marginal real-time dispatch option and discrete real-time dispatch option that are keyed to the provisions in Section 30.6.2.1.2 discussed above.

[46] *See* Reliability-Based Demand Response Settlement at Sections A(4)(e), -(f). Dispatch of reliability demand response resources is discussed further in Section II.F, below.

[47] *See* February 16, 2010, filing in Docket No. ER10-765 at 18.

provides for notification of changes in enrollments and schedule changes for reliability demand response resources that may occur between day-ahead and real-time dispatch of reliability demand response resources. Both demand response providers and load serving entities need to be aware of reliability demand response resource enrollments and scheduling changes. Load serving entities need to be aware because they are the entities responsible for forecasting and scheduling of all customer demand. The ISO has existing mechanisms for communicating schedules in the day-ahead market and dispatches in the real-time market to scheduling coordinators. The ISO has identified no need to modify the existing notification mechanisms other than a need to communicate megawatt quantities of dispatches to the scheduling coordinators for both demand response providers and load serving entities, which does not require a tariff change.[48]

F. Dispatch and Testing of Reliability Demand Response Resources

The ISO proposes to add new Section 34.18 to the tariff to state that the ISO may issue an exceptional dispatch instruction as provided in Section 34.9.3 for reliability or to perform a test of the reliability demand response resource. Section 34.18 also provides that an entity other than the ISO (such as an investor-owned utility pursuant to an emergency-triggered retail demand response program) with a contractual or tariff-based right 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 ISO tariff or (2) perform a test. If an entity other than the ISO dispatches a reliability demand response resource in real-time for one of those purposes, the scheduling coordinator for the demand response provider representing the reliability demand response resource must immediately inform the ISO, through the ISO's outage reporting system, that such dispatch has occurred or will occur and the MW amount of the dispatch. This tariff language in Section 34.18 is consistent with the provisions in the Reliability-Based Demand Response Settlement stating that reliability demand response resources may have multiple reliability-only uses (including for system, transmission, and local reliability), may be triggered to meet ISO needs, or may be triggered by investor-owned utilities

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48 For the reliability demand response resource product, demand response providers and load serving entities will have access to day-ahead generation market results, day-ahead expected energy information, and real-time dispatch information regarding their reliability demand response resources. In cases where the demand response provider and the load serving entity are the same entity, that entity will have access to these types of information as to the reliability demand response resources that the entity represents. In cases where the demand response provider and the load serving entity are separate entities, the load serving entity will be provided solely with read-only access to the information and only for the specific resource IDs of any reliability demand response resources that are among the load serving entity's customers.

for reasons other than ISO needs (*e.g.*, for utility-controlled distribution circuit operations), and stating that procedures will be established to provide timely notice of when reliability demand response resources are triggered for non-ISO needs.[49]

The ISO proposes to add Section 34.18.1 to the tariff to state that the ISO may issue one unannounced exceptional dispatch instruction per year to each reliability demand response resource in order to test the availability and performance of the resource. The demand response provider representing the reliability demand response resource may also schedule tests of the resource in coordination with the ISO. However, any testing initiated by the demand response provider will not trigger any ISO settlement for any demand curtailment. The ISO will share the results of all tests of the reliability demand response resource with the applicable local regulatory authority, and all such tests will count toward the resource's RDRR availability limit. If, prior to the performance of any ISO-initiated yearly unannounced 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. This tariff language in Section 34.18.1 is consistent with the provisions in the Reliability-Based Demand Response Settlement stating that reliability demand response resources will allow up to one test event per year to ensure compliance and performance and stating that this limitation does not preclude the scheduling of additional tests in coordination with the ISO.[50]

As discussed above, the ISO has proposed new Section 34.18 to provide that the ISO may issue exceptional dispatch instructions for reliability or for test energy as set forth in Section 34.9.3. Exceptional dispatches for reliability demand response resources issued under Sections 34.18 and 34.9.3 will be paid the higher of their bid price or the LMP at their location consistent with the Reliability-Based Demand Response Settlement. There are two different cost allocations for exceptional dispatches issued under Sections 34.18 and 34.9.3. If the exceptional dispatch instruction is issued for transmission-related modeling

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[49] *See* Reliability-Based Demand Response Settlement at Section A(4)(g). In connection with the addition of Section 34.18 to the tariff, the ISO has also modified Section 34.9.1 to include reliability demand response resources among the types of resources that are subject to manual exceptional dispatch in the event of a system emergency. As is the case with the other types of resources listed in Section 34.9.1, the ISO will endeavor consistently to dispatch reliability demand response resources through its market applications. However, when system conditions require the use of exceptional dispatch pursuant to Section 34.9.1, reliability demand response resources should be and will be subject to exceptional dispatch on an equal basis with the other listed types of resources. *See* Reliability Demand Response Resource Final Proposal at 20.

[50] *See* Reliability-Based Demand Response Settlement at Section A(4)(i).

limitations, any excess cost above market will be allocated to relevant participating transmission owners pursuant to existing Sections 11.5.6.2 and 11.5.6.2.3 of the tariff. If the exceptional dispatch instruction is issued for a non-transmission related modeling issue, all costs will be allocated like instructed imbalance energy to measured demand pursuant to existing Sections 11.5.6.2.4 and 11.5.1.1 of the tariff. Unless the exceptional dispatches of reliability demand response resources are for transmission-related modeling limitations, all reliability and test exceptional dispatches of reliability demand response resources will be settled as non-transmission related exceptional dispatches consistent with the provisions in the Reliability-Based Demand Response Settlement.[51]

The ISO has modified Section 34.19.2.3 to state that reliability demand response resources other than those resources discussed elsewhere in the section are eligible to set the LMP provided that they meet the requirements set forth in the section. However, as stated in Section 34.19.2.3, a reliability demand response resource that is dispatched in real-time by an entity other than the ISO for one of the purposes set forth in Section 34.18 will not be eligible to set the LMP.

G. Inclusion of Reliability Demand Response Resources in Resource Adequacy

The ISO proposes to allow reliability demand response resources to satisfy the resource adequacy requirements of the ISO tariff. Therefore, the ISO has modified Section 40.6.12 to state that reliability demand response resources, like proxy demand resources, may be included in a resource adequacy plan and supply plan consistent with terms and conditions established by the CPUC or the applicable local regulatory authority. This tariff language is consistent with the provisions in the Reliability-Based Demand Response Settlement stating that reliability demand response resources will qualify as resource adequacy capacity, in accordance with the resource adequacy counting rules of the applicable local regulatory authority.[52]

The ISO also proposes to add new Section 40.8.1.14 to the tariff to state that the net qualifying capacity of a reliability demand response resource,[53] for each month, will be based on the resource's average monthly historic demand

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[51] *See id.* at Section A(4)(k).

[52] *See id.* at Section A(4)(b).

[53] Appendix A to the ISO tariff defines net qualifying capacity as "Qualifying Capacity reduced, as applicable, based on: (1) testing and verification; (2) application of performance criteria; and (3) deliverability restrictions."

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 ISO will use a monthly megawatt value as certified and reported to the ISO by the demand response provider; otherwise, where available, the ISO will use the average of historic demand reduction performance data available, by month, for a reliability demand response resource.

In addition, the ISO has modified Sections 40.6.4.1, 40.6.4.2, 40.6.4.3.1, and 40.6.4.3.2 to explain how availability requirements apply to use-limited resources that are reliability demand response resources.[54]

H. Metering and Settlement of Demand Response Services

The ISO proposes to modify Section 10.3.6.1 to allow scheduling coordinators to submit either actual settlement quality meter data or scheduling coordinator estimated settlement quality meter data for both proxy demand resources and reliability demand response resources by the first meter data submission deadline of noon on the fifth business day after the trading day (T+5B) on which the demand response services were provided. This is consistent with the meter data submission requirements for other resources, and requiring actual settlement quality meter data to be collected and validated by T+5B for proxy demand resources and reliability demand response resources was identified as a costly endeavor and a barrier to entry for demand response providers.

Pursuant to new Section 10.3.6.4, each scheduling coordinator for a demand response provider representing a reliability demand response resource that provides demand response services only in real-time must 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 calendar days preceding the trading day for use in the ISO's calculation of the customer baseline. The reason for these provisions is that, if the meter data required under Section 10.3.6.4 is not submitted to the ISO by noon of T+5B after the demand response services were

[54] Appendix A to the ISO tariff defines a use-limited resource as a "resource that, due to design considerations, environmental restrictions on operations, cyclical requirements, such as the need to recharge or refill, or other non-economic reasons, is unable to operate continuously on a daily basis, but is able to operate for a minimum set of consecutive Trading Hours each Trading Day."

provided, the ISO will be unable to calculate the performance of the reliability demand response resource and thus will be unable to calculate accurate settlement payments and charges.[55]

As is the case with proxy demand resources, settlement of demand response services provided by a reliability demand response resource will be with the scheduling coordinator for the demand response provider that represents the reliability demand response resource. The ISO has modified Section 11.6.1 to state that settlements for energy provided by demand response providers from proxy demand resources or reliability demand response resources will be based on the *demand response energy measurement* (formerly called the PDR energy measurement) for those resources.[56] As modified, Section 11.6.1 states that the demand response energy measurement for a proxy demand resource or reliability demand response resource for a demand response event will be the quantity of energy equal to the difference between (i) the customer baseline for the resource and (ii) either the actual underlying load for the resource or the quantity of energy for the resource calculated pursuant to new Section 10.1.7.

Section 10.1.7 permits a demand response provider representing a proxy demand resource or reliability demand response resource to submit a written application to the ISO for approval of a methodology for deriving settlement quality meter data for the 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 resource. As specified in the business practice manual, the ISO and the demand response provider will then engage in written communications which will result in the ISO either approving or denying the application. The ISO also proposes to modify the definition of meter data in Appendix A to the tariff to include the type of statistical sampling set forth in Section 10.1.7, and to modify the definition of customer baseline to mean 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."

The ISO's use of statistically relevant meter data for proxy demand resources and reliability demand response resources in cases where interval metering is unavailable for the entire population of underlying service accounts for the resource is consistent with the "Baseline Type – II" methodology permitted

[55] Reliability Demand Response Resource Final Proposal at 25.

[56] The ISO also proposes to modify the definition of the demand response energy measurement in Appendix A to the ISO tariff so that it means 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."

by NAESB. Pursuant to the methodology, resources are permitted to derive actual demand using sampling and statistics that can be substantiated as accurate and reasonable for the derivation of the meter data value.[57]

In accordance with the existing settlement provisions in Section 11 of the ISO tariff applicable to proxy demand resources, the amount of energy provided by a reliability demand response resource will be multiplied by the applicable LMP at the Sub-LAP (or bid price, if higher than the LMP in the case of an exceptional dispatch) for the reliability demand response resource, and the schedules of a resource serving load will be adjusted so as to avoid double payments, *i.e.*, payments on behalf of the reliability demand response resource for any demand curtailment and payments on behalf of the load serving entity for the same curtailment. In order to ensure the correct settlement amount, the ISO has modified Sections 11.5.2 and 11.5.2.4 to include references to reliability demand response resources in the settlement of uninstructed imbalance energy.

Section 11.5.2.4 makes demand response reductions provided by reliability demand response resources subject to the same mechanism to prevent double payments – called the "default load adjustment" – that the Commission approved last year for proxy demand resources.[58] The purpose of the default load adjustment is to prevent a wholesale double payment resulting from a payment being made for the demand response services provided by a demand response resource and a payment also being made to a load serving entity for uninstructed imbalance energy resulting from the ISO's acceptance of a bid from that demand response resource (*i.e.*, energy scheduled but not consumed because the proxy demand resource provided the demand response services). The default load adjustment eliminates this wholesale double payment by adding the energy measurement for a demand response resource to the meter quantity of the load serving entity for that demand response resource in the ISO's uninstructed energy pre-calculation, resulting in an adjusted meter demand value.

The ISO recognizes that, in March 2011, the Commission issued Order No. 745. Although Order No. 745 does not address the default load adjustment directly, it could be interpreted to require the elimination of the default load adjustment and mandate double payments for demand response reductions. As

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57 *See* Reliability Demand Response Resource Final Proposal at 26-28.

58 *See* July 15, 2010 Order, 132 FERC ¶ 61,045 at PP 25-26, 32 (describing proposed default load adjustment in detail in section of order entitled "Costs and Settlement" and directing that "[w]e accept the CAISO's cost and settlement provisions"). The Commission's acceptance of these cost and settlement provisions was conditioned only upon the requirement that the ISO undertake a study, for informational purposes, to determine if the effects of demand response apply more broadly than to the individual load serving entity in which the proxy demand resource is located. *Id.* at P 34 & n.24.

noted earlier,[59] the ISO timely sought clarification and rehearing in the alternative of Order No. 745 in the April 14 ISO Filing, which is currently pending before the Commission. The April 14 ISO Filing explained that, if Order No. 745 was intended to require a change to the default load adjustment, such a requirement would substantially impede the implementation of the reliability demand response resource product pursuant to the Reliability-Based Demand Response Settlement approved by the CPUC.[60] The ISO again requests a timely order on that aspect of the April 14 ISO Filing and, in the meantime, the ISO intends to proceed as outlined in the April 14 ISO Filing with respect to compliance with this aspect of Order No. 745.[61] Further, as noted above, Order No. 745 exempted emergency-triggered demand response programs of ISOs and RTOs that are operated outside of the day-ahead and real-time markets.[62] The reliability demand response resource program is the vehicle that enables retail emergency-triggered demand response programs to integrate into the ISO markets. The ISO should not now be disadvantaged for having incorporated emergency-triggered demand response into its markets in a manner that makes these reliability demand response resources more transparent to market participants and more effective to the ISO in addressing reliability needs and that aligns well with the requirements of Order No. 719.

As explained in the Reliability Demand Response Resource Final Proposal, dispatch of reliability demand response resources will not trigger the ISO's scarcity pricing mechanism set forth in Section 27.1.2.3 of the tariff, nor, conversely, will a scarcity pricing event trigger the dispatch of reliability demand response resources. However, the introduction of a significant MW quantity of reliability demand response resources during a scarcity pricing event will very likely have a significant and mitigating impact on the prevailing system conditions.[63] Therefore, the reliability demand response resource product is consistent with the provisions in the Reliability-Based Demand Response Settlement stating that reliability demand response resources will help mitigate, or limit the duration of, scarcity pricing events.[64]

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[59] *See* Section I.B, above.

[60] April 14 ISO Filing at 33-34.

[61] *Id.* at 24, fn. 56, and 32.

[62] Order No. 745 at P 2, fn. 4.

[63] Reliability Demand Response Resource Final Proposal at 13.

[64] *See* Reliability-Based Demand Response Settlement at Section A(4)(h).

I. Modifications of Existing Tariff Provisions to Accommodate the Implementation of the Reliability Demand Response Resource Product

The ISO proposes to modify a number of tariff provisions in order to integrate the components of the reliability demand response resource program into the existing structure of the tariff. These tariff modifications consist of adding the term reliability demand response resource to existing tariff language and making tariff changes regarding the reliability demand response resource product that parallel existing tariff language. Due to the large number of these tariff revisions, the ISO has listed them in Attachment C to this tariff amendment instead of in this transmittal letter.

J. Miscellaneous Minor Clarifications

The ISO proposes to make minor, non-substantive clarifications to the following tariff sections: Sections 4.13.4, 4.5.1.1.3, 10.3.6.1, 11.5.2, 30.6.1, 33.4, and 34.6(f).

III. The Reliability Demand Response Resource Product Satisfies the Requirements of Order No. 719

As explained in Section I.B, above, in Order No. 719, the Commission directed ISOs and RTOs to amend their tariffs and market rules as necessary to allow an aggregator of retail customers to bid demand response directly into the ISO’s or RTO's organized market subject to a number of criteria and flexibilities specified in Order No. 719.[65] In the July 15, 2010 Order and the January 4, 2011 Order, the Commission found that the ISO’s tariff revisions to implement the proxy demand resource product satisfy those Order No. 719 requirements.[66]

Similarly, the revisions to the ISO tariff contained in this tariff amendment satisfy each of the criteria and include each of the flexibilities required by the Commission. The criteria and flexibilities specified in Order No. 719 (underlined in the text below), and the means by which the instant tariff amendment satisfies each of them, are as follows:

- The aggregator of retail customers’ demand response bid must meet the same requirements as a demand response bid from any other entity, such

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[65] *See* Order No. 719 at P 158.

[66] *See* July 15, 2010 Order, 132 FERC ¶ 61,045 at PP 23, 32; January 4, 2011 Order, 134 FERC ¶ 61,004 at P 22.

as a load serving entity.[67] Pursuant to the instant tariff amendment, bids for demand response services from reliability demand response resources represented by an aggregator of retail customers must meet the same requirements as bids from reliability demand response resources represented by other types of entities. The proposed tariff provisions treat a demand response provider (the ISO's term that encompasses aggregators of retail customers) the same, whether the demand response provider is a utility distribution company, load serving entity,[68] end-use customer representing its own load, or aggregator of other entities' load.

- The bidder must have only an opportunity to bid demand response in the organized market and not have a guarantee that its bid will be selected. The ISO's tariff amendment gives bidders of demand response services the opportunity to bid demand response from reliability demand response resources into the ISO markets. Like other resources participating in the ISO markets, demand response providers have no guarantee that the ISO will accept their bids.

- An aggregator of retail customers must have the ability to bid demand response either on behalf of only one retail customer or multiple retail customers. Pursuant to the instant tariff amendment, a single demand response provider may submit bids on behalf of a single retail customer under a reliability demand response resource or multiple, aggregated retail customers under a reliability demand response resource. A demand response provider may operate multiple reliability demand response resources within its portfolio.

- Except for circumstances where the laws and regulations of the relevant retail regulatory authority do not permit a retail customer to participate, there can be no prohibition on who may be an aggregator of retail customers. The ISO does not propose any prohibitions as to who may

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[67] In this regard, the Commission stated that, for example, (1) the aggregator of retail customers' demand response must be as verifiable as that of an eligible load serving entity or large industrial customer's demand response that is bid directly into the market, (2) the requirements for measurement and verification of aggregated demand response should be comparable to the requirements for other providers of demand response resources, regarding such matters as transparency, ability to be documented, and ensuring compliance, and (3) demand response bids from an aggregator of retail customers must not be treated differently than the demand response bids of a load serving entity or large industrial customer. Order No. 719 at P 158.

[68] A load serving entity can be either a utility load serving entity or an electric service provider, which is defined in the California Public Utilities Code as an entity that provides electric service to retail or end-use customers but does not fall within the definition of an electrical corporation. *See* California Public Utilities Code, Sections 218, 218.3.

become a demand response provider. Any entity is eligible to become a demand response provider so long as it meets the requirements for all demand response providers established by the ISO.

As to the laws and regulations of the relevant retail regulatory authority, the ISO notes that the CPUC has issued directives regarding the implementation of proxy demand resources that may also be relevant to the implementation of reliability demand response resources. On June 4, 2010, the CPUC issued a decision in its demand response rulemaking proceeding that directed the California investor-owned utilities subject to the CPUC's jurisdiction to prepare to bid demand response into the ISO markets using proxy demand resource pilot programs.[69] While a positive first step, the June 4 CPUC Decision expressly limited the participation by bundled utility customers to participation through an investor-owned utility pilot program. The decision did allow for direct access customers (*i.e.*, those retail customers that procure their electricity through a third-party electricity provider) to offer demand response in the ISO markets. The decision also identified several important issues that the CPUC stated had to be resolved and clarified before it would allow all customers to offer demand response into the ISO markets.[70] Following the issuance of Order No. 745, all three investor-owned utilities in California requested on April 8, 2011, that a CPUC Administrative Law Judge delay a proposed decision on the financial settlement issues germane to the CPUC's demand response rulemaking.[71] These settlement issues are conditions precedent to the CPUC's issuance of a final decision on bidding demand response into the ISO markets. On May 9, 2011, the CPUC extended the deadline for the direct participation phase of its demand response rulemaking proceeding by 18 months, *i.e.*, to November 2012.[72]

- <u>An individual customer must be permitted to serve as an aggregator of retail customers on behalf of itself and others</u>. So long as it meets the ISO's requirements, an end-use customer may act as a demand response provider for its own load or on behalf of other retail customers.

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[69] CPUC Decision 10-06-002, issued in Proceeding R.07-01-041, at 24 (June 4, 2010) ("June 4 CPUC Decision"). That CPUC decision is available on the CPUC's website at http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/118962.htm.

[70] *Id.* at 6-23.

[71] *See* http://docs.cpuc.ca.gov/efile/MOTION/133321.pdf.

[72] Assigned Commission's Ruling Amending Scoping Memo, issued in Proceeding R.07-01-041 (May 9, 2011). That CPUC ruling is available on the CPUC's website at http://docs.cpuc.ca.gov/efile/RULINGS/134968.pdf.

- The RTO or ISO may specify certain requirements, such as registration with the RTO or ISO, creditworthiness requirements, and certification that participation is not precluded by the relevant electric retail regulatory authority. The ISO's tariff amendment requires registration of reliability demand response resources with the ISO through its demand response system. Because the demand response providers will take part in the ISO's energy market, they are considered market participants.[73] Therefore, like other market participants, demand response providers are subject to the ISO's creditworthiness requirements.[74]

- The RTO or ISO may require the aggregator of retail customers to be an RTO or ISO member if its membership is a requirement for other bidders. As explained above, demand response providers are market participants and the reliability demand response resources of demand response providers can only be bid into the ISO markets by an ISO scheduling coordinator. The demand response provider must be an ISO-certified scheduling coordinator in order to schedule, bid, and settle its registered reliability demand response resources with the ISO; otherwise, the demand response provider can hire the services of a scheduling coordinator.

- Single aggregated bids consisting of individual demand response from a single area, reasonably defined, may be required by RTOs and ISOs. Pursuant to the ISO's tariff amendment, each reliability demand response resource is required to be associated with a single load serving entity and a single utility distribution company (or with a single load serving entity in the case of a reliability demand response resource within a metered subsystem), and all underlying locations of a single reliability demand response resource must be located in a single Sub-LAP.

- An RTO or ISO may place appropriate restrictions on any customer's participation in an aggregated demand response bid to avoid counting the same demand response resource more than once. The ISO will ensure that the same customer locations (*i.e.*, customer service accounts) are not registered with the same reliability demand response resource more than once or included in the portfolio of more than one demand response provider.

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[73] Appendix A to the ISO tariff defines a market participant as an "entity, including a Scheduling Coordinator, who either: (1) participates in the CAISO Markets through the buying, selling, transmission, or distribution of Energy, Capacity, or Ancillary Services into, out of, or through the CAISO Controlled Grid; or (2) is a CRR Holder or Candidate CRR Holder."

[74] *See* ISO tariff, Section 12.1 ("Each Market Participant shall have the responsibility to maintain an Aggregate Credit Limit that is at least equal to its Estimated Aggregate Liability").

- The market rules must allow bids from an aggregator of retail customers unless this is not permitted under the laws or regulations of a relevant electric retail regulatory authority. The ISO's tariff amendment will allow bids from a demand response provider through its scheduling coordinator subject to any applicable requirements of the CPUC and local regulatory authorities. As noted above, the CPUC's demand response rulemaking proceeding is ongoing.

IV. Effective Date

The ISO respectfully requests the Commission make the tariff revisions to the demand response provider agreement (Appendix B.14 to the tariff) contained in this filing effective as of October 1, 2011. The ISO requests an effective date of April 1, 2012 for the balance of the tariff revisions. April 1, 2012 is the ISO's planned implementation date. Commission acceptance of the tariff revisions to Appendix B.14 by October 1 is necessary to give the ISO and market participants sufficient time to prepare their systems and make other necessary arrangements, including communication and registration, for the planned implementation of the reliability demand response resource product in April 2012. An order on the entire set of proposed tariff revisions by October 1, 2011 is therefore necessary; otherwise, the ISO and its market participants will be unable to enter into the necessary agreements or to make the necessary arrangements with any assurance that those preparatory actions can be undertaken with finality and will not later need to be undone.

V. Communications

Communications regarding this filing should be addressed to the following individuals, whose names should be put on the official service list established by the Commission with respect to this submittal:

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VI. Service

The ISO has served copies of this transmittal letter, and all attachments, on the CPUC, the California Energy Commission, and all parties with effective scheduling coordinator service agreements under the ISO tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO website.

VII. Attachments

The following attachments, in addition to this transmittal letter, support the instant filing:

Attachment A	Revised ISO tariff sheets that incorporate the proposed changes described above
Attachment B	The proposed changes to the ISO tariff shown in black-line format
Attachment C	List of modifications to existing ISO tariff provisions to accommodate the implementation of the reliability demand response resource product
Attachment D	List of key dates in the reliability demand response resource stakeholder process
Attachment E	ISO Board memorandum and resolution

VIII. Conclusion

For the foregoing reasons, the Commission should accept the proposed tariff changes contained in the instant filing without modification. Please contact the undersigned if you have any questions regarding this matter.

Respectfully submitted,

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Fifth Replacement FERC Electric Tariff

Reliability Demand Response Resource Tariff Amendment

Attachment A – Clean Sheets

May 20, 2011

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 MSS System Unit

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 Resources, 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.

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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.

* * *

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

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

(a) In the absence of Actual Settlement Quality Meter Data, Scheduling Coordinators may submit Scheduling Coordinator Estimated Settlement Quality Meter Data using interval metering when available, sound estimation practices, and other available information including, but not limited to, bids, schedules, forecasts, temperature data, operating logs, recorders, and historical data. Scheduling Coordinator Estimated Settlement Quality Meter Data must be a good faith estimate that reasonably represents Demand and/or Generation quantities for each Settlement Period.

(b) When Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received by the CAISO for a Scheduling Coordinator Metered Entity within five (5) Business Days from the Trading Day (T+5B), the CAISO will estimate the entity's Settlement Quality Meter Data for any outstanding metered Demand and/or Generation, excluding a Proxy Demand Resource and Reliability Demand Response Resource, for use in the Initial Settlement Statement T+7B calculation, as provided in Section 11.1.5.

* * *

10.3.6.4 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.

* * *

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

The CAISO's Initial Settlement Statement T+7B shall be based on the Settlement Quality Meter Data (actual or Scheduling Coordinator estimated) received in SQMDS. In the event Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received from a Scheduling Coordinator or CAISO Metered Entity, the CAISO will estimate Settlement Quality Meter Data for that outstanding metered Demand or Generation, excluding a Proxy Demand Resource or Reliability Demand Response Resource, for the Initial Settlement Statement T+7B calculation.

(a) CAISO Estimated Settlement Quality Meter Data for metered Generation will be based on total Expected Energy and dispatch of that resource as calculated in the Real-Time Market and as modified by any applicable corrections to the Dispatch Operating Point for the resource.

(b) CAISO Estimated Settlement Quality Meter Data for metered Demand will be based on Scheduled Demand by the appropriate LAP. This value will be increased by fifteen (15) percent if the total actual system Demand in Real-Time, as determined by the CAISO each hour, is greater than the total estimated metered demand by more than fifteen (15) percent. Total estimated metered demand is the sum of the value of Scheduling Coordinator submitted metered Demand, CAISO polled estimated Settlement quality metered Demand, and Scheduled Demand for unsubmitted metered Demand at the fifth (5th) Business Day after the Trading Day (T+5B). CAISO Estimated Settlement Quantity Meter Demand for Participating Load will not be increased by fifteen (15) percent.

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

* * *

11.2.1.1 IFM Payments For Supply of Energy

For each Settlement Period for which the CAISO clears Energy transactions in the IFM, the CAISO shall pay the relevant Scheduling Coordinator for the MWh quantity of Supply of Energy from all Generating Units, Participating Loads, Proxy Demand Resources, 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 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

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.

* * *

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, 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, 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.

* * *

30.7.8 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. If a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Master File value as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4. If no value for Start-Up Cost is submitted in a Bid, the CAISO will insert the Master File value, as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4.

(d) The Start-Up Cost function must be strictly monotonically increasing, i.e., the Start-Up Cost must increase as down time increases.

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-RRD, IFM, and RUC. Scheduling Coordinators may submit Bids for Energy, Ancillary Services and RUC Capacity for an applicable Trading Day. The CAISO shall issue Schedules for all Supply and Demand, including

Participating Load, Reliability Demand Response Resources, and Proxy Demand Resources, pursuant to their Bids as provided in this Section 31.

* * *

31.2 MPM-RRD

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM-RRD procedures in a series of processing runs that occur prior to the IFM Market Clearing run. The MPM process determines which Bids need to be mitigated in the IFM. The RRD process is the automated process for determining RMR Generation requirements for RMR Units. The MPM-RRD process optimizes resources using the same optimization used in the IFM, but instead of using Demand Bids as in the IFM the MPM-RRD process optimizes resources to meet one hundred (100) percent of the CAISO Demand Forecast and Export Bids to the extent the Export Bids are selected in the MPM-RRD process, and meet one hundred (100) percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. Virtual Bids are excluded from the MPM-RRD process. Bids on behalf of Proxy Demand Resources or Reliability Demand Response Resources are not mitigated and are not considered in the MPM-RRD process. The mitigated or unmitigated Bid identified in the MPM-RRD process for all resources that cleared in the MPM-RRD are then passed to the IFM. The CAISO performs the MPM-RRD for the DAM for the twenty-four (24) hours of the targeted Trading Day.

* * *

31.3.1.4 Eligibility to Set the Day-Ahead LMP

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

* * *

33.4 MPM-RRD For The HASP And The RTM

After the Market Close of the HASP and RTM, after the CAISO has validated the Bids pursuant to section 30.7, and prior to running the HASP optimization, the CAISO conducts the MPM-RRD process, the results of which will be utilized in the HASP optimization and all RTM processes for the Trading Hour. Bids on behalf of the Proxy Demand Resources and Reliability Demand Response Resources are not mitigated and are not considered in the MPM-RRD process. The MPM-RRD process for the HASP and RTM produces results for each fifteen (15) minute interval of the Trading Hour and thus may produce up to four (4) mitigated Bids for any given resource for the Trading Hour. A single mitigated Bid for the entire Trading Hour is calculated using the minimum Bid price of the four (4) mitigated Bid curves at each Bid quantity level. The Bids are mitigated only for the Bid quantities that are above the minimum quantity cleared in the CCR across all four (4) fifteen-minute intervals. For a Condition 1 RMR Unit, if the dispatch level produced through the ACR is greater than the dispatch level produced through the CCR, and for a Condition 2 RMR Unit that is dispatched through the ACR, the resource will be flagged as an RMR Dispatch in the RTM and shall constitute a Dispatch notice pursuant to the RMR Contract.

* * *

34.5 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 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.

* * *

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.

* * *

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.

* * *

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.

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 Loads, 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.

* * *

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 (100) percent 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 (75) percent 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 (100) percent 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 (75) percent 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 (100) percent of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source.

* * *

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.

* * *

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 (4) 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.

* * *

40.6.12 Participating Loads, PDRs, and RDRRs

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

* * *

Appendix A Master Definitions Supplement

- 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.

* * *

- 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, Participating Load, 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 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, 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.

* * *

- 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 capable of measurably and verifiably providing Demand Response Services pursuant to the Demand Response Provider Agreement.

* * *

- 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 capable of measurably and verifiably providing Demand Response Services pursuant to 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:

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

and

(b) **California Independent System Operator Corporation,** a California nonprofit public benefit corporation having a principal executive office located at 250 Outcropping Way, Folsom, California 95630 or such place in the State of California as the CAISO Governing Board may from time to time designate (the “CAISO”).

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: ______________________________

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Reliability Demand Response Resource Tariff Amendment

Attachment B - Blacklines

May 20, 2011

4.5.1.1.3 Duplicate Information

If two or more Scheduling Coordinators apply simultaneously to register with the CAISO for a single meter or Meter Point for a CAISO Metered Entity or if a Scheduling Coordinator applies to register with the CAISO for a meter or Meter Point for a CAISO Metered Entity for which a Scheduling Coordinator has already registered, the CAISO will return the application with an explanation that only one Scheduling Coordinator may register with the CAISO for the meter or Meter Point in question and that a Scheduling Coordinator has already registered or that more than one Scheduling Coordinator is attempting to register for that meter or Meter Point. The CAISO will ~~send~~ notify 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 MSS System Unit

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.

* * *

4.9.12.2.6 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 Resources, 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~~roxy 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 ~~S~~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 ~~Resource~~ 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~~roxy 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.

* * *

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

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

(a) In the absence of Actual Settlement Quality Meter Data, Scheduling Coordinators may submit Scheduling Coordinator Estimated Settlement Quality Meter Data using interval metering when available, sound estimation practices, and other available information including, but not limited to, bids, schedules, forecasts, temperature data, operating logs, recorders, and historical data. Scheduling Coordinator Estimated Settlement Quality Meter Data must be a good faith estimate that reasonably represents Demand and/or Generation quantities for each Settlement Period.

~~(g)~~(b) When Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received by the CAISO for a Scheduling Coordinator Metered Entity within five (5) Business Days from the Trading Day (T+5B), the CAISO will estimate the entity's Settlement Quality Meter Data for any outstanding metered Demand and/or Generation, excluding a Proxy Demand Resource and Reliability Demand Response Resource, for use in the Initial Settlement Statement T+7B calculation, as provided in Section 11.1.5.

* * *

10.3.6.4 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.

* * *

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

The CAISO's Initial Settlement Statement T+7B shall be based on the Settlement Quality Meter Data (actual or Scheduling Coordinator estimated) received in SQMDS. In the event Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received from a Scheduling Coordinator or CAISO Metered Entity, the CAISO will estimate Settlement Quality Meter Data for that outstanding metered Demand or Generation, excluding a Proxy Demand Resource or Reliability Demand Response Resource, for the Initial Settlement Statement T+7B calculation.

(a) CAISO Estimated Settlement Quality Meter Data for metered Generation will be based on total Expected Energy and dispatch of that resource as calculated in the Real-Time Market and as modified by any applicable corrections to the Dispatch Operating Point for the resource.

(b) CAISO Estimated Settlement Quality Meter Data for metered Demand will be based on Scheduled Demand by the appropriate LAP. This value will be increased by fifteen (15) percent if the total actual system Demand in Real-Time, as determined by the CAISO each hour, is greater than the total estimated metered demand by more than fifteen (15) percent. Total estimated metered demand is the sum of the value of Scheduling Coordinator submitted metered Demand, CAISO polled estimated Settlement quality metered Demand, and Scheduled Demand for unsubmitted metered Demand at the fifth (5th) Business Day after the Trading Day (T+5B). CAISO Estimated Settlement Quantity Meter Demand for Participating Load will not be increased by fifteen (15) percent.

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

* * *

11.2.1.1 IFM Payments For Supply of Energy

For each Settlement Period for which the CAISO clears Energy transactions in the IFM, the CAISO shall pay the relevant Scheduling Coordinator for the MWh quantity of Supply of Energy from all Generating Units, Participating Loads, Proxy Demand Resources, 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.~~2~~.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 ~~PDR~~ Energy Measurement delivered by a Proxy Demand Resource or Reliability Demand Response Resource that is also served by that Load Serving Entity will be added to the metered load quantity of the Load Serving Entity's Scheduling Coordinator's Load Resource ID with which the Proxy Demand Resource 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~~roxy 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 ~~PDR~~ Demand Response Energy Measurement for the Proxy Demand Resources or Reliability Demand Response Resources. The ~~PDR~~ 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~~of~~ 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~~of~~ the Proxy Demand Resource or Reliability Demand Response Resource for a Demand R~~r~~esponse ~~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.

* * *

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

30.6.1 Bidding and Scheduling of PDRs~~Generally~~

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

30.6.2 Bidding and Scheduling of RDRRs

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, 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.

* * *

30.7.8 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. If a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Master File value as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4. If no value for Start-Up Cost is submitted in a Bid, the CAISO will insert the Master File value, as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4.

(d) The Start-Up Cost function must be strictly monotonically increasing, i.e., the Start-Up Cost must increase as down time increases.

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-RRD, IFM, and RUC. Scheduling Coordinators may submit Bids for Energy, Ancillary Services and RUC Capacity for an applicable Trading Day. The CAISO shall issue Schedules for all Supply and Demand, including Participating Load, Reliability Demand Response Resources, and Proxy Demand Resources, pursuant to their Bids as provided in this Section 31.

* * *

31.2 MPM-RRD

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM-RRD procedures in a series of processing runs that occur prior to the IFM Market Clearing run. The MPM process determines which Bids need to be mitigated in the IFM. The RRD process is the automated process for determining RMR Generation requirements for RMR Units. The MPM-RRD process optimizes resources using the same optimization used in the IFM, but instead of using Demand Bids as in the IFM the MPM-RRD process optimizes resources to meet one hundred (100) percent of the CAISO Demand Forecast and Export Bids to the extent the Export Bids are selected in the MPM-RRD process, and meet one hundred (100) percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. Virtual Bids are excluded from the MPM-RRD process. Bids on behalf of Proxy Demand Resources or Reliability Demand Response Resources are not mitigated and are not considered in the MPM-RRD process. ~~Virtual Bids are excluded from the MPM-RRD process.~~ The mitigated or unmitigated Bid identified in the MPM-RRD process for all resources that cleared in the MPM-RRD are then passed to the IFM. The CAISO performs the MPM-RRD for the DAM for the twenty-four (24) hours of the targeted Trading Day.

* * *

31.3.1.4 Eligibility to Set the Day-Ahead LMP

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

* * *

33.4 MPM-RRD For The HASP And The RTM

After the Market Close of the HASP and RTM, after the CAISO has validated the Bids pursuant to section 30.7, and prior to running the HASP optimization, the CAISO conducts the MPM-RRD process, the results of which will be utilized in the HASP optimization and all RTM processes for the Trading Hour. Bids on behalf of the Proxy Demand Resources and Reliability Demand Response Resources are not mitigated and are not considered in the MPM-RRD process. The MPM-RRD process for the HASP and RTM produces results for each fifteen (15) minute interval of the Trading Hour and thus may produce up to four (4) mitigated Bids for any given resource for the Trading Hour. A single mitigated Bid for the entire

Trading Hour is calculated using the minimum Bid price of the four (4) mitigated Bid curves at each Bid quantity level. The Bids are mitigated only for the Bid quantities that are above the minimum quantity cleared in the CCR across all four (4) fifteen-minute intervals. For a Condition 1 RMR Unit, if the dispatch level produced through the ACR is greater than the dispatch level produced through the CCR, and for a Condition 2 RMR Unit that is dispatched through the ACR, the resource will be flagged as an RMR Dispatch in the RTM and shall constitute a Dispatch notice pursuant to the RMR Contract.

* * *

34.5 General Dispatch Principles

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

* * *

(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;

* * *

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

The CAISO may issue Dispatch Instructions covering:

* * *

(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.

* * *

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.

* * *

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.

34.18 Real-Time Dispatch of RDRRs~~[Not Used]~~

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 Loads, 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.

* * *

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 (100) 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 (75) 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 (100) 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 (75) 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 (100) percent ~~(100%)~~ of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source.

* * *

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.

* * *

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, ~~T~~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 (4) 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.

* * *

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

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

Participating Loads, ~~or~~ Proxy Demand Resources, or Reliability Demand Response 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.

* * *

Appendix A Master Definitions Supplement

- 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.

* * *

- 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 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, 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~~

~~Proxy Demand Resource Agreement~~

* * *

- Demand Response ~~PDR~~ 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 capable of measurably and verifiably providing Demand Response Services pursuant to the ~~a Proxy~~ Demand Response Provider~~Resource~~ Agreement.

* * *

- ~~Proxy Demand Resource Agreement (PDRA)~~

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

* * *

- Ramp Rate

The Bid component that indicates the Operational Ramp Rate, Regulation Ramp Rate, and Operating Reserve Ramp Rate for a Generating Unit, and the Load drop rate and Load pick-up rate for Participating Loads, 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 capable of measurably and verifiably providing Demand Response Services pursuant to 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 RESPONSE PROVIDER ~~RESOURCE~~ AGREEMENT (~~P~~DRPA)

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

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

and

(b) **California Independent System Operator Corporation,** a California nonprofit public benefit corporation having a principal executive office located at 250 Outcropping Way, Folsom, California 95630 or such place in the State of California as the CAISO Governing Board may from time to time designate~~, initially 151 Blue Ravine Road, Folsom, California 95630~~ (the "CAISO").

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

Whereas:

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~~5~~, 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 Servi~~c~~ing 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~~to~~ 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: ______________________________

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Reliability Demand Response Resource Tariff Amendment

Attachment C- List of modifications to existing ISO tariff provisions

May 20, 2011

California ISO
Shaping a Renewed Future

ATTACHMENT C

List of Modifications to Existing ISO Tariff Provisions to Accommodate the Implementation of the Reliability Demand Response Resource Product

As referenced in the transmittal letter for this tariff amendment, in addition to making the tariff changes discussed in the transmittal letter, the ISO proposes to modify the following tariff sections to add reliability demand response resources to the types of resources that are already subject to various tariff provisions:

- Section 4.5.1.1.3, regarding duplicate information;
- Sections 4.9.12.1, 4.9.12.2.6, and 4.9.12.3, regarding aggregation of resources as a system unit;
- Section 4.13.2, regarding applicable requirements for reliability demand response resources, proxy demand resources, and demand response providers;
- Section 4.13.3, regarding identification of reliability demand response resources and proxy demand resources;
- Section 7.1.3(f), regarding ISO control center authorities;
- Section 10.3.2.1, regarding the duty to provide settlement quality meter data;
- Section 10.3.6.1(b), regarding the timing of settlement quality meter data submission for the calculation of initial settlement statement T+7B;
- Section 11.1.5, regarding settlement quality meter data for initial statement T+7B;
- Section 11.2.1.1, regarding integrated forward market payments for the supply of energy;
- Section 11.5.4.1, regarding the application and calculation of dispatch interval locational marginal prices ("LMPs");
- Section 11.8, regarding settlement of unrecovered bid cost recovery uplift payments;

- Section 30.7.8, regarding format and validation of start-up and shut-down costs;
- Section 31, regarding the sequential functions of the day-ahead market;
- Section 31.2, regarding the market power mitigation-reliability requirement determination (“MPM-RRD”);
- Section 31.3.1.4, regarding eligibility to set the day-ahead LMP;
- Section 33.4, regarding the MPM-RRD for the hour-ahead scheduling process and the real-time market;
- Section 34.5(7), regarding general dispatch principles;
- Section 34.6, regarding dispatch instructions;
- Section 34.9.1, regarding the issuance of exceptional dispatches for system reliability purposes;
- Sections 34.19.1 and 34.19.2.2, regarding the pricing of imbalance energy;
- Section 36.8.4, regarding eligible sources for CRR allocation;
- Section 40.4.4, regarding reductions of qualifying capacity;
- Appendix A, definition of bid cost recovery eligible resources;
- Appendix A, definition of demand response system;
- Appendix A, definition of electric facility;
- Appendix A, definition of expected energy;
- Appendix A, definition of local capacity area resources;
- Appendix A, definition of metered subsystem;
- Appendix A, definition of minimum load bid;
- Appendix A, definition of minimum load costs;
- Appendix A, definition of ramp rate;

- Appendix A, definition of resource ID;
- Appendix A, definition of resource location;
- Appendix A, definition of scheduling coordinator metered entity; and
- Appendix A, definition of supply.

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Reliability Demand Response Resource Tariff Amendment

Attachment D - List of key dates in the stakeholder process

May 20, 2011

ATTACHMENT D

List of Key Dates in Reliability Demand Response Resource Stakeholder Process

Date	Event/Due Date
June 10, 2010	ISO hosts meeting of stakeholder working group for reliability demand response resource product that includes discussion of ISO presentation entitled "RDRP Stakeholder Initiative Working Group Meeting"
June 18, 2010	ISO hosts meeting of stakeholder working group for reliability demand response resource product that includes discussion of ISO presentation entitled "RDRP Stakeholder Initiative Working Group Meeting"
July 12, 2010	ISO issues paper entitled "Reliability Demand Response Product Straw Proposal" for discussion at stakeholder meeting scheduled for August 5, 2010
August 5, 2010	ISO hosts stakeholder meeting that includes discussion of ISO paper issued on July 12 and ISO presentation entitled "RDRP Stakeholder Initiative Working Group Meeting"
August 12, 2010	Due date for written stakeholder comments on ISO paper issued on July 12
August 17, 2010	ISO hosts conference call with stakeholder working group for reliability demand response resource product
September 1, 2010	ISO issues papers entitled "Reliability Demand Response Product Draft Final Proposal" and "CAISO Response to Stakeholder Comments on the RDRP Straw Proposal" for discussion on stakeholder conference call scheduled for September 13, 2010
September 13, 2010	ISO hosts stakeholder conference call that includes discussion of ISO papers issued on September 1 and ISO presentation entitled "RDRP Stakeholder Initiative Draft Final Proposal Review"
September 20, 2010	Due date for written stakeholder comments on ISO paper issued on September 1
September 23, 2010	ISO issues paper entitled "Reliability Demand Response Product Revised Draft Final Proposal"
September 29, 2010	Due date for written stakeholder comments on ISO paper issued on September 23
October 15, 2010	ISO issues paper entitled "Reliability Demand Response Product Revised Draft Final Proposal Version 2.0"
November 1, 2010	ISO Governing Board approves final reliability demand response resource proposal

Date	Event/Due Date
March 3, 2011	ISO issues paper entitled “External Business Requirements Specification for Reliability Demand Response Product”
March 9, 2011	ISO issues draft tariff language to implement reliability demand response resource product
March 15, 2011	Due date for written stakeholder comments on draft tariff language issued on March 9
March 21, 2011	ISO issues paper entitled “Comments on Draft Reliability Demand Response Product Tariff Language and ISO Response to Comments”
March 22, 2011	ISO hosts stakeholder conference call that includes discussion of draft tariff language issued on March 9
March 31, 2011	ISO issues updated draft tariff language to implement reliability demand response resource product, and issues paper entitled “ISO Response to Comments on Draft Reliability Demand Response Product Tariff Language”
April 13, 2011	ISO issues further updated draft tariff language to implement reliability demand response resource product
April 20, 2011	Due date for written stakeholder comments on draft tariff language and paper issued on March 31 and April 13
April 27, 2011	ISO hosts stakeholder conference call that includes discussion of draft tariff language and paper issued on March 31 and April 13
April 29, 2011	ISO issues further updated draft tariff language to implement reliability demand response resource product
May 4, 2011	Due date for written stakeholder comments on draft tariff language issued on April 29

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Reliability Demand Response Resource Tariff Amendment

Attachment E- ISO Board Memorandum and Resolution

May 20, 2011

California ISO
Your Link to Power

California Independent
System Operator Corporation

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market & Infrastructure Development

Date: October 26, 2010

Re: **Decision on the Reliability Demand Response Product**

This memorandum requires Board action.

EXECUTIVE SUMMARY

The California Public Utilities Commission allows all forms of retail demand response programs to satisfy resource adequacy capacity requirements. Management has had long-standing concerns regarding the large megawatt quantity and restricted availability of retail emergency-triggered demand response programs that qualify as resource adequacy resources. We believe that resource adequacy resources should be available to prevent an emergency, rather than only being available to resolve an emergency that is already underway. In addition, the megawatt quantity of these conditional-use programs that count toward satisfying a load-serving entity's resource adequacy requirement should be capped. As part of its demand response proceeding (R.07-01-041), the CPUC approved a multi-party settlement agreement that resolved these concerns in a reasonable and mutually acceptable way and spawned the development of the reliability demand response product.

The California Independent System Operator Corporation is seeking the Board of Governors' approval of the proposed reliability demand response product. This new product will enable retail emergency-triggered demand response programs, e.g., interruptible, air-conditioning and agricultural pumping load programs, to integrate into ISO markets and operations. The product is scheduled to be implemented by spring 2012.

Management recommends implementation of the reliability demand response product to:

- Integrate retail emergency demand response programs into the ISO market;
- Reflect the value of these emergency resources in the ISO market;
- Gain access to these resources earlier in the ISO's emergency operating procedures;

- Limit the amount of emergency demand response resources that count towards satisfying the resource adequacy requirement of CPUC jurisdictional entities;
- Fulfill the ISO's obligations under the CPUC approved settlement agreement; and
- Add additional demand response capability to the ISO market by spring 2012.

In 2009, retail emergency-triggered demand response programs accounted for nearly 4% (approximately 2,150 MW) of the total resource adequacy capacity obligation of CPUC jurisdictional entities. This significant amount of resource adequacy capacity is not integrated into ISO markets and systems but is made available to the ISO operator only during an emergency through a manual process. A manual process does not provide the ISO operator clear visibility to the location and quantity of these emergency resources and does not allow the value of these resources to be reflected in the locational marginal price. The proposed reliability demand response product resolves these concerns by providing a wholesale market mechanism to integrate retail emergency demand response into the ISO market.

In addition to instigating the development of the reliability demand response product, the settlement limits the megawatt quantity of retail emergency demand response that can count toward satisfying the CPUC resource adequacy requirement to two-percent of the ISO all-time system peak (or 1,005 MW), which is based on an ISO operational evaluation of historic use, need to avoid firm load shedding, and other ISO and RTO practices. The settlement requires the investor-owned utilities to transition their CPUC approved retail emergency-triggered demand response programs into the ISO reliability demand response product, and makes these resources available for dispatch earlier under ISO emergency operating procedures. The settlement also requires that the utilities make efforts to promote and transition customers from emergency-triggered demand response programs into price-responsive demand response programs that align with the ISO market. With the implementation of the reliability demand response product, the ISO will be able to dispatch these emergency-triggered programs when and where they are needed and, appropriately, reflect their value in the ISO market.

> ***Moved, that the ISO Board of Governors approves the proposed reliability demand response product, as detailed in the memorandum dated October 26, 2010; and***
>
> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.***

BACKGROUND

The settlement addressed Management concerns regarding the quantity, use, and resource adequacy treatment of retail emergency-triggered demand response programs. Development of the reliability demand response product was a key element and outcome of the settlement. The settlement was supported by a broad cross-section of market participants, including the three California investor-owned utilities, two ratepayer interest groups, a large consumer representative and a demand response provider.

The settlement agreement outlined broad principles for the reliability demand response product, which was designed to:

- Be compatible with investor-owned utility emergency demand response programs;
- Meet minimum operating and technical requirements, including recognition of maximum resource availability limits;
- Be dispatched economically once the resource is made available for dispatch as specified in ISO emergency operating procedures;
- Recognize that the underlying customers have "high strike" prices;
- Have multi-reliability uses, including ISO system emergencies and utility local transmission and distribution system emergencies;
- Be available to all demand response providers, subject to applicable rules of the local regulatory authority;
- Be settled through the ISO market; and
- Be dispatchable by location and megawatt quantity.

The reliability demand response product proposed by the ISO and shaped by stakeholder input embodies these principles and fulfills an important ISO principle that the value of these emergency-triggered demand resources be reflected in the ISO market.

PROPOSAL

The reliability demand response product design ensures compatibility with, and the integration of, existing retail emergency-triggered demand response programs, such as interruptible load programs, direct-load control programs like air-conditioning cycling, and agriculture pumping programs. The reliability demand response product design will allow reliability demand response resources to offer energy economically in the day-ahead market, and any remaining uncommitted capacity thereafter to be bid as energy in the real-time through the ISO hour-ahead scheduling process.

The reliability demand response product will integrate large single or aggregated-demand response resources that may be configured to offer energy economically in the day-ahead market and, as a minimum requirement, can respond to a reliability event for the delivery of energy in real-time. Such dispatches are expected infrequently and with limited notice under an ISO issued warning notice as specified in ISO emergency operating procedures.

The reliability demand response product has multiple uses, including:

- Mitigating imminent or threatened operating reserve deficiencies;
- Addressing transmission emergencies on the ISO-controlled grid; and
- Resolving local transmission and distribution system emergencies.

To qualify as a reliability demand response product resource, the resource must be capable of delivering reliability energy in real-time, reaching its full curtailment in no longer than 40 minutes, and be dispatched by the ISO's automated dispatching system within a geographic location and for a specified megawatt quantity. The megawatt quantity that is available from a reliability demand response product resource during any particular hour is submitted to the ISO by the scheduling coordinator for the demand response provider in the hour-ahead scheduling process with a bid between the ISO bid cap and 95% of the ISO bid cap. Use of a bid range will enable a scheduling coordinator to use bid costs as a means to prioritize the dispatch of reliability demand response resources.

A reliability demand response product resource will participate in the ISO market as a supply resource, relying on the functionality and infrastructure the ISO recently implemented for its proxy demand resource product. The product also will include an option that allows reliability demand response product resources to receive a discrete dispatch. This feature will allow a resource to be dispatched to pre-specified megawatt levels, by hour, regardless of the resource's electricity consumption at the time of deployment. This will enable the integration of existing retail emergency-triggered demand response programs, such as the interruptible load programs, that require a discrete dispatch. Like other resources, reliability demand response product resources will be eligible to set the locational marginal price when they are the marginal resource.

POSITIONS OF THE PARTIES

Stakeholder process

The foundation of demand response resources is built on load adjustments made by retail electricity customers, and it is essential that the ISO closely coordinate its development of wholesale demand response products with the input of stakeholders that have retail interests and concerns. ISO staff engaged its stakeholders in a working group process in addition to its traditional stakeholder process to develop the details of the reliability demand response product. Between June and September 2010, ISO staff conducted three working group sessions, a stakeholder meeting, a stakeholder conference call, and provided four opportunities to provide formal, written comments on Management's proposal.

Stakeholders generally support the reliability demand response product proposal. Below is a discussion of the key issues that staff addressed and the design modifications that were made based on stakeholder feedback.

Day-ahead participation capability

Stakeholders strongly support this element of the proposal, which provides the ability for a reliability demand response product resource to participate economically in the day-ahead market, like a proxy demand resource, and as an emergency resource in real-time under the terms of this new product. Enabling reliability demand response product resources to participate in the day-ahead market allows the ISO and the demand response provider to capture additional value from resources that have the ability to respond economically in the day-ahead timeframe yet can curtail additional load in the real-time when required under a system or local emergency.

Performance incentive

Management originally proposed a performance incentive which was met with strong stakeholder opposition. In response, we removed this feature and will develop availability standards for these types of demand response resources under phase three of its standard capacity product initiative. Stakeholders support this approach.

Dispatching reliability demand response resources for local transmission and distribution system needs

The settlement agreement preserves the right for the investor-owned utilities to dispatch their emergency demand response resources to respond to local transmission and distribution system emergencies. These local emergency dispatches will occur outside of the ISO market and will not set the locational marginal price. Certain market participants felt that reliability demand response product resources should have the opportunity to set the locational marginal price in all instances. This cannot be accomplished. The dispatch of a reliability demand response product resource to address a utility's local emergency would have to be done through exceptional dispatch. Exceptional dispatch simply adds cost to the system, in the form of uplift charges, and does not have the desired effect of setting the locational marginal price. For this reason, the ISO finds that any benefits derived from the ISO dispatching a utility's use of its demand response programs to address a local system constraint are outweighed by the cost, complexity, and coordination of doing so.

Exceptional dispatch

Certain stakeholders felt that reliability demand response resources should not be subject to exceptional dispatches. Management will maintain the exceptional dispatch of reliability demand response product resources since the ISO cannot forego its ability to dispatch resources under its exceptional dispatch authority and allow a situation to worsen if system conditions are dire and a market application fails or does not commit a required resource that can resolve a pressing reliability concern. Thus, the ISO will preserve its exceptional dispatch authority of reliability demand response product resources with the expectation that this capability will be used judiciously and infrequently.

Prohibition against the reliability demand response product providing ancillary service and/or residual unit commitment capacity

Certain stakeholders felt that reliability demand response resources should be able to participate in the residual unit commitment and ancillary services market. However, Management determined that it is not feasible for reliability demand response product resources to offer these capacity services. This is due to the complexity associated with co-mingling the real-time energy bid associated with awarded residual unit commitment and/or ancillary service capacity and the energy associated with reliability demand response product resources, given the different dispatch parameters between the reliability demand response product and these capacity services. Demand response resources are eligible to provide these capacity services, along with day-ahead and real-time energy, through the proxy demand resource product.

MANAGEMENT RECOMMENDATION

Management requests Board approval of the reliability demand response product as detailed in this memorandum. The benefits of implementing the reliability remand response product is the integration of retail emergency-triggered demand response programs into the ISO market, enabling the value of these resources to be reflected in the ISO market and enhancing the reliable operation of the ISO controlled grid. Additionally, approval of the reliability demand response product fulfills the terms of the CPUC approved settlement agreement on the quantity, use, and resource adequacy treatment of retail emergency-triggered demand response programs.

Board of Governors **November 1-2, 2010** **Decision on Reliability Demand Response Product**

Motion

Moved, that the ISO Board of Governors approves the proposed reliability demand response product, as detailed in the memorandum dated October 26, 2010; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

Moved: Doll **Second: Foster**

Board Action: **Passed**	Vote Count: **4-0-0**
Doll	Y
Foster	Y
Habashi	Y
Willrich	Y

Motion Number: 2010-11-G3

FERC rendition of the electronically filed tariff records in Docket No. ER11-03616-000
Filing Data:
CID: C001183
Filing Title: 2011-05-20 CAISO Reliability Demand Response Resource Amendment
Company Filing Identifier: 210
Type of Filing Code: 10
Associated Filing Identifier:
Tariff Title: CAISO eTariff
Tariff ID: 11
Payment Confirmation:
Suspension Motion: N

Tariff Record Data:
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.5.1, Scheduling Coordinator Certification, 4.0.0, A
Record Narative Name:
Tariff Record ID: 5825
Tariff Record Collation Value: 24334072 Tariff Record Parent Identifier: 5824
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

Only Scheduling Coordinators that the CAISO has certified as having met the requirements of this Section 4.5.1 may participate in the CAISO's Energy and Ancillary Services markets. Scheduling Coordinators offering Ancillary Services shall additionally meet the requirements of Section 8.

Each Scheduling Coordinator shall:

(a) demonstrate to the CAISO's reasonable satisfaction that it is capable of performing the functions of a Scheduling Coordinator under this CAISO Tariff including (without limitation) the functions specified in Sections 4.5.3 and 4.5.4;

(b) identify each of the Eligible Customers (including itself if it trades for its own account) which it is authorized to represent as Scheduling Coordinator and confirm that the metering requirements under Section 10 are met in relation to each Eligible Customer that it represents under this CAISO Tariff;

(c) confirm that each of the End-Use Customers it represents is eligible for service as a Direct Access End User;

(d) confirm that none of the Wholesale Customers it represents is ineligible for wholesale transmission service pursuant to the provisions of FPA

Section 212(h);

(e) demonstrate to the CAISO's reasonable satisfaction that it meets the financial criteria set out in Section 12;

(f) enter into a Scheduling Coordinator Agreement with the CAISO; and

(g) provide NERC tagging data.

4.5.1.1 Procedure to become a Scheduling Coordinator

4.5.1.1.1 Scheduling Coordinator Application

To become a Scheduling Coordinator, a Scheduling Coordinator Applicant must submit a completed application, as set forth in the applicable Business Practice Manual, to the CAISO by mail or in person. A Scheduling Coordinator Applicant may retrieve the application and necessary information from the CAISO Website.

4.5.1.1.2 CAISO Information

The CAISO will provide the following information, in its most current form, on the CAISO Website. Upon a request by a Scheduling Coordinator Applicant, the CAISO will send the following information by electronic mail:

(a) the Scheduling Coordinator Application Form, as set forth in the applicable Business Practice Manual;

(b) the CAISO Tariff and Business Practice Manuals; and

(c) forms for a credit application for Scheduling Coordinator Applicants applying for Unsecured Credit Limits and for provision of Financial Security to be provided pursuant to Section 12.

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).

4.5.1.1.4 Scheduling Coordinator Applicant Returns Application

At least 120 days before the proposed commencement of service, the Scheduling Coordinator Applicant must return a completed application form with the non-refundable application fee of $5,000 to cover the application processing costs.

4.5.1.1.5 Notice of Receipt

Within three (3) Business Days of receiving the application, the CAISO will send electronic notification to the Scheduling Coordinator Applicant that it has received the application and the non-refundable fee.

4.5.1.1.6 CAISO Review of Application

Within ten (10) Business Days after receiving an application, the CAISO will provide electronic notification to the Scheduling Coordinator Applicant whether the Scheduling Coordinator Applicant has submitted all necessary information as set forth in Section 4.5.1, and the Scheduling Coordinator Application Form set forth in the applicable Business Practice Manual.

4.5.1.1.6.1 Information Requirements

The Scheduling Coordinator Applicant must submit with its application:

(a) the proposed date for commencement of service, which may not be less than 120 days after the date the application was filed, unless waived by the CAISO;

(b) financial and credit information as set forth in Section 12; and

(c) the prescribed non-refundable application fee of $5,000.

4.5.1.1.6.2 Scheduling Coordinator Applicant's Obligation for Contracts

A Scheduling Coordinator Applicant must certify that it is duly authorized to represent the Generators and Loads that are its Scheduling Coordinator Customers and must further certify that:

(a) represented Generators have entered into Participating Generator Agreements or Qualifying Facility Participating Generator Agreements as provided in Appendices B.2 and B.3, respectively with the CAISO;

(b) represented UDCs have entered into UDC Operating Agreements as provided in Appendix B.8 with the CAISO;

(c) represented CAISO Metered Entities have entered into Meter Service Agreements for CAISO Metered Entities as provided in Appendix B.6 with the CAISO;

(d) none of the Wholesale Customers it will represent are ineligible for wholesale transmission service pursuant to the provisions of the FPA Section 212(h); and

(e) each End-Use Customer it will represent is eligible for service as a Direct Access End User pursuant to an established program approved by the California Public Utilities Commission or a Local Regulatory Authority.

4.5.1.1.7 Deficient Application

In the event that the CAISO has determined that the application is deficient, the CAISO will send an electronic notification of the deficiency to the Scheduling Coordinator Applicant within ten (10) Business Days of receipt by the CAISO of the application explaining the deficiency and requesting additional information.

4.5.1.1.7.1 Scheduling Coordinator Applicant's Additional Information

Once the CAISO requests additional information, the Scheduling Coordinator Applicant has five (5) Business Days, or such longer period as the CAISO may agree, to provide the additional material requested by the CAISO.

4.5.1.1.7.2 No Response from Scheduling Coordinator Applicant

If the Scheduling Coordinator Applicant does not submit additional information within five (5) Business Days or the longer period referred to in Section 4.5.1.1.7.1, the application may be rejected by the CAISO.

4.5.1.1.8 CAISO Approval or Rejection of an Application

4.5.1.1.8.1 Approval or Rejection Notification

(a) If the CAISO approves the application, it will send an electronic notification of approval. In addition, the CAISO will provide a Scheduling Coordinator Agreement, a Meter Service Agreement for Scheduling Coordinators as provided in Appendix B.7, if applicable, any other applicable agreements, and any required CAISO network connectivity security agreement for the Scheduling Coordinator Applicant's signature.

(b) If the CAISO rejects the application, the CAISO will send an electronic notification of rejection stating one or more of the following grounds:

(i.) incomplete information;

(ii.) non-compliance with credit requirements pursuant to Section 12;

(iii.) non-compliance with third party contractual obligations;

(iv.) non-compliance with technical requirements; or

(v.) non-compliance with any other CAISO Tariff requirements.

Upon request, the CAISO will provide guidance as to how the Scheduling Coordinator Applicant can cure the grounds for the rejection.

4.5.1.1.8.2 Time for Processing Application

The CAISO will make a decision whether to accept or reject the application within ten (10) Business Days of receipt of the application. If more information is requested, the CAISO will make a final decision within ten (10) Business Days of the receipt of all outstanding or additional information requested.

4.5.1.1.9 Scheduling Coordinator Applicant's Response

4.5.1.1.9.1 Scheduling Coordinator Applicant's Acceptance

If the CAISO accepts the application, the Scheduling Coordinator Applicant must return an executed Scheduling Coordinator Agreement, Meter Service Agreement for Scheduling Coordinators, if applicable, any other applicable agreements, and a completed credit application and Financial Security provided pursuant to Section 12, as applicable.

4.5.1.1.9.2 Scheduling Coordinator Applicant's Rejection

4.5.1.1.9.2.1 Resubmittal

If an application is rejected, the Scheduling Coordinator Applicant may resubmit its application at any time. An additional application fee will not be required for the second application submitted within six (6) months after the CAISO's issuance of a rejection notification.

4.5.1.1.9.2.2 Appeal

The Scheduling Coordinator Applicant may also appeal against the rejection of an application by the CAISO. An appeal must be submitted within twenty (20) Business Days following the CAISO's issuance of a notification of rejection of its application.

4.5.1.1.10 Post Application Procedures Prior to Final Certification

4.5.1.1.10.1 Scheduling Coordinator's Administrative, Financial and Technical Requirements

The CAISO will not certify that a Scheduling Coordinator Applicant has become a Scheduling Coordinator until the Scheduling Coordinator Applicant has completed all of the following requirements:

(a) provided the technical/operational information required to complete the Scheduling Coordinator Application Form as set forth in the applicable Business Practice Manual, and to comply with Section 10.3;

(b) executed a network connectivity security agreement for access to the CAISO's software used in conducting business with the CAISO and compliance with the CAISO's system security requirements in a form approved by the CAISO, if applicable;

(c) obtained and installed any required software for functional interface for Validation, Estimation and Editing meter values (VEE), if applicable;

(d) undertaken required training and testing regarding the use of the CAISO's market, operating, and technical systems, as specified in the applicable Business Practice Manual;

(e) provided its bank account information and arranged for Fed-Wire transfers;

(f) provided an emergency plan specifying the procedures by which Scheduling Coordinator operations and contacts with the CAISO will be maintained during an emergency, containing information specified in the applicable Business Practice Manual; and

(g) obtained and installed a computer link and any necessary software in order to communicate with the CAISO, as specified in the applicable Business Practice Manual.

Additional instructions for completing the foregoing requirements will be set forth in a Business Practice Manual posted on the CAISO Website.

4.5.1.1.10.2 Application Closure after 12 Months

The CAISO will not certify a Scheduling Coordinator Applicant as a Scheduling Coordinator until the Scheduling Coordinator Applicant has completed all of the requirements for certification set forth in this Section 4.5 to the CAISO's satisfaction within twelve (12) months following the CAISO's acceptance of the application for processing. If the Scheduling Coordinator Applicant has not completed all the above referenced requirements within twelve (12) months after the CAISO's acceptance of the application, the CAISO may close the Scheduling Coordinator Applicant's application. The CAISO shall provide the Scheduling Coordinator Applicant thirty (30) days advance notice of its intent to close the application. If the CAISO closes the application, the Scheduling Coordinator Applicant must submit a new application and non-refundable application fee if it continues to request certification as a Scheduling Coordinator.

4.5.1.1.11 Final Certification of Scheduling Coordinator Applicant

The Scheduling Coordinator Applicant will become a Scheduling Coordinator when:

(a) its application has been accepted;

(b) it has entered into a Scheduling Coordinator Agreement, a Meter Service Agreement for Scheduling Coordinators, if applicable, and any other applicable agreements with the CAISO;

(c) it has met the credit requirements of Section 12; and

(d) it has fulfilled all technical/operational requirements of Sections 4.5.4.1 and 4.5.1.1.10.1.

The CAISO will not certify a Scheduling Coordinator Applicant as a Scheduling Coordinator until the Scheduling Coordinator Applicant has completed all the above referenced requirements to the CAISO's satisfaction, at least ten (10) Business Days before the commencement of service.

4.5.1.2 Scheduling Coordinator's Ongoing Obligations After Certification

4.5.1.2.1 Scheduling Coordinator's Obligation to Report Changes

4.5.1.2.1.1 Obligation to Report a Change in Filed Information

Each Scheduling Coordinator has an ongoing obligation to inform the CAISO of any changes to any of the information submitted by it to the CAISO as part of the application process, including any changes to the additional information requested by the CAISO and including but not limited to changes in its credit ratings. The applicable Business Practice Manual sets forth the procedures for changing the Scheduling Coordinator's information and timing of notifying the CAISO of such changes.

4.5.1.2.1.2 Obligation to Report a Change in Credit Rating or Material Change in Financial Condition

The Scheduling Coordinator has an ongoing obligation to inform the CAISO within three (3) Business Days of any change to its credit ratings or any Material Change in Financial Condition.

4.5.1.2.2 CAISO's Response for Failure to Inform

4.5.1.2.2.1 Failure to Promptly Report a Material Change

If a Scheduling Coordinator fails to inform the CAISO of a material change in its information provided to the CAISO, which may affect the reliability or safety of the CAISO Controlled Grid, or the Financial Security of the CAISO, the CAISO may suspend or terminate the Scheduling Coordinator's rights under the CAISO Tariff in accordance with the terms of Sections 12 and 4.5 respectively. If the CAISO intends to terminate the Scheduling Coordinator's rights it shall file a notice of termination with FERC, if required by FERC rules, in accordance with the terms of the Scheduling Coordinator Agreement. Such termination shall be effective upon acceptance by FERC of a notice of termination, if required by FERC rules, or as otherwise permitted by FERC rules.

4.5.1.3 Additional Scheduling Coordinator ID Code Registration

A Scheduling Coordinator Applicant is granted one Scheduling Coordinator ID Code (SCID) with its application fee. Requests may be made for additional Scheduling Coordinator ID Codes. The fee for each additional Scheduling Coordinator Identification Code is $500 per month, or as otherwise specified in Schedule 1 of Appendix F.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.9.12, MSS System Unit, 2.0.0, A
Record Narative Name:
Tariff Record ID: 5853
Tariff Record Collation Value: 48668144 Tariff Record Parent Identifier: 5841
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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 Resources, or Proxy Demand Resource, but the CAISO shall not have the authority to direct the MSS Operator to adjust the operation of the individual resources that make up the System Unit to comply with directives issued with respect to the System Unit.

4.9.12.4 When and to the extent that Energy from a System Unit is self-scheduled to provide for the needs of Loads within the MSS and is not being bid to the CAISO Markets, the CAISO shall have the authority to dispatch the System Unit only to avert or respond to a circumstance described in the third sentence of Section 7.6.1 or, pursuant to Section 7.7.2.3, to a System Emergency.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.13, DRPs, RDRRs, and PDRs, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8464
Tariff Record Collation Value: 67353236   Tariff Record Parent Identifier: 5808
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type:
Associated Filing Identifier:

This is a PDF section and we cannot render PDF in a RTF document.
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.13.1, Relationship Between CAISO and DRPs, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8601
Tariff Record Collation Value: 67570506   Tariff Record Parent Identifier: 8464
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.13.2, Applicable Requirements for RDRRs, PDRs, and DRPs, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8602
Tariff Record Collation Value: 67679141 Tariff Record Parent Identifier: 8464
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.13.3, Identification of RDRRs and PDRs, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8603
Tariff Record Collation Value: 67733458 Tariff Record Parent Identifier: 8464
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.13.4, Customer Baseline Methodologies for PDRs and RDRRs, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8604
Tariff Record Collation Value: 67760617 Tariff Record Parent Identifier: 8464
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
4.13.5, Characteristics of PDRs and RDRRs, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8961
Tariff Record Collation Value: 67767406 Tariff Record Parent Identifier: 8464
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
7.1.3, CAISO Control Center Authorities, 2.0.0, A
Record Narative Name:
Tariff Record ID: 5902
Tariff Record Collation Value: 91252768 Tariff Record Parent Identifier: 5899
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
10.1.7, Provision of Statistically Derived Meter Data, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8962
Tariff Record Collation Value: 201190632 Tariff Record Parent Identifier: 6022
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
10.3.2, Responsibilities Of Scheduling Coordinators And The CAISO, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6046
Tariff Record Collation Value: 216399424 Tariff Record Parent Identifier: 6044
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

10.3.2.2 Format for Data Submission

Scheduling Coordinators shall submit Settlement Quality Meter Data to the Settlement Quality Meter Data System for the Scheduling Coordinator Metered Entities they represent using one of the CAISO's approved Meter Data Exchange Formats. Subject to any exemption granted by the CAISO, Scheduling Coordinators must ensure that Settlement Quality Meter Data submitted to the CAISO is in intervals of five (5) minutes for Loads and Generators providing Ancillary Services and/or Imbalance Energy, and one (1) hour for other Scheduling Coordinator Metered Entities.

Each Scheduling Coordinator shall submit Settlement Quality Meter Data in kWh values for all of the Scheduling Coordinator Metered Entities that it schedules aggregated by:

(a) LAPs and PNodes, as applicable; and

(b) the relevant PNode for Generating Units.

10.3.2.3 Format for Data Requests

Scheduling Coordinators may obtain Settlement Quality Meter Data relating to the Scheduling Coordinator Metered Entities they represent by requesting extracts from the CAISO's Settlement

Quality Meter Data Systems using the Meter Data request formats as published in the Business Practice Manuals. The CAISO will ensure that such data is made available in a timely manner.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
10.3.6, Settlement Quality Meter Data Submission, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6050
Tariff Record Collation Value: 219875728 Tariff Record Parent Identifier: 6044
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

Scheduling Coordinators shall submit to the CAISO Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data, as provided in Section 10.3.6.1(a), for Scheduling Coordinator Metered Entities they represent for each Settlement Period in an Operating Day according to the timelines established in Section 10.3.6.1 and the CAISO Payments Calendar and as provided in the applicable Business Practice Manual. Scheduling Coordinators must also submit Settlement Quality Meter Data (actual and Scheduling Coordinator estimated) on demand as provided in the applicable Business Practice Manual.

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

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

(a) In the absence of Actual Settlement Quality Meter Data, Scheduling Coordinators may submit Scheduling Coordinator Estimated Settlement Quality Meter Data using interval metering when available, sound estimation practices, and other available information including, but not limited to, bids, schedules, forecasts, temperature data, operating logs, recorders, and historical data. Scheduling Coordinator Estimated Settlement Quality Meter Data must be a good faith estimate that reasonably represents Demand and/or Generation quantities for each Settlement Period.

(b) When Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received by the CAISO for a Scheduling Coordinator Metered Entity within five (5) Business Days from the Trading Day (T+5B), the CAISO will estimate the entity's Settlement Quality Meter Data for any outstanding metered Demand and/or Generation, excluding a Proxy Demand Resource and Reliability Demand Response Resource, for use in the Initial Settlement Statement T+7B calculation, as provided in Section 11.1.5.

10.3.6.2 Timing of Settlement Quality Meter Data Submission for Recalculation Settlement Statement T+38B

Scheduling Coordinators must submit Actual Settlement Quality Meter Data for the Scheduling Coordinator Metered Entities they represent to the CAISO no later than midnight on the forty-third (43) calendar day after the Trading Day (T+43C) for the Recalculation Settlement Statement T+38B. A Scheduling Coordinator that timely submits Actual Settlement Quality Meter Data for the Initial Settlement Statement T+7B pursuant to Section 10.3.6.1 may submit revised Actual Settlement Quality Meter Data for the Recalculation Settlement Statement T+38B no later than the forty-third (43) calendar day after the Trading Day pursuant to this Section.

(a) When Actual Settlement Quality Meter Data is not received by the CAISO for a Scheduling Coordinator Metered Entity by forty-three (43) calendar days after the Trading Day (T+43C), the Scheduling Coordinator has failed to submit complete and accurate meter data as required by Section 37.5.2.1 and will be subject to monetary penalty pursuant to Section 37.5.2.2.

(b) Any Scheduling Coordinator Estimated Settlement Quality Meter Data submitted by a Scheduling Coordinator on behalf of the Scheduling Coordinator Metered Entities it represents that is not replaced with Actual Settlement Quality Meter Data by forty-three (43) calendar days after the Trading Day (T+43C) has failed to submit complete and accurate meter data as required by Section 37.5.2.1 and will be subject to monetary penalty pursuant to Section 37.5.2.2. In the absence of Actual Settlement Quality Meter Data, Scheduling Coordinator Estimated Settlement Quality Meter Data will be used in the Recalculation Settlement Statements.

(c) The CAISO will not estimate a Scheduling Coordinator Metered Entity's Settlement Quality Meter Data for any outstanding metered Demand and/or Generation for use in a Recalculation Settlement Statement calculation. Any previous CAISO Estimated Settlement Quality Meter Data that the Scheduling Coordinator does not replace with Actual Settlement Quality Meter Data by forty-three (43) calendar days after the Trading Day (T+43C) will be set to zero. The CAISO will follow the control process described in the BPM for Metering to monitor and identify the CAISO Estimated Settlement Quality Meter Data that was not timely replaced and will take proactive measures to obtain the Actual Settlement Quality Meter Data. A Scheduling Coordinator that fails to replace CAISO Estimated Settlement Quality Meter Data with Actual Settlement Quality Meter Data by forty-three (43) calendar days after the Trading Day (T+43C) has failed to provide complete and accurate Settlement Quality Meter Data as required by Section 37.5.2.1 and will be subject to monetary penalty pursuant to Section 37.5.2.2.

10.3.6.3 Timing of Settlement Quality Meter Data Submission for Recalculation Settlement Statements after the Recalculation Settlement Statement T+38B

Scheduling Coordinators may continue to submit Actual Settlement Quality Meter Data for the Scheduling Coordinator Metered Entities they represent to the CAISO for use in Recalculation Settlement Statements subsequent to the Recalculation Settlement Statement T+38B according to timelines established in the CAISO Payments Calendar.

10.3.6.4 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.1.5, Settlement Quality Meter Data For Initial Statement T+7B, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6073
Tariff Record Collation Value: 239864416 Tariff Record Parent Identifier: 6068
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

The CAISO's Initial Settlement Statement T+7B shall be based on the Settlement Quality Meter Data (actual or Scheduling Coordinator estimated) received in SQMDS. In the event Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received from a Scheduling Coordinator or CAISO Metered Entity, the CAISO will estimate Settlement Quality Meter Data for that outstanding metered Demand or Generation, excluding a Proxy Demand Resource or Reliability Demand Response Resource, for the Initial Settlement Statement T+7B calculation.

(a) CAISO Estimated Settlement Quality Meter Data for metered Generation will be based on total Expected Energy and dispatch of that resource as calculated in the Real-Time Market and as modified by any applicable corrections to the Dispatch Operating Point for the resource.

(b) CAISO Estimated Settlement Quality Meter Data for metered Demand will be based on Scheduled Demand by the appropriate LAP. This value will be increased by fifteen (15) percent if the total actual system Demand in Real-Time, as determined by the CAISO each hour, is greater than the total estimated metered demand by more than fifteen (15) percent. Total estimated metered demand is the sum of the value of Scheduling Coordinator submitted metered Demand, CAISO polled estimated Settlement quality metered Demand, and Scheduled Demand for unsubmitted metered Demand at the fifth (5th) Business Day after the Trading Day (T+5B). CAISO Estimated Settlement Quantity Meter Demand for Participating Load will not be increased by fifteen (15) percent.

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.2.1, IFM Settlements, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6075
Tariff Record Collation Value: 241602576 Tariff Record Parent Identifier: 6074
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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).

11.2.1.2 IFM Charges for Demand at LAPS

For each Settlement Period that the CAISO clears Energy transactions in the IFM, except as specified in Section 30.5.3.2 and except for Participating Loads, which shall be subject to the charges specified in 11.2.1.3, the CAISO shall charge Scheduling Coordinators for the MWh quantity of Demand scheduled at an individual LAP in the Day-Ahead Schedule, in an amount equal to the IFM LMP for the applicable LAP multiplied by the MWh quantity scheduled in the

Day-Ahead Schedule at the relevant LAP. For Scheduling Coordinators whose Demand scheduled at the individual LAP is subject to an upward price correction as specified in Section 11.21, the CAISO will use the Price Correction Derived LMP to settle the MWh quantity of Demand scheduled in the Day-Ahead Schedule at the relevant LAP.

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

For each Settlement Period that the CAISO clears Energy transactions in the IFM for Demand by Participating Loads, the CAISO shall charge the Scheduling Coordinators an amount equal to the MWh quantity of Demand scheduled in the Day-Ahead Schedule for the relevant Participating Load at the PNode (or Custom LAP, in the case of Aggregated Participating Load), multiplied by the IFM LMP at that PNode (or Custom LAP, in the case of Aggregated Participating Load). For Scheduling Coordinators whose Demand scheduled at the individual PNode or Custom LAP is subject to an upward price correction as specified in Section 11.21, the CAISO will use the Price Correction Derived LMP to settle the MWh quantity scheduled in the Day-Ahead Schedule for that Scheduling Coordinator at the relevant PNode or Custom LAP.

11.2.1.4 IFM Charges for Energy Exports at Scheduling Points

For each Settlement Period that the CAISO clears Energy transactions in the IFM, the CAISO shall charge Scheduling Coordinators for the Energy export MWh quantity at individual Scheduling Points scheduled in the Day-Ahead Schedule, an amount equal to the IFM LMP for the applicable Scheduling Point multiplied by the MWh quantity at the individual Scheduling Point scheduled in the Day-Ahead Schedule. For Scheduling Coordinators whose exports scheduled at the individual Scheduling Points is subject to an upward price correction as specified in Section 11.21, the CAISO will use the Price Correction Derived LMP to settle the MWh quantity of Energy exports scheduled in the Day-Ahead Schedule at the relevant Scheduling Point.

11.2.1.5 IFM Congestion Credit for ETCs, TORs, and Converted Rights

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced ETC Self-Schedule, TOR Self-Schedule or Converted Rights Self-Schedule, the CAISO shall not impose any charge or make any payment to the Scheduling Coordinator related to the MCC associated with such Self-Schedules. For each Scheduling Coordinator, the CAISO shall determine the applicable IFM Congestion Credit, which can be positive or negative, as the sum of the products of the quantity scheduled in the Day-Ahead Schedule and the MCC at each eligible Point of Receipt and Point of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's ETC, TOR, and Converted Rights Self-Schedules.

11.2.1.6 Allocation of IFM Marginal Losses Surplus Credit

On each Settlement Statement, the CAISO shall apply the IFM Marginal Losses Surplus Credit to each Scheduling Coordinator for the period of each Settlement Statement. For each Settlement Period, the IFM Marginal Losses Surplus Credit shall be the product of the IFM Marginal Losses Surplus rate ($/MWh) and the MWh of Measured Demand for the relevant Scheduling Coordinator net of that Scheduling Coordinator's (1) Measured Demand associated with a TOR Self-Schedule subject to the IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules as provided in Section 11.2.1.7; and (2) Measured Demand associated with a TOR Self-Schedule subject to the RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules as provided in Section 11.5.7.2.

The IFM Marginal Losses Surplus rate shall be equal to the total IFM Marginal Losses Surplus ($) divided by the sum of the total MWh of Measured Demand in the CAISO Balancing Authority Area for the relevant Settlement Period net of (1) any Measured Demand associated with a TOR Self-Schedule subject to the IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules as provided in Section 11.2.1.7; and (2) any Measured Demand associated with a TOR Self-Schedule subject to the RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules as provided in Section 11.5.7.2.

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

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.5.2, Uninstructed Imbalance Energy, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6086
Tariff Record Collation Value: 251162384   Tariff Record Parent Identifier: 6084
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

11.5.2.1 Resource Specific Tier 1 UIE Settlement Interval Price

The Resource-Specific Tier 1 UIE Settlement Interval Price is calculated as the resource's total IIE Settlement Amount calculated pursuant to Section 11.5.1.1 for that Settlement Interval divided by its total IIE quantity (MWh) calculated pursuant to Section 11.5.1.2.

11.5.2.2 Hourly Real-Time LAP Price

The Hourly Real-Time LAP Price will apply to Demand and MSS Demand under net Settlement of Imbalance Energy, except for Demand not settled at the Default LAP as provided in Section 30.5.3.2. The Hourly Real-Time LAP Price is calculated as the weighted average of the hourly average of the Dispatch Interval LMPs for the LAP, using as weights the Real-Time LAP nodal Loads in the relevant Trading Hour.

11.5.2.3 Revenue Neutrality Resulting from Changes in LAP Load Distribution Factors

Any resulting revenue from changes in the LAP Load Distribution Factors between the Day-Ahead Market and the Real-Time Market shall be allocated to metered CAISO Demand in the corresponding Default LAP.

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 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.5.4, Imbalance Energy Pricing; Non-Zero Offset Amount Allocation, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6088
Tariff Record Collation Value: 252900528   Tariff Record Parent Identifier: 6084
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

11.5.4.2 Allocations of Non-Zero Amounts of the Sum of IIE, UIE, UFE, the Real-Time Ancillary Services Congestion Revenues and Real-Time Virtual Awards Settlements

The CAISO will first compute (1) the Real-Time Congestion Offset and allocate it to all Scheduling Coordinators, based on Measured Demand, excluding Demand associated with ETC or TOR Self-Schedules for which a HASP and RTM Congestion Credit was provided as specified in Section 11.5.7, and excluding Demand associated with ETC, Converted Right, or TOR Self-Schedules for which an IFM Congestion Credit was provided as specified in Section 11.2.1.5; and (2) the Real-Time Marginal Cost of Losses Offset and allocate it to all Scheduling Coordinators based on Measured Demand, excluding Demand associated with TOR Self-Schedules for which a RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules was provided as specified in Section

11.5.7.2 , and excluding Demand associated with TOR Self-Schedules for which an IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules was provided as specified in Section 11.2.1.7. For Scheduling Coordinators for MSS operators that have elected to Load follow or net settlement, or both, the Real-Time Marginal Cost of Losses Offset will be allocated based on their MSS Aggregation Net Measured Demand excluding Demand associated with TOR Self-Schedules for which a RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules was provided as specified in Section 11.5.7.2, and excluding Demand associated with TOR Self-Schedules for which an IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules was provided as specified in Section 11.2.1.7. For Scheduling Coordinators for MSS Operators regardless of whether the MSS Operator has elected gross or net Settlement, the CAISO will allocate the Real-Time Congestion Offset based on the MSS Aggregation Net Non-ETC/TOR Measured Demand. To the extent that the sum of the Settlement amounts for IIE, UIE, UFE, the Real-Time Ancillary Services Congestion revenues and Virtual Awards settlements in the HASP and Real-Time Market in accordance with Section 11.3, less Real-Time Congestion Offset, and less the Real-Time Marginal Cost of Losses Offset, does not equal zero, the CAISO will assess charges or make payments for the resulting differences to all Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that are not Load following MSSs and have elected gross Settlement, based on a pro rata share of their Measured Demand for the relevant Settlement Interval. For Scheduling Coordinators for MSS Operators that have elected net Settlement, the CAISO will assess charges or make payments for the resulting non-zero differences of the sum of the Settlement amounts for IIE, UIE, and UFE, the Real-Time Ancillary Services Congestion Revenues and Virtual Awards settlements in the HASP and Real-Time Market in accordance with Section 11.3, less Real-Time Congestion Offset and less the Real-Time Marginal Cost of Losses Offset, based on their MSS Aggregation Net Measured Demand. For Scheduling Coordinators for MSS Operators that have elected Load following, the CAISO will not assess any charges or make payments for the resulting non-zero differences of the sum of the Settlement amounts for IIE, UIE, and UFE, the Real-Time Ancillary Services Congestion Revenues and Virtual Awards settlements in the HASP and Real-Time Market in accordance with Section 11.3, less Real-Time Congestion Offset and less the Real-Time Marginal Cost of Losses Offset.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.6, Settlement of Transactions Involving PDRs or RDRRs, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6093
Tariff Record Collation Value: 257245904 Tariff Record Parent Identifier: 6067
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type:
Associated Filing Identifier:

This is a PDF section and we cannot render PDF in a RTF document.
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.6.1, Settlement of Energy Transactions Involving PDRs or RDRRs, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8963
Tariff Record Collation Value: 257680440 Tariff Record Parent Identifier: 6093
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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 the

(i) 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
11.8, Bid Cost Recovery, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6099
Tariff Record Collation Value: 262460352 Tariff Record Parent Identifier: 6067
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
30.6, Bidding and Scheduling of PDRs and RDRRs, 2.0.0, A
Record Narative Name:

Tariff Record ID: 6491
Tariff Record Collation Value: 603137344 Tariff Record Parent Identifier: 6479
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type:
Associated Filing Identifier:

This is a PDF section and we cannot render PDF in a RTF document.
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
30.6.1, Bidding and Scheduling of PDRs, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8964
Tariff Record Collation Value: 603571872 Tariff Record Parent Identifier: 6491
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
30.6.2, Bidding and Scheduling of RDRRs, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8965
Tariff Record Collation Value: 603789136 Tariff Record Parent Identifier: 6491
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

30.6.2 Bidding and Scheduling of RDRRs

Unless otherwise specified in the CAISO Tariff and applicable Business Practice Manuals, 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
30.7.8, Format And Validation Of Start-Up And Shut-Down Times, 5.0.0, A
Record Narative Name:
Tariff Record ID: 6500
Tariff Record Collation Value: 610959040 Tariff Record Parent Identifier: 6492
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
30.7.9, Format And Validation Of Start-Up Costs And Shut-Down Costs, 5.0.0, A
Record Narative Name:
Tariff Record ID: 6501
Tariff Record Collation Value: 611828096 Tariff Record Parent Identifier: 6492
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

For a Generating Unit or a Resource-Specific System Resource, the submitted Start-Up Cost expressed in dollars ($) as a function of down time expressed in minutes must be a staircase function with up to three (3) segments defined by a set of 1 to 4 down time and Start-Up Cost pairs. The Start-Up Cost is the cost incurred to start the resource if it is offline longer than the corresponding down time. The last segment will represent the cost to start the resource from cold Start-Up and will extend to infinity. The submitted Start-Up Cost function shall be validated as follows:

(a) The first down time must be zero (0) min.

(b) The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the Start-Up Cost function, as registered in the Master File for the relevant resource as either the Proxy Cost or Registered Cost.

(c) The Start-Up Cost for each segment must not be negative and must be equal to the Start-Up Cost of the corresponding segment of the Start-Up Cost function, as registered in the Master File for the relevant resource. If a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Master File value as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4. If no value for Start-Up Cost is submitted in a Bid, the CAISO will insert the Master File value, as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4.

(d) The Start-Up Cost function must be strictly monotonically increasing, i.e., the Start-Up Cost must increase as down time increases.

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
31., Day-Ahead Market, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6504
Tariff Record Collation Value: 614435328   Tariff Record Parent Identifier: 0
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
31.2, MPM-RRD, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6506
Tariff Record Collation Value: 616173440   Tariff Record Parent Identifier: 6504
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM-RRD procedures in a series of processing runs that occur prior to the IFM Market Clearing run. The MPM process determines which Bids need to be mitigated in the IFM. The RRD process is the automated process for determining RMR Generation requirements for RMR Units. The MPM-RRD process optimizes resources using the same optimization used in the IFM, but instead of using Demand Bids as in the IFM the MPM-RRD process optimizes resources to meet one hundred (100) percent of the CAISO Demand Forecast and Export Bids to the extent the Export Bids are selected in the MPM-RRD process, and meet one hundred (100) percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. Virtual Bids are excluded from the MPM-RRD process. Bids on behalf of Proxy Demand Resources or Reliability Demand Response Resources are not mitigated and are not considered in the MPM-RRD process. The mitigated or unmitigated Bid identified in the MPM-RRD process for all resources that cleared in the MPM-RRD are then passed to the IFM. The CAISO performs the MPM-RRD for the DAM for the twenty-four (24) hours of the targeted Trading Day.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
31.3.1, Market Clearing And Price Determination, 5.0.0, A
Record Narative Name:
Tariff Record ID: 6510
Tariff Record Collation Value: 619649792 Tariff Record Parent Identifier: 6509
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

31.3.1.1 Integrated Forward Market Output

The IFM produces: (1) a set of hourly Day-Ahead Schedules, AS Awards, and AS Schedules for all participating Scheduling Coordinators that cover each Trading Hour of the next Trading Day; and (2) the hourly LMPs for Energy and the ASMPs for Ancillary Services to be used for settlement of the IFM. For a Multi-Stage Generating Resource, the IFM produces a Day-Ahead Schedule for no more than one MSG Configuration per Trading Hour. In addition, the IFM will produce the MSG Transition and the MSG Configuration indicators for the Multi-Stage Generating Resource, which would establish the expected MSG Configuration in which the Multi-Stage Generating Resource will operate. During a transition, the committed MSG Configuration is considered to be the “from” MSG Configuration. The CAISO will publish the LMPs at each PNode as calculated in the IFM. In determining Day-Ahead Schedules, AS Awards, and AS Schedules the IFM optimization will minimize total Bid Costs based on submitted and mitigated Bids while respecting the operating characteristics of resources, the operating limits of transmission facilities, and a set of scheduling priorities that are described in Section 31.4. In performing its optimization, the IFM first tries to complete its required functions utilizing Effective Economic Bids without adjusting Self-Schedules, and skips Ineffective Economic Bids and adjusts Self-Schedules only if it is not possible to balance Supply and Demand and manage Congestion in an operationally prudent manner with available Effective Economic Bids. The process and criteria by which the IFM adjusts Self-Schedules and other Non-priced Quantities are described in Sections 27.4.3, 31.3.1.3 and 31.4. The Day-Ahead Schedules are binding commitments, including the commitment to Start-Up, if necessary, to comply with the Day-Ahead Schedules. The CAISO will not issue separate Start-Up Instructions for Day-Ahead commitments. A resource's status, however, can be modified as a result of additional market processes occurring in the HASP and RTM.

31.3.1.2 Treatment of Ancillary Services Bids in IFM

As provided in Section 30.7.6.2 the CAISO shall co-optimize the Energy and Ancillary Services Bids in clearing the IFM. To the extent that capacity subject to an Ancillary Services Bid submitted in the Day-Ahead Market is not associated with an Energy Bid, there is no co-optimization, and therefore, no opportunity cost associated with that resource for that Bid for the purposes of calculating the Ancillary Services Marginal Price as specified in Section 27.1.2.2. When the capacity associated with the Energy Bid overlaps with the quantity submitted in the Ancillary Services Bid, then the Energy Bid will be used to determine the opportunity cost, if any, in the co-optimization to the extent of the overlap. Therefore, the capacity that will be considered when co-optimizing the procurement of Energy and Ancillary Services from Bids in the IFM will consider capacity up to the total capacity of the resource as reflected in the Ancillary Services Bid as derated through SLIC, if at all. In the case of Regulation, the capacity that will be considered is the lower of the capacity of the resource offered in the Ancillary Services Bid or the upper Regulation limit of the highest Regulating Range as contained in the Master File. For any Trading Hour within the period in which the Multi-Stage Generating Resource is transitioning from one MSG Configuration to another, the IFM will not award Ancillary Services and any Submission to Self-Provide Ancillary Services will be disqualified. Any Ancillary Services Awards in the IFM to Multi-Stage Generating Resources will carry through to the Real-Time Market in the same MSG Configuration that the Multi-Stage Generating Resource is awarded in the IFM.

31.3.1.3 Reduction of Self-Scheduled LAP Demand

In the IFM, to the extent the market software cannot resolve a non-competitive Transmission Constraint utilizing Effective Economic Bids such that self-scheduled Load at the LAP level would otherwise be reduced to relieve the Transmission Constraint, the CAISO Market software will adjust Non-priced Quantities in accordance with the process and criteria described in Section 27.4.3. For this purpose the priority sequence, starting with the first type of Non-priced Quantity to be adjusted, will be: (a) Schedule the Energy from Self-Provided Ancillary Service Bids from capacity that is obligated to offer an Energy Bid under a must-offer obligation such as from an RMR Unit or a Resource Adequacy Resource. Consistent with Section 8.6.2, the CAISO Market software could also utilize the Energy from Self-Provided Ancillary Service Bids from capacity that is not under a must-offer obligation such as from an RMR Unit or a Resource Adequacy Resource, to the extent the Scheduling Coordinator has submitted an Energy Bid for such capacity. The associated Energy Bid prices will be those resulting from the MPM-RRD process.(b) Relax the constraint consistent with Section 27.4.3.1, and establish prices consistent with Section 27.4.3.2. No constraints, including Transmission Constraints, on Interties with adjacent Balancing Authority Areas will be relaxed in this procedure.

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
33.4, MPM-RRD For The HASP And The RTM, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6533
Tariff Record Collation Value: 639638464 Tariff Record Parent Identifier: 6529
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

After the Market Close of the HASP and RTM, after the CAISO has validated the Bids pursuant to section 30.7, and prior to running the HASP optimization, the CAISO conducts the MPM-RRD process, the results of which will be utilized in the HASP optimization and all RTM processes for the Trading Hour. Bids on behalf of the Proxy Demand Resources and Reliability Demand Response Resources are not mitigated and are not considered in the MPM-RRD process. The MPM-RRD process for the HASP and RTM produces results for each fifteen (15) minute interval of the Trading Hour and thus may produce up to four (4) mitigated Bids for any given resource for the Trading Hour. A single mitigated Bid for the entire Trading Hour is calculated using the minimum Bid price of the four (4) mitigated Bid curves at each Bid quantity level. The Bids are mitigated only for the Bid quantities that are above the minimum quantity cleared in the CCR across all four (4) fifteen-minute intervals. For a Condition 1 RMR Unit, if the dispatch level produced through the ACR is greater than the dispatch level produced through the CCR, and for a Condition 2 RMR Unit that is dispatched through the ACR, the resource will be flagged as an RMR Dispatch in the RTM and shall constitute a Dispatch notice pursuant to the RMR Contract.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.5, General Dispatch Principles, 6.0.0, A
Record Narative Name:
Tariff Record ID: 6550
Tariff Record Collation Value: 654412736 Tariff Record Parent Identifier: 6540
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.6, Dispatch of Units, Participating Loads, PDRs, and RDRRs, 5.0.0, A
Record Narative Name:
Tariff Record ID: 6551
Tariff Record Collation Value: 655281792 Tariff Record Parent Identifier: 6540
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.9.1, System Reliability Exceptional Dispatches, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6555
Tariff Record Collation Value: 658758080 Tariff Record Parent Identifier: 6554
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.9.3, Transmission-Related Modeling Limitations, 1.0.0, A
Record Narative Name:
Tariff Record ID: 6557
Tariff Record Collation Value: 660496256 Tariff Record Parent Identifier: 6554
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.18, Real-Time Dispatch of RDRRs, 1.0.0, A
Record Narative Name:
Tariff Record ID: 6586
Tariff Record Collation Value: 685699392 Tariff Record Parent Identifier: 6540
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.18.1, Testing of RDRRs, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8966
Tariff Record Collation Value: 686133920 Tariff Record Parent Identifier: 6586
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.19.1, General Principles, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6588
Tariff Record Collation Value: 687437504 Tariff Record Parent Identifier: 6587
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
34.19.2, Determining Real-Time LMPs, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6589
Tariff Record Collation Value: 688306624 Tariff Record Parent Identifier: 6587
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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 Loads, 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
36.8.4, Eligible Sources For CRR Allocation, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6628
Tariff Record Collation Value: 722200512 Tariff Record Parent Identifier: 6624
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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 (100) percent 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 (75) percent 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 (100) percent 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 (75) percent 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 (100) percent of the Adjusted Verified CRR Source Quantity corresponding to each verified CRR Source.

36.8.4.1 CRRs with Trading Hub Sources

For purposes of the CRR Allocation processes the CAISO shall disaggregate CRR nominations with Trading Hub CRR Sources into Point-to-Point CRR nominations each of whose CRR Source is a Generating Unit PNode that is an element of the Trading Hub. In performing this disaggregation the MW quantity of each Point-to-Point CRR nomination will equal the MW quantity of the CRR nomination multiplied by the weighting factor of the corresponding Generating Unit PNode in the defined Trading Hub. The disaggregated, individual Point-to-Point CRRs will be used by the CAISO in conducting the SFTs for the nominated CRRs. In CRR years other than CRR Year One, an LSE may nominate in the PNP any Point-to-Point CRRs it was allocated the previous year as a result of Seasonal CRR nominations with Trading Hubs as CRR Sources, and may then nominate those Seasonal CRRs awarded in the PNP as Long Term CRRs in Tier LT. In CRR Year One, an LSE that was allocated individual Point-to-Point CRRs in tiers 1 and 2 as a result of nominating CRRs sourced at a Trading Hub must nominate CRRs sourced at Trading Hubs in Tier LT in accordance with Section 36.8.3.1.3.1. For Qualified OBAALSEs, all nominated CRR Sources must be source verified as specified in Section 36.9.1. Any Long Term CRRs allocated by the CAISO as a result of nominations of CRRs sourced at Trading Hubs will be Point-to-Point CRRs each of whose CRR Sources is a Generating Unit

PNode that is an element of the Trading Hub.

36.8.4.2 Import CRRs

An LSE or a Qualified OBAALSE may nominate Seasonal, Monthly or Long Term CRRs whose CRR Source is a Scheduling Point in the annual and monthly CRR Allocation in accordance with this Section.

36.8.4.2.1 Scheduling Points as CRR Sources for LSEs in CRR Year One

In CRR Year One, in tiers 1 and 2 of the annual CRR Allocation process an LSE may nominate Seasonal CRRs whose CRR Source is a Scheduling Point to the extent that it can demonstrate to the CAISO that, for the verification period stated in Section 36.8.3.4, it owned or was a party to a contract with a System Resource, and that it or the counter-party to the contract had procured appropriate transmission from the applicable transmission provider outside the CAISO to the Scheduling Point. In addition, also in tiers 1 and 2 of the annual CRR Allocation in CRR Year One, all LSEs eligible to nominate CRRs under this Section 36.8 may nominate as CRR Sources, without any verification, shares of the residual import CRR capacity at each Scheduling Point that remains after the completion of the CRR Source verification process. Each LSE's share of the residual import CRR capacity will be calculated as follows. Starting with the total capacity at each Scheduling Point that is available in the DC FNM for the annual CRR Allocation and CRR Auction processes, the CAISO will calculate the residual amount of capacity that remains at each Scheduling Point after subtracting the capacity accounted for by those Scheduling Point CRR Sources submitted by LSEs for verification that have been verified. The CAISO will then set aside fifty percent (50%) of this residual amount at each Scheduling Point for the annual CRR Auction, and will allow LSEs to nominate pro rata shares of the other fifty percent (50%) in proportion to their Seasonal CRR Eligible Quantities. In each monthly CRR Allocation during CRR Year One, CRR Source verification will be required in tier 1 as in the annual CRR Allocation process. Following the verification process, the CAISO will calculate and set aside for the monthly CRR Auction fifty percent (50%) of the import capacity that remains at each Scheduling Point after accounting for the verified Scheduling Point CRR Source submissions to the monthly process and the annual CRR Allocation and CRR Auction results for that month, and will allow

LSEs to nominate in tier 1 Monthly CRRs with CRR Sources at each Scheduling Point in quantities up to their pro rata shares of the other fifty percent (50%) in proportion to their Monthly CRR Eligible Quantities.

36.8.4.2.2 Scheduling Points as CRR Sources for LSEs Beyond CRR Year One

In the annual CRR Allocation processes subsequent to CRR Year One, there will be no special provisions regarding CRR Sources at Scheduling Points in tiers 1 and 2 for LSEs. For tier 3 the CAISO will calculate and set aside for the annual CRR Auction fifty percent (50%) of the import capacity at each Scheduling Point that remains after the tier 1 and tier 2 CRR Allocations and after considering any previously allocated Long Term CRRs that are valid for that month as described in Section 36.4.1. In the monthly CRR Allocation processes subsequent to CRR Year One there will be no special provisions regarding CRR Sources at Scheduling Points in tier 1 for LSEs. For tier 2 the CAISO will calculate and set aside for the monthly CRR Auction fifty percent (50%) of the import capacity that remains at each Scheduling Point after accounting for the annual CRR Allocation and CRR Auction results for that month, any previously allocated Long Term CRRs that are valid for that month, and the results of tier 1 of the monthly CRR Allocation.

36.8.4.2.3 Scheduling Points as CRR Sources for Qualified OBAALSEs

In the annual CRR Allocation process a Qualified OBAALSE may nominate CRRs whose CRR Source is a Scheduling Point to the extent it meets the requirements of Section 36.9.1.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
40.4.4, Reductions For Testing, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6754
Tariff Record Collation Value: 831703808 Tariff Record Parent Identifier: 6750
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
40.6.4, Use-Limited Resources Additional Availability Requirements, 3.0.0, A
Record Narative Name:
Tariff Record ID: 6768
Tariff Record Collation Value: 843870848 Tariff Record Parent Identifier: 6764
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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 (4) 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
40.6.12, Participating Loads, PDRs, and RDRRs, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6776
Tariff Record Collation Value: 850823424 Tariff Record Parent Identifier: 6764
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
40.8.1, Applicability, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6781
Tariff Record Collation Value: 855168832   Tariff Record Parent Identifier: 6780
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

The criteria in this Section 40.8 shall apply only: (i) where the CPUC or Local Regulatory Authority has not established and provided to the CAISO criteria to determine the types of resources that may be eligible to provide Qualifying Capacity and for calculating Qualifying Capacity for such eligible resource types and (ii) until the CAISO has been notified in writing by the CPUC of its intent to overturn, reject or fundamentally modify the capacity-based framework in CPUC Decisions 04-01-050 (Jan. 10, 2004), 04-10-035 (Oct. 28, 2004), and 05-10-042 (Oct. 31, 2005). The types of resources specified in this Section 40.8.1 will be eligible to provide Qualifying Capacity to the extent they meet the criteria for each type of resource set forth in this Section 40.8.1.

40.8.1.2 Nuclear and Thermal

Nuclear and thermal Generating Units, other than Qualifying Facilities with effective contracts under the Public Utility Regulatory Policies Act addressed in Section 40.8.1.8 below, must be a Participating Generator or a System Unit. The Qualifying Capacity of nuclear and thermal units, other than Qualifying Facilities addressed in Section 40.8.1.8, will be based on net dependable capacity defined by NERC Generating Availability Data System information.

40.8.1.3 Hydro

Hydroelectric Generating Units, other than Qualifying Facilities with contracts under the Public Utility Regulatory Policies Act, must be either Participating Generators or System Units. The Qualifying Capacity of a pond or Pumped-Storage Hydro Unit, other than a QF, will be determined based on net dependable capacity defined by NERC GADS minus variable head derate based on an average dry year reservoir level. The Qualifying Capacity of a pond or Pumped-Storage Hydro Unit that is a QF will be determined based on historic performance during the hours of noon to 6:00 p.m., using a three-year rolling average.

The Qualifying Capacity of all run-of-river hydro units, including Qualifying Facilities, will be based on net dependable capacity defined by NERC GADS minus an average dry year conveyance flow, stream flow, or canal head derate. As used in this section, average dry year reflects a one-in-five year dry hydro scenario (for example, using the 4th driest year from the last 20 years on record).

40.8.1.4 Unit-Specific Contracts

Unit-specific contracts with Participating Generators or System Units will qualify as Resource Adequacy Capacity subject to the verification that the total MW quantity of all contracts from a specific unit do not exceed the total Net Qualifying Capacity (MW) consistent with the Net Qualifying Capacity determination for that unit.

40.8.1.5 Contracts with Liquidated Damage Provisions

Firm Energy contracts with liquidated damages provisions, as generally reflected in Service Schedule C of the Western Systems Power Pool Agreement or the Firm LD product of the Edison Electric Institute pro forma agreement, or any other similar firm Energy contract that does not require the seller to source the Energy from a particular unit, and specifies a delivery point internal to the CAISO Balancing Authority Area entered into before October 27, 2005 shall be eligible to count as Qualifying Capacity until the end of 2008. A Scheduling Coordinator, however, cannot have more than twenty-five percent (25%) of its portfolio of Qualifying Capacity met by contracts with liquidated damage provisions for 2008.

40.8.1.6 Wind and Solar

As used in this Section, wind units are those wind Generating Units without backup sources of Generation and solar units are those solar Generating Units without backup sources of Generation. Wind and solar units, other than Qualifying Facilities with effective contracts under the Public Utility Regulatory Policies Act, must be Participating Intermittent Resources or subject to availability provisions of Section 40.6.4.3.4.

The Qualifying Capacity of all wind or solar units, including Qualifying Facilities, for each month will be based on their monthly historic performance during that same month during the hours of noon to 6:00 p.m., using a three-year rolling average. For wind or solar units with less than three years operating history, all months for which there is no historic performance data will utilize the monthly average production factor of all units (wind or solar, as applicable) within the TAC Area in which the Generating Unit is located.

40.8.1.7 Geothermal

Geothermal Generating Units, other than Qualifying Facilities addressed in Section 40.8.1.8, must be Participating Generators or System Units. The Qualifying Capacity of geothermal units, other than Qualifying Facilities addressed in Section 40.8.1.8, will be based on NERC GADS net dependable capacity minus a derate for steam field degradation.

40.8.1.8 Treatment of Qualifying Capacity for Qualifying Facilities

Qualifying Facilities must be subject to an effective Participating Generator Agreement or QF Participating Generator Agreement or must be System Units, unless they have a PURPA contract. Except for hydro, wind, and solar Qualifying Facilities addressed pursuant to Sections 40.8.1.3 and 40.8.1.6, the Qualifying Capacity of Qualifying Facilities under PURPA contracts, will be based on historic monthly Generation output during the hours of noon to 6:00 p.m. (net of Self-provided Load) during a three-year rolling average.

40.8.1.9 Participating Loads

The Qualifying Capacity of Participating Loads shall be the average reduction in Demand over a three-year period on a per Dispatch basis or, if the Load does not have three years of performance history, based on comparable evaluation data using similar programs. Loads of Participating Loads must be available at least 48 hours, and if the Loads can only be dispatched for a maximum of two hours per event, then only 0.89 percent of a Scheduling Coordinator’s portfolio may be made up of such Loads.

40.8.1.10 Jointly-Owned Facilities

A jointly-owned facility must be either a Participating Generator or a System Unit. The Qualifying Capacity for the entire facility will be determined based on the type of resource as described elsewhere in this Section 40.8.1. In addition, the Scheduling Coordinator must provide the CAISO with a demonstration of its entitlement to the output of the jointly-owned facility's Qualified Capacity and an explanation of how that entitlement may change if the facility's output is restricted.

40.8.1.11 Facilities under Construction

The Qualifying Capacity for facilities under construction will be determined based on the type of resource as described elsewhere in this Section 40.8. In addition, the facility must have been in commercial operation for no less than one month to be eligible to be included as a Resource Adequacy Resource in a Scheduling Coordinator's monthly Resource Adequacy Plan.

40.8.1.12 System Resources

40.8.1.12.1 Dynamic System Resources

Dynamic System Resources shall be treated similar to resources within the CAISO Balancing Authority Area, except with respect to the deliverability screen under Section 40.4.6.1. However, eligibility as a Resource Adequacy Resource is contingent upon a showing by the Scheduling Coordinator that the Dynamic System Resource has secured transmission through any intervening Balancing Authority Areas for the Operating Hours that cannot be curtailed for economic reasons or bumped by higher priority transmission and that the Load Serving Entity for which the Scheduling Coordinator is submitting Demand Bids has an allocation of import capacity at the import Scheduling Point under Section 40.4.6.2 that is not less than the Resource Adequacy Capacity provided by the Dynamic System Resource.

40.8.1.12.2 Non-Dynamic System Resources

For Non-Dynamic System Resources, the Scheduling Coordinator must demonstrate that the Load Serving Entity for which the Scheduling Coordinator is scheduling Demand has an allocation of import capacity at the import Scheduling Point under Section 40.4.6.2 that is not less than the Resource Adequacy Capacity from the Non-Dynamic System Resource. The

Scheduling Coordinator must also demonstrate that the Non-Dynamic System Resource is covered by Operating Reserves, unless unit contingent, in the sending Balancing Authority Area. Eligibility as Resource Adequacy Capacity is contingent upon a showing by the Scheduling Coordinator of the System Resource that it has secured transmission through any intervening Balancing Authority Areas for the Operating Hours that cannot be curtailed for economic reasons or bumped by higher priority transmission. With respect to Non-Dynamic System Resources, any inter-temporal constraints, such as multi-hour run blocks, must be explicitly identified in the monthly Resource Adequacy Plan, and no constraints may be imposed beyond those explicitly stated in the plan.

40.8.1.13 Proxy Demand Resources

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

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Bid Cost Recovery (BCR) Eligible Resources, 2.0.0, A
Record Narative Name:
Tariff Record ID: 6920
Tariff Record Collation Value: 975970112 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Customer Baseline, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8591
Tariff Record Collation Value: 1086777024 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Demand Response Energy Measurement, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8597
Tariff Record Collation Value: 1110785232 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Demand Response Event, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8967
Tariff Record Collation Value: 1110893856 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Demand Response Provider, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8592
Tariff Record Collation Value: 1111111104 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Demand Response Provider Agreement, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8968
Tariff Record Collation Value: 1111219728 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Demand Response Services, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8593
Tariff Record Collation Value: 1111328352 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Demand Response System, 1.0.0, A
Record Narative Name:
Tariff Record ID: 8594
Tariff Record Collation Value: 1111436976 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

-, Discrete Real-Time Dispatch Option, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8969
Tariff Record Collation Value: 1113718336   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, DRPA, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8970
Tariff Record Collation Value: 1120670912   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

Demand Response Provider Agreement

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Electric Facility, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7100
Tariff Record Collation Value: 1132403456   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Expected Energy, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7149
Tariff Record Collation Value: 1174988032   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Local Capacity Area Resources, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7330
Tariff Record Collation Value: 1332290432 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

Resource Adequacy Capacity from a Generating Unit listed in the technical study, Participating Load, 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Marginal Real-Time Dispatch Option, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8971
Tariff Record Collation Value: 1356189952 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Meter Data, 1.0.0, A
Record Narative Name:
Tariff Record ID: 7388
Tariff Record Collation Value: 1382696704 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

Either (1) Energy usage 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Metered Subsystem (MSS), 2.0.0, A
Record Narative Name:
Tariff Record ID: 7393
Tariff Record Collation Value: 1387042048 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1

Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Minimum Load Bid, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7401
Tariff Record Collation Value: 1393994752 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Minimum Load Costs, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7402
Tariff Record Collation Value: 1394863744 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

The costs a Generating Unit, Participating Load, 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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, [Not Used], 1.0.0, A
Record Narative Name:
Tariff Record ID: 8596
Tariff Record Collation Value: 1504149824 Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type:
Associated Filing Identifier:

This is a PDF section and we cannot render PDF in a RTF document.
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Proxy Demand Resource (PDR), 1.0.0, A
Record Narative Name:
Tariff Record ID: 8598

Tariff Record Collation Value: 1543040896   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, [Not Used], 1.0.0, A
Record Narative Name:
Tariff Record ID: 8599
Tariff Record Collation Value: 1543258176   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type:
Associated Filing Identifier:

This is a PDF section and we cannot render PDF in a RTF document.
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Ramp Rate, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7595
Tariff Record Collation Value: 1562595072   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, RDRR, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8972
Tariff Record Collation Value: 1565636800   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

Reliability Demand Response Resource

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, RDRR Availability Limit, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8973
Tariff Record Collation Value: 1565854048   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Reliability Demand Response Resource (RDRR), 0.0.0, A
Record Narative Name:
Tariff Record ID: 8974
Tariff Record Collation Value: 1598661632   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Reliability Demand Response Services Term, 0.0.0, A
Record Narative Name:
Tariff Record ID: 8975
Tariff Record Collation Value: 1598878912   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: NEW
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Resource ID, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7657
Tariff Record Collation Value: 1616477696   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Resource Location, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7658
Tariff Record Collation Value: 1617346688   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

The Resource ID for a Generating Unit, Participating Load, Proxy Demand Resource, Reliability

Demand Response Resource, or System Resource.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Scheduling Coordinator Metered Entity, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7744
Tariff Record Collation Value: 1692087040   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
-, Supply, 2.0.0, A
Record Narative Name:
Tariff Record ID: 7820
Tariff Record Collation Value: 1758136704   Tariff Record Parent Identifier: 6859
Proposed Date: 2012-04-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:
Appendix B.14, Demand Response Provider Agreement, 2.0.0, A
Record Narative Name:
Tariff Record ID: 8600
Tariff Record Collation Value: 1871550848   Tariff Record Parent Identifier: 7937
Proposed Date: 2011-10-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

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,** a California nonprofit public benefit corporation having a principal executive office located at 250 Outcropping Way, Folsom, California 95630 or such place in the State of California as the CAISO Governing Board may from time to time designate (the "CAISO").

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 Servicing 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 ofto 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: ______________________________