

## Tariff Clarifications Redline

12-28-12

[NRG Energy, Inc. \(“NRG”\) edits, submitted by Brian Theaker](#)

[NRG provided comments on these sections:](#)

- [11.25.2 / 11.25.3 / 11.25.3.2 \(see remarks at end\)](#)
- [20.3](#)
- [34.9](#)
- [40.4.6.2.1, Step 10](#)
- [42.1.4](#)
- [Definition of UDP Aggregation](#)
- [Appendix L, 4.3.1](#)
- [SGIA 5.3](#)

[NRG also supports Nextera’s request that the CAISO define the term “energy only – interim deliverability” as part of this clarification effort.](#)

**4.5.3.2.2** Submitting Interchange Schedules prepared in accordance with all NERC, WECC and CAISO requirements, including providing E-Tags for all applicable transactions pursuant to WECC practices. ~~For purposes of E-Tags, t~~The CAISO is not, and shall not be listed as, the “Purchasing Selling Entity” ~~for purposes of E-Tags.;~~ ~~t~~itle to Energy shall pass directly from the entity that holds title when the Energy enters the CAISO Controlled Grid to the entity that removes the Energy from the CAISO Controlled Grid, in each case in accordance with the terms of this CAISO Tariff.

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#### **7.7.3.2 System Warning**

The CAISO will give an AWE Notice of a system warning when the operating requirements for the CAISO Controlled Grid are not being met in the HASP or Real-Time Market, or the quantity of Regulation, Spinning Reserve, Non-Spinning Reserve, and Energy available to the CAISO is not acceptable for the Applicable Reliability Criteria. This system warning notice will notify Market Participants that the CAISO will, acting in accordance with Good Utility Practice, take such steps as it considers necessary to ensure compliance with Applicable Reliability Criteria, including the negotiation of [commitments for](#) Generation through processes other than competitive Bids.

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#### ~~**7.7.14.2.8 Use of IOUs' Energy Control Center Computers**~~

~~The CAISO and the IOUs will comply with the procedures for the utilization by the CAISO of the IOUs' Energy control center computers when developed. The CAISO will post such procedures on the CAISO's secure communication system when agreed.~~

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### **8.2.1 Determination Of Ancillary Service Standards**

The CAISO shall set the required standard for each Ancillary Service necessary to maintain the reliable operation of the CAISO Controlled Grid. Ancillary Services standards shall meet NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC. In setting Ancillary Service standards, the CAISO shall consider reasonableness, cost-effectiveness, and adherence to NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC. The standards developed by the CAISO shall be used as a basis for determining the quantity and type of each Ancillary Service which the CAISO requires to be available. These requirements and standards apply to all Ancillary Services whether self-provided or procured by the CAISO.

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#### **8.2.3.1 Regulation Service**

The CAISO shall maintain sufficient resources immediately responsive to the CAISO's EMS control in order to provide sufficient Regulation service to allow the CAISO Balancing Authority Area to meet NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC by continuously balancing resources to meet deviations between actual and scheduled Demand and to maintain Interchange Schedules. The quantity of Regulation Down and Regulation Up capacity needed for each Settlement Period of the Day-Ahead Market and in each fifteen (15) minute period in Real-Time shall be determined by the CAISO as a percentage of the applicable CAISO Forecast of CAISO Demand for the Day-Ahead and Real-Time Markets. In HASP, the amount of advisory Regulation from Dynamic System Resources required for each Settlement Period in the next Trading Hour is also determined based on the CAISO Forecast of CAISO Demand. The advisory awards of Regulation from Dynamic System Resources in HASP are not binding and are re-optimized through the RTUC and RTD processes in the Real-Time Market. The CAISO's determination is based upon its need to meet the NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC.

The CAISO will publish on OASIS the estimated quantity, or the percentage used to determine the estimated quantity, of Regulation Reserves required for each hour of the Day-Ahead Market and in each fifteen (15) minute period in Real-Time for the Trading Day.

#### **8.2.3.2 Spinning and Non-Spinning Reserves**

The CAISO shall maintain minimum contingency Operating Reserve made up of Spinning Reserve and Non-Spinning Reserve in accordance with NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC. The CAISO from time to time may determine to use more stringent criteria.

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#### **8.3.4 Certification And Testing Requirements**

The owner of and Scheduling Coordinator for each resource for which a Bid to provide Ancillary Services or Submission to Self-Provide Ancillary Services is allowed under the CAISO Tariff, and all other System Resources that are allowed to submit a Bid to provide Ancillary Services under this CAISO Tariff, must comply with the CAISO's certification and testing requirements as contained in Appendix K and the CAISO's Operating Procedures. Each resource used to bid Regulation or used to self-provide Regulation must have been certified and tested by the CAISO using the process defined in Part A of Appendix K. Each Dynamic System Resource offering Regulation must comply with the Dynamic Scheduling Protocol in Appendix M. Spinning Reserve may be provided only from resources that have been certified and tested by the CAISO using the process defined in Part B of Appendix K. Non-Spinning Reserve may be provided from resources that have been certified and tested by the CAISO using the process defined in Part C of Appendix K. ~~Voltage Support may only be provided from resources that have been certified and tested by the CAISO using the process defined in Part D of Appendix K.~~ Black Start capability may only be provided from Generating Units that have been certified and tested by the CAISO using the process defined in Part E of Appendix K. CAISO certification to provide Ancillary Services may be revoked by the CAISO under the provisions of this CAISO Tariff, including Appendix K.

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## 8.9 Verification, Compliance Testing, And Auditing

Availability of contracted and Self-Provided Ancillary Services ~~and RUC Capacity~~ shall be verified by the CAISO by unannounced testing of Generating Units, Loads and System Resources, by auditing of response to CAISO Dispatch Instructions, and by analysis of the appropriate Meter Data, or Interchange Schedules. The CAISO may test the capability of any Generating Unit, System Unit, System Resource, external import of a System Resource, Participating Load, or reactive device providing Ancillary Services ~~or RUC Capacity~~. Participating Generators, owners or operators of Participating Loads, operators of System Units or System Resources, owners or operators of reactive devices and Scheduling Coordinators shall notify the CAISO immediately whenever they become aware that an Ancillary Service ~~or RUC Capacity~~ is not available in any way. All Participating Generators, owners or operators of Loads, operators of System Units or System Resources and owners or operators of reactive devices shall check, monitor and/or test their system and related equipment routinely to assure availability of the committed Ancillary Services ~~and RUC Capacity~~. These requirements apply to Ancillary Services whether the Ancillary Services are contracted or self-provided. For a duration specified by the CAISO, the CAISO may suspend the technical eligibility certificate of a Scheduling Coordinator for a Generating Unit, System Unit, Load or System Resource, which repeatedly fails to perform. The CAISO shall develop measures to discourage repeated non-performance on the part of both bidders and self-providers. Further, all of these requirements apply to each MSG Configuration.

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### 8.9.6 ~~Compliance Testing for RUC Capacity~~ **[Not Used]**

~~The CAISO may test the capability of a Generating Unit, System Unit or an external import of a System Resource to provide RUC Capacity by issuing unannounced Dispatch Instructions requiring the~~

~~Generating Unit or System Unit to come on line and ramp up or, in the case of a System Resource, to affirmatively respond to a Real Time Interchange Schedule adjustment; all in accordance with the Scheduling Coordinator's Bid. Such tests may not necessarily occur on the hour. The CAISO shall measure the response of the Generating Unit, System Unit or external import of a System Resource to determine compliance with its stated capabilities. For a Multi-Stage Generating Resource the range of RUC Capacity evaluated is the range for the applicable MSG Configuration.~~

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#### **8.9.7.1 Notification of Compliance Testing Results**

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

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#### **8.9.8 Performance Audits For Standard Compliance**

In addition to testing under Section 8.10, the CAISO will periodically audit the performance of resources providing ~~RUC Capacity or~~ Ancillary Services to confirm the ability of such resources ~~to provide the RUC Capacity or~~ to meet the applicable Ancillary Service standard for performance and control.

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#### **8.9.10 Performance Audit For Spinning Reserve**

The CAISO will audit the performance of a resource providing Spinning Reserve by auditing its response to Dispatch Instructions and by analysis of ~~Meter~~telemetry Ddata associated with the resource. Such audits may not necessarily occur on the hour. A resource providing Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move at the MW/minute capability stated in its Bid, reach the amount of Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO, and respond to system frequency deviations as specified in Appendix K. An external import of a System Resource providing Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move at the MW/minute capability stated in its Bid, reach the amount of Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO. For a Multi-Stage Generating Resource the range of Spinning Reserve capacity evaluated is the range for the applicable MSG Configuration.

#### **8.9.11 Performance Audit For Non-Spinning Reserve**

The CAISO will audit the performance of a resource providing Non-Spinning Reserve by auditing its response to Dispatch Instructions, and by analysis of ~~Meter~~telemetry Ddata associated with the resource. Such audits may not necessarily occur on the hour. A resource providing Non-Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move in accordance with the time delay and MW/minute capability stated in its Bid, and reach the amount of Non-Spinning Reserve capacity under the control of the CAISO scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO. For a Multi-Stage Generating Resource the range of Non-Spinning capacity evaluated is the range for the applicable MSG Configuration.

#### 8.9.12 ~~[Not Used] Performance Audit For Voltage Support~~

~~The CAISO will audit the performance of a resource providing Voltage Support by auditing of its response to Dispatch Instructions, and by analysis of Meter Data associated with the resource. A resource providing Voltage Support shall be evaluated on its ability to provide reactive support over the stated power factor range of the resource, provide reactive support within the prescribed time periods, and demonstrate the effective function of automatic voltage control equipment for the amount of Voltage Support under the control of the CAISO for the current Settlement Period.~~

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#### 8.9.14 ~~[Not Used] Performance Audit For RUC Capacity~~

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

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#### 8.9.15.1 Notification of Performance Audit Results

The CAISO shall give the Scheduling Coordinator for a provider of ~~RUC Capacity~~ or Ancillary Services written notice of the results of such audit. The CAISO will at the same time send a copy of the notice to the provider of ~~RUC Capacity~~ or Ancillary Services. For any Resource Adequacy Resource failing to pass a performance audit, the CAISO also will provide notification of the failure to the California Public Utilities Commission, Local Regulatory Authority, or federal agency with jurisdiction over the Load Serving Entity that listed the Resource Adequacy Resource on its Resource Adequacy Plan, and the FERC.

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#### **8.9.16.1 Warning Notice**

If an Ancillary Service ~~or RUC Capacity~~ resource fails a compliance test or a performance audit, the CAISO will issue a warning notice to the Scheduling Coordinator for that resource and at the same time will send a copy of the notice to the owner and operator of the resource.

#### **8.9.16.2 Scheduling Coordinator's Option to Test**

On receipt of a warning notice the provider of the Ancillary Service ~~or RUC Capacity~~ may request the CAISO, through its Scheduling Coordinator, to test the capability of the Ancillary Service ~~or RUC Capacity~~ resource. The CAISO shall carry out such test as soon as practicable and the cost of such test shall be paid by the Scheduling Coordinator irrespective of the result of the test.

#### **8.9.16.3 Duration of Warning Notice**

A warning notice shall continue in effect until:

- (a) the Ancillary Service ~~or RUC Capacity~~ resource is next tested by the CAISO whether such a test is called for by the Scheduling Coordinator under Section 8.9.16.2 or carried out by the CAISO under Section 8.10; or
- (b) the expiration of a period of six (6) calendar months from the date upon which the CAISO notified the Scheduling Coordinator that the Ancillary Service ~~or RUC Capacity~~ resource failed the test or the performance audit which gave rise to the issue of the warning notice, whichever is the earlier.

#### 8.9.16.4 Second failure

An ~~RUC Capacity or~~ Ancillary Service resource which fails a compliance test or a performance audit conducted during the period when a warning notice for that resource is in effect shall be disqualified immediately from providing ~~the RUC Capacity or~~ the Ancillary Service concerned (whether the Ancillary Service is part of the CAISO's auction or is part of a self-provision arrangement), and ~~in the case of Ancillary Services,~~ shall not be permitted to submit a Bid to the CAISO to provide the Ancillary Service concerned (or be part of an Ancillary Service self-provision arrangement) until such time as it has successfully re-passed the approval and certification procedure described in the relevant Part of Appendix K. For any Resource Adequacy Resource failing a compliance test or performance audit during the periods when a warning notice for that resource is in effect, the CAISO will notify the California Public Utilities Commission or the relevant Local Regulatory Authority of the failure and disqualification or federal agency with jurisdiction over the Load Serving Entity that listed the Resource Adequacy Resource on its Resource Adequacy Plan, and FERC.

#### 8.10 Periodic Testing Of Units

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

Coordinator of such failure as soon as reasonably practicable after the completion of the test. Failure to meet requirements shall lead to the penalties described in Section 8.10.7.

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#### **8.10.6 ~~[Not Used]~~ RUC Capacity**

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

#### **8.10.7 Penalties For Failure To Pass Tests**

A Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource that fails an availability test, as determined under criteria to be established by the CAISO, shall be deemed not to have been available to provide the ~~RUC Capacity or~~ Ancillary Service concerned or the relevant portion of that service for the entire period the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource was committed to provide the service, unless appropriate documentation (i.e., daily test records) confirming the availability of that service during the committed period(s) is presented to the CAISO. The "committed period" is defined as the total of all the hours/days the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource was scheduled by the CAISO to provide the ~~RUC Capacity or~~ Ancillary Service beginning from: (i) the last successful availability test; or (ii) the last time the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource actually ~~provided Energy or reduced Demand to provide RUC Capacity or~~ provided Energy or reduced Demand as part of the Ancillary Service; whichever results

in a shorter committed period. The Scheduling Coordinator for a Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource that fails an availability test shall not be entitled to a ~~RUC Availability Payment or~~ payment for the Ancillary Service concerned for the committed period and adjustments to reflect this shall be made in the calculation of payments to the Scheduling Coordinator, provided that any such penalty shall be reduced to reflect any adjustment made over the duration of the committed period under Section 8.10.8 or Section 31.5.7.

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

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

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#### **11.2.4.6 Adjustment of CRR Revenue**

The CAISO will adjust the revenue from the CRRs of a CRR Holder that is also a Convergence Bidding Entity, and will adjust the revenue from the CRRs of a CRR Holder (regardless of whether the CRR Holder is also a Convergence Bidding Entity) where [a Day-Ahead import or export Schedule of](#) the Scheduling Coordinator representing that CRR Holder ~~has reduced a Day-Ahead import or export Schedule~~ [is reduced](#) in the HASP as set forth in Section 11.32, whenever the virtual bidding activity on behalf of that entity or a reduction to a Day-Ahead import or export Schedule in the HASP has had a significant impact on the value of the CRRs in the DAM as determined in accordance with the following steps.

- (a) For purposes of this Section 11.2.4.6 and the definition of Flow Impact, any reduction by a Scheduling Coordinator submitting Schedules on behalf of an

entity that is a CRR Holder to an import or export Schedule in the HASP will be treated as a Virtual Award. For each CRR Holder subject to this Section 11.2.4.6, for each hour, and for each Transmission Constraint binding in the IFM, HASP, or RTD, the CAISO will calculate the Flow Impact of the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder, excluding Virtual Awards at LAPs and generation Trading Hubs.

- (b) The CAISO will determine the peak and off-peak hours of the day in which Congestion on the Transmission Constraint was significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. Congestion on the Transmission Constraint will be deemed to have been significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder if the Flow Impact passes two criteria. First, the Flow Impact must be in the direction to increase the value of the CRR Holder's CRR portfolio. Second, the Flow Impact must exceed the threshold percentage of the flow limit for the Transmission Constraint. The threshold percentage is ten (10) percent of the flow limit for each Transmission Constraint.
- (c) For each peak or off-peak hour that passes both criteria in Section 11.2.4.6(b), the CAISO will compare the Transmission Constraint's impact on the Day-Ahead Market value of the CRR Holder's CRR portfolio with the Transmission Constraint's impact on the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable.
- (d) The CAISO will adjust the peak or off-peak period revenue from the CRR Holder's CRRs in the event that, over the peak or off-peak period of a day, the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable. The amount of the peak period adjustment will be the amount by

which the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio for the peak-period hours that passed both criteria in Section 11.2.4.6(b), as applicable. The amount of the off-peak period adjustment will be the amount by which the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio for the off-peak period hours that passed both criteria in Section 11.2.4.6(b), as applicable.

All adjustments of CRR revenue calculated pursuant to this Section 11.2.4.6 will be added to the CRR Balancing Account.

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## **11.5 Real-Time Market Settlements**

The CAISO shall calculate and account for Imbalance Energy for each Dispatch Interval and settle Imbalance Energy in the Real-Time Market for each Settlement Interval for each resource within the CAISO Balancing Authority Area and all System Resources dispatched in Real-Time. Imbalance Energy consists of IIE and UIE. IIE includes Energy associated with HASP Intertie Schedules. IIE is settled pursuant to Section 11.5.1 and UIE is settled pursuant to Section 11.5.2. In addition, the CAISO shall settle UFE as part of the Real-Time Market Settlements. To the extent that the sum of the Settlements Amounts for IIE and UIE does not equal zero, the CAISO will assess charges or make payments for the resulting differences to all Scheduling Coordinators based on a pro rata share of their Measured Demand for the relevant Settlement Interval, [as further described in Section 11.5.4](#). Imbalance Energy due to Exceptional Dispatches, as well as the allocation of related costs, including Excess Costs Payments is settled as described in Section 11.5.6. The CAISO shall reverse RTM Congestion Charges for valid and

balanced ETC and TOR Self-Schedules as described in Section 11.5.7. The CAISO will settle Energy for emergency assistance as described in Section 11.5.8.

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### **11.5.3 Unaccounted For Energy (UFE)**

For each Settlement Interval, the CAISO will calculate UFE for each utility Service Area for which the IOU or Local Publicly Owned Electric Utility has requested separate UFE calculation and has met the requirements applicable to a CAISO Metered Entity. The UFE will be settled as Imbalance Energy at the Settlement Interval Locational Marginal Price calculated for each utility Service Area for which UFE is calculated separately. UFE ~~attributable to meter measurement errors, load profile errors, Energy theft, and distribution loss deviations~~ will be allocated to each Scheduling Coordinator based on the ratio of its metered CAISO Demand within the relevant utility Service Area for which UFE is calculated separately to total metered CAISO Demand within that utility Service Area. UFE charges will not be estimated or included on Initial Settlement Statement T+3B.

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### **11.23 Penalties For Uninstructed Imbalance Energy**

Effective December 1, 2004, the CAISO shall not charge any Uninstructed Deviation Penalties pursuant to this Section 11.23 until FERC issues an order authorizing the CAISO to charge Uninstructed Deviation Penalties pursuant to this section. Beginning with Settlement Statements for the first Trading Day for which FERC authorizes the CAISO to charge Uninstructed Deviation Penalties pursuant to this section, the CAISO shall charge Scheduling Coordinators Uninstructed Deviation Penalties for Uninstructed Imbalance Energy resulting from resource deviations outside a Tolerance Band from their Dispatch Operating Point, for dispatched resources, or their Day-Ahead Schedule otherwise. Publishing of Uninstructed Deviation Penalty results will not occur on the Initial Settlement Statement T+3B but rather

will occur on the Recalculation Settlement Statement T+12B. The Uninstructed Deviation Penalty will be applied as follows:

- (a) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be calculated and assessed in each Settlement Interval. The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be calculated and assessed in each Settlement Interval in which the CAISO has not declared a staged System Emergency;
- (b) The Uninstructed Deviation Penalty will apply to pre-Dispatched Bids from Non-Dynamic System Resources identified, when such a pre-Dispatch Instruction is issued more than forty (40) minutes prior to the relevant Operating Hour, subject to the following conditions: (i) the Uninstructed Deviation Penalty will only apply to the pre-Dispatched amount of the Bid that is declined or not delivered, (ii) the Uninstructed Deviation Penalty will not apply to a portion of a pre-Dispatched Bid that is subsequently not delivered at the direction of a Balancing Authority, including the CAISO, due to a curtailment of transmission capability or to prevent curtailment of native firm load occurring subsequent to issuing the pre-Dispatch Instruction, (iii) the Uninstructed Deviation Penalty will not apply to Uninstructed Imbalance Energy resulting from declining subsequent intra-hour Dispatch Instructions. Dynamically scheduled Dynamic System Resources, to the extent they deviate from their Day-Ahead Schedule plus any Dispatch Instructions, will be subject to the Uninstructed Deviation Penalty.
- (c) The Uninstructed Deviation Penalty will not apply to Load, Curtailable Demand, or Demand Response Services.
- (d) [NOT USED]
- (e) The Uninstructed Deviation Penalty will not apply to Regulatory Must-Run Generation or Participating Intermittent Resources that meet the scheduling obligations established in the Eligible Intermittent Resources Protocol in Appendix Q. No other applicable charges will be affected by this exemption.

The Uninstructed Deviation Penalty also will not apply to Qualifying Facilities (QFs), including those that are dynamically scheduled, that have not executed and are not required pursuant to this CAISO Tariff to execute a Participating Generator Agreement (PGA) or Qualifying Facility Participating Generator Agreement.

- (f) All MSS resources designated as Load-following resources pursuant to Section 4.9.13.2 (regardless of gross or net settlement election) are exempt from Uninstructed Deviation Penalties in this Section 11.23. All MSS resources not designated as Load-following resources pursuant to Section 4.9.13.2 (regardless of gross or net Settlement election) are subject to Uninstructed Deviation Penalties in this Section 11.23.
- (g) The Uninstructed Deviation Penalty will apply to Generating Units providing Regulation and dynamically scheduled Dynamic System Resources providing Regulation to the extent that Uninstructed Deviations from such resources exceed each resource's actual Regulation range plus the applicable Tolerance Band. Resources providing Regulation and generating within their relevant Regulating range (or outside their relevant Regulating range as a direct result of CAISO control or instruction) will be deemed to have zero (0) deviations for purposes of the Uninstructed Deviation Penalty.
- (h) The Uninstructed Deviation Penalty will be calculated and assessed for each resource individually, except as specified in Appendix R, which specifies when Uninstructed Deviations from individual resources may be aggregated.
- (i) The Uninstructed Deviation Penalty shall not apply to any Uninstructed Imbalance Energy resulting from compliance with a directive by the CAISO or the Reliability Coordinator.
- (j) [NOT USED]
- (k) The Uninstructed Deviation Penalty will not apply when the applicable LMP is negative or zero.

- (l) The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to one hundred (100) percent of the corresponding LMP. The relevant LMP will be calculated for each UDP Location as the ten-minute weighted average price of two five-minute Dispatch Interval LMPs and the two five-minute optimal Instructed Imbalance Energy quantities. The net effect of the Uninstructed Deviation Penalty and the Settlement for positive Uninstructed Imbalance Energy beyond the Tolerance Band will be that the CAISO will not pay for such Energy.
- (m) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to fifty (50) percent of the corresponding Resource-Specific Settlement Interval LMP or, in the case of aggregated resources, the Settlement Interval Penalty Location Real-Time LMP.
- (n) The Uninstructed Deviation Penalty will not apply to deviations from Energy delivered as part of a scheduled test so long as the test has been scheduled by the Scheduling Coordinator with the CAISO or the CAISO has initiated the test for the purposes of validating unit performance.
- (o) The Uninstructed Deviation Penalty shall not apply to any excess Energy delivered from or any shortfall of Energy not delivered from an Exceptional Dispatch, involving a Generating Unit or a System Unit unless the CAISO and the supplier have agreed upon the time of, duration of, and amount of Energy to be delivered in the out-of-market transaction and the CAISO reflects the out-of-market transaction in its Real-Time Expected Energy calculations. The Uninstructed Deviation Penalty shall apply to Energy outside the Tolerance Band from out-of-market transactions with dynamically scheduled Dynamic System Resources to the extent the agreed-to Energy is not delivered or over-delivered, and to any Energy from Non-Dynamic System Resources to the extent the

agreed-to Energy is not delivered if that over- or under-delivery was due to action taken by or not taken by the System Resource and not the result of action taken by a Balancing Authority due to a curtailment of firm transmission capability or to prevent curtailment of native firm load occurring subsequent to the out-of-market transaction.

- (p) The Uninstructed Deviation Penalty shall not apply to Generating Units and dynamically scheduled Dynamic System Resources with Uninstructed Imbalance Energy if the Generating Unit or dynamically scheduled Dynamic System Resource was physically incapable of delivering the expected Energy or if systems malfunctions prevent receipt of Dispatch Instructions, provided that the Generating Unit or dynamically scheduled Dynamic System Resource had notified the CAISO within thirty (30) minutes of the onset of an event that prevents the resource from performing its obligations. A Generating Unit or dynamically scheduled Dynamic System Resource must notify CAISO operations staff of its reasons for failing to deliver the Expected Energy in accordance with Section 9.3.10.6 and must provide information to the CAISO that verifies the reason the resource failed to comply with the Dispatch Instruction within forty-eight (48) hours of the Operating Hour in which the instruction is issued.
- (q) Adjustments to any Generating Unit, Curtailable Demand and System Resource Day-Ahead Schedules or HASP Intertie Schedules made in accordance with the terms of TRTC Instructions for Existing Contracts or TORs shall not be subject to Uninstructed Deviation Penalties. Valid changes to ETC Self-Schedules or TOR Self-Schedules submitted after the close of the HASP or the RTM shall not be subject to Uninstructed Deviation Penalties.
- (r) Any changes made to Schedules prior to the CAISO issuing HASP Intertie Schedules shall not be subject to Uninstructed Deviation Penalties.

- (s) Uninstructed Deviation Penalties shall not be charged to any deviation from a Dispatch Instruction that does not comply with the requirements set forth in this CAISO Tariff.
- (t) Amounts collected as Uninstructed Deviation Penalties shall first be assigned to reduce the portion of above-LMP costs that would otherwise be assigned pro rata to all Scheduling Coordinators in that Settlement Interval. Any remaining portion of amounts collected as Uninstructed Deviation Penalties after satisfying these sequential commitments shall be treated in accordance with Section 11.29.9.6.3.
- (u) Condition 2 RMR Units shall be exempt from Uninstructed Deviation Penalties.
- (v) The Uninstructed Deviation Penalty shall not apply to positive Uninstructed Imbalance Energy attributable to operation below the Generating Unit's Minimum Operating Limit from the time the Generating Unit synchronizes to the grid to the earlier of (1) the Settlement Interval in which the Generating Unit produces a quantity of Energy that represents an average rate of delivery over such Settlement Interval in excess of the Generating Unit's Minimum Operating Limit plus the applicable Tolerance Band, or (2) the first Settlement Interval after the expiration of a period of time that begins at the end of the Settlement Interval in which the Generating Unit synchronizes to the grid and ends after the Generating Unit's maximum Start-Up Time as specified in the Master File. The Uninstructed Deviation Penalty shall not apply to any positive Uninstructed Imbalance Energy attributable to operation below the Generating Unit's Minimum Operating Limit for a duration equal to the minimum of two Settlement Intervals or the time specified in the Master File for the Generating Unit to disconnect from the grid after reaching its Minimum Operating Limit following either (1) the last Settlement Interval of an hour in which the Generating Unit had a non-zero Day-Ahead Schedule or (2) the Settlement Interval in which the Generating Unit is expected to reach its Minimum Operating Limit based on the applicable Ramp Rate when the CAISO instructed the Generating Unit to Shut-Down. The amount of

Uninstructed Imbalance Energy exempted from the Uninstructed Deviation Penalty shall not exceed the amount of the Generating Unit's Minimum Operating Limit plus the applicable Tolerance Band. This exception from the application of the Uninstructed Deviation Penalty does not apply to Dynamic System Resources.

- (w) UDP shall not apply to deviations by a Generating Unit that are attributable to any automatic response to a system disturbance, including a response to correct frequency decay, in accordance with Applicable Reliability Criteria for the duration of the system disturbance, and for an additional five (5) minutes when a Generating Unit's deviation is in the same direction as the mitigating frequency response.
- (x) The Uninstructed Deviation Penalty shall not apply in the event that a malfunction in a CAISO system application causes an infeasible Dispatch Instruction to be communicated or prevents timely communication of a Dispatch Instruction or a SLIC malfunction prevents a resource from reporting an event that affects the resource's ability to deliver Energy.
- (y) The Uninstructed Deviation Penalty shall not apply to a failure to comply with a manual Dispatch Instruction that is not confirmed by a Dispatch Instruction transmitted through the CAISO's Automated Dispatch System.
- (z) The Uninstructed Deviation Penalty shall not apply if a Dispatch Instruction is validated after the start time of the instruction from the Settlement Interval in which the Dispatch Instruction was first effective to the earliest Settlement Interval, inclusive, in which the resource is able to respond to the Dispatch Instruction.

\* \* \*

The basis of each Settlement Statement shall be the debiting or crediting of an account in the name of the relevant Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO ~~in the general ledger set up by the CAISO to reflect all transactions, charges or payments settled by the CAISO.~~

\* \* \*

## **11.29.8 Confirmation And Validation**

### **11.29.8.1 Confirmation**

It is the responsibility of each Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO to notify the CAISO if it fails to receive a Settlement Statement on the date specified for the publication of such Settlement Statement in the CAISO Payments Calendar. Each Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have received its Settlement Statement on the dates specified, unless it notifies the CAISO to the contrary.

### **11.29.8.2 Review of Initial Settlement Statement T+3B**

Each Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall have the opportunity to review the terms of the Initial Settlement Statement T+3B that it receives. Because this settlement statement is solely based on CAISO Estimated Settlement Quality Meter Data and is not subject to dispute or exception, the Initial Settlement Statement T+3B shall be deemed financially binding on the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to which it relates.

### **11.29.8.3 Validation of Recalculation Settlement Statements**

#### **11.29.8.3.1 Validation of Recalculation Settlement Statement T+12B**

Each Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall have the opportunity to review the terms of the Recalculation Settlement Statement T+12B that it receives. The Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Recalculation Settlement Statement T+12B unless it has raised a dispute or reported an exception within fourteen (14) Business Days from the date of issuance. Once validated, a Recalculation Settlement Statement T+12B shall be binding on the Scheduling Coordinator, CRR Holder, Black Start

Generator or Participating TO to which it relates, except to the extent that the CAISO performs a Recalculation Settlement Statement.

The notice of dispute, if any, shall state clearly the Trading Day, the issue date of the Recalculation Settlement Statement T+12B, the item disputed, the reasons for the dispute, and the amount claimed (if appropriate) and shall be accompanied with all available evidence reasonably required to support the claim.

#### **11.29.8.3.2 Validation of Recalculation Settlement Statement T+55B**

Each Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall have the opportunity to review the terms of the Recalculation Settlement Statement T+55B that it receives. The Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Recalculation Settlement Statement T+55B unless it has raised a dispute or reported an exception within twenty-two (22) Business Days from the date of issuance. Once validated, a Recalculation Settlement Statement T+55B shall be binding on the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to which it relates, except to the extent that the CAISO performs a subsequent Recalculation Settlement Statement.

The notice of dispute, if any, shall state clearly the Trading Day, the issue date of the Recalculation Settlement Statement T+55B, the item disputed, the reasons for the dispute, and the amount claimed (if appropriate) and shall be accompanied with all available evidence reasonably required to support the claim.

#### **11.29.8.3.3 Validation of Additional Recalculation Settlement Statements**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall have the opportunity to review the Incremental Changes, including the CAISO's implementation of a prior accepted dispute, that appear on or are omitted from any Recalculation Settlement Statement T+9M, Recalculation Settlement Statement T+18M or Recalculation Settlement Statement T+35M, or Unscheduled Recalculation Settlement Statements that it receives pursuant to 11.29.7.3. The Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall be deemed to have validated the Incremental Changes on each Recalculation Settlement Statement unless it has raised a dispute or reported an exception regarding those Incremental Changes within time periods set forth in Sections

11.29.8.4.1 through 11.29.8.4.6 from the date of issuance. Once validated, the Incremental Changes on a Recalculation Settlement Statement T+9M, Recalculation Settlement Statement T+18M, Recalculation Settlement Statement T+35M, or Unscheduled Recalculation Settlement Statements that it receives pursuant to Section 11.29.7.3 shall be binding on the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to which it relates, except to the extent that the CAISO performs an Unscheduled Recalculation Settlement Statement pursuant to Section 11.29.7.3.

The notice of dispute shall state clearly the Trading Day, the issue date of the Recalculation Settlement Statement, the item disputed, the reasons for the dispute, and the amount claimed (if appropriate) and shall be accompanied with all available evidence reasonably required to support the claim. No disputes or exceptions are permitted for any items reflected on Recalculation Settlement Statement T+36M.

#### **11.29.8.4 Disputes or Exceptions**

##### **11.29.8.4.1 Dispute of Initial Settlement Statement T+3B Not Permitted**

Because Initial Settlement Statement T+3B is solely based on CAISO Estimated Settlement Quality Meter Data, which will be reconciled to actual data on subsequent Recalculation Settlement Statements, no disputes or exceptions shall be permitted for any terms reflected on this settlement statement.

##### **11.29.8.4.2 Dispute of Recalculation Settlement Statement T+~~12~~7B**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may submit a dispute that identifies discrepancies or errors for any item in Recalculation Settlement Statement T+12B, except for CAISO or Scheduling Coordinator Estimated Settlement Quality Meter Data, no later than fourteen (14) Business Days from the publication date of the Recalculation Settlement Statement T+12B. Valid disputes regarding data appearing on Recalculation Settlement Statement T+12B will be reflected in a later Recalculation Settlement Statement for that Trading Day. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO disagrees with the CAISO's resolution of a dispute regarding data appearing on a Recalculation Settlement Statement T+12B, it may initiate [dispute resolution under Section 13 of the CAISO Tariff pursuant to the deadlines set forth in Section 13. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO does not initiate dispute resolution under Section 13 of the CAISO Tariff within the time period set forth in Section 13, the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have](#)

~~validated each Recalculation Settlement Statement T+12B-a good faith negotiation of the dispute with the CAISO no later than thirty (30) days after the date of the CAISO's response to the dispute.~~

#### **11.29.8.4.3 Dispute of Recalculation Settlement Statement T+55B**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may submit a dispute that identifies discrepancies or errors for any item in a Recalculation Settlement Statement T+55B no later than twenty-two (22) Business Days after the publication date of the Recalculation Settlement Statement T+55B. Valid disputes regarding data appearing on a Recalculation Settlement Statement T+55B will be reflected in a later Recalculation Settlement Statement for that Trading Day. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO disagrees with the CAISO's resolution of a dispute regarding data appearing on a Recalculation Settlement Statement T+55B, it may initiate a good faith negotiation of the dispute with the CAISO no later than thirty (30) days after the date of the CAISO's response to the dispute.

#### **11.29.8.4.4 Dispute of Recalculation Settlement Statement T+9M**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may submit disputes regarding Incremental Changes in a Recalculation Settlement Statement T+9M, including the CAISO's implementation of a prior accepted dispute contained in a Recalculation Settlement Statement T+9M, no later than twenty-two Business Days after the publication date of the Recalculation Settlement Statement (T+9M). A dispute shall only be based on Incremental Changes between Recalculation Settlement Statement T+55B and Recalculation Settlement Statement T+9M. Valid disputes regarding data appearing on a Recalculation Settlement Statement T+9M will be reflected on a later Recalculation Settlement Statement for that Trading Day. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO disagrees with the CAISO's resolution of a dispute regarding data appearing on a Recalculation Settlement Statement T+9M, it may initiate [dispute resolution under Section 13 of the CAISO Tariff pursuant to the deadlines set forth in Section 13. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO does not initiate dispute resolution under Section 13 of the CAISO Tariff within the time period set forth in Section 13, the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Recalculation](#)

~~[Settlement Statement T+9M](#) good faith negotiation of the dispute with the CAISO no later than thirty (30) days after the date of the CAISO's response to the dispute.~~

#### **11.29.8.4.5 Dispute of Recalculation Settlement Statement T+18M**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may submit disputes regarding Incremental Changes, including the CAISO's implementation of a prior accepted dispute contained in a Recalculation Settlement Statement T+18M no later than twenty-two (22) Business Days after the publication date of the Recalculation Settlement Statement T+18M. A dispute shall only be based on Incremental Changes between the immediately preceding Recalculation Settlement Statement for the given Trading Day and Recalculation Settlement Statement T+18M. Valid Disputes regarding data appearing on a Recalculation Settlement Statement T+18M will be reflected on a later Recalculation Settlement Statement. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO disagrees with the CAISO's resolution of a dispute regarding data appearing on a Recalculation Settlement Statement T+18M, it may initiate [dispute resolution under Section 13 of the CAISO Tariff pursuant to the deadlines set forth in Section 13. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO does not initiate dispute resolution under Section 13 of the CAISO Tariff within the time period set forth in Section 13, the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Recalculation Settlement Statement T+18M](#) ~~a good faith negotiation with the CAISO no later than thirty (30) days after the date of the CAISO's response to the dispute.~~

#### **11.29.8.4.6 Dispute of Recalculation Settlement Statement T+35M**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may submit disputes regarding Incremental Changes in a Recalculation Settlement Statement T+35M, including the CAISO's implementation of a prior accepted dispute contained in a Recalculation Settlement Statement T+35M, no later than five (5) Business Days after the publication date of a Recalculation Settlement Statement T+35M. A dispute shall only be based on (i) Incremental Changes between the immediately preceding Recalculation Settlement Statement for the given Trading Day and Recalculation Settlement Statement T+35M, (ii) Meter Data issues identified through the audit process, or (iii) any good faith negotiation or dispute resolution settlement. Valid disputes regarding data appearing on a Recalculation

Settlement Statement T+35M will be reflected on the Recalculation Settlement Statement T+36M. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO disagrees with the CAISO's resolution of a dispute regarding data appearing on a Recalculation Settlement Statement T+35M, it may [initiate a good faith negotiation or other dispute resolution remedy under the procedures and pursuant to the deadlines set forth in Section 13](#). [If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO does not initiate a good faith negotiation or other dispute resolution remedy within the time period set forth in Section 13, the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Recalculation Settlement Statement T+35M. Once validated, a Recalculation Settlement Statement T+35M shall be binding on the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to which it relates](#) ~~pursue the dispute only through the dispute resolution process set forth in Section 13.~~

#### **11.29.8.4.7 No Dispute of Recalculation Settlement Statement T+36M**

Recalculation Settlement Statement T+36M shall not be subject to either a dispute by a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO, or adjustment by CAISO, except as directed by the CAISO Governing Board or by an order of FERC. Nothing herein shall be construed to restrict the right of the CAISO or any Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO's to seek redress from FERC in accordance with the Federal Power Act.

#### **11.29.8.4.8 Unscheduled Recalculation Settlement Statements**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may submit disputes regarding Incremental Changes on an Unscheduled Recalculation Settlement Statement issued pursuant to Section 11.29.7.3 no later than twenty-two (22) Business Days after the publication data of the Unscheduled Recalculation Settlement Statement. A dispute shall only be based on Incremental Changes between the Unscheduled Recalculation Settlement Statement and prior applicable Recalculation Settlement Statement. Valid Disputes regarding data appearing on an Unscheduled Recalculation Settlement Statement will be reflected on a later Recalculation Settlement Statement. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO disagrees with the CAISO's resolution of a dispute regarding data appearing on an Unscheduled Recalculation Settlement Statement, it may initiate [dispute resolution under Section 13 of the CAISO Tariff pursuant to the](#)

deadlines set forth in Section 13. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO does not initiate dispute resolution under Section 13 of the CAISO Tariff within the time period set forth in Section 13, the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Unscheduled Recalculation Settlement Statement ~~a good faith negotiation with the CAISO no later than thirty (30) days after the date of the CAISO's response to the dispute.~~

\* \* \*

#### **11.29.8.5 CAISO Timeline for Determining Settlement Statement Disputes**

The timeline for the CAISO to reach a determination on a settlement statement dispute shall be as follows:

- (a) For a settlement statement dispute based on a Recalculation Settlement Statement T+12B, Recalculation Settlement Statement T+55B, Recalculation Settlement Statement T+9M, Recalculation Settlement Statement T+18M, or Unscheduled Recalculation Settlement Statement issued pursuant to Section 11.29.7.3, ~~the~~ the CAISO shall reach a determination to approve or deny the dispute, and provide electronic notice of the outcome to the Scheduling Coordinator that submitted the dispute, no later than thirty-one (31) Business Days after the end of the dispute period for that settlement statement; with the exception of complex disputes or unless otherwise agreed to by the disputing Scheduling Coordinator. In the event that the CAISO's determination results in an adjustment to payments and/or charges, the CAISO in its notice to the disputing Scheduling Coordinator shall identify the subsequent recalculation settlement statement expected to include the adjustment.
- (b) For a settlement statement dispute based on Recalculation Settlement Statement T+35M, the CAISO shall reach a determination to approve or deny the dispute, and provide electronic notice of the outcome to the Scheduling Coordinator that submitted the dispute, no later than fourteen (14) days after the end of the dispute period for that

settlement statement. Valid disputes regarding data appearing on Recalculation Settlement Statement T+35M will be reflected on Recalculation Settlement Statement T+36M.

- (c) Complex settlement statement disputes involve policy considerations, entail extensive research, require granular review of previous market runs, include complicated data or calculations, or depend on additional information to be provided by the disputing Scheduling Coordinator or a third party. The CAISO in its sole discretion may designate a settlement statement dispute to be complex dispute. The CAISO will advise the disputing Scheduling Coordinator within thirty-one (31) Business Days after the end of the dispute period for that settlement statement if a dispute is a complex dispute. The CAISO shall make reasonable efforts to reach a determination to approve or deny a complex dispute resulting from (i) a Recalculation Settlement Statement T+12B, Recalculation Settlement Statement T+55B, or Recalculation Settlement Statement T+9M, no later than fifteen (15) months after the Trading Day so that any resultant adjustment will be included on the Recalculation Settlement Statement T+18M, and (ii) a Recalculation Settlement Statement T+18M and an Unscheduled Recalculation Settlement Statement, no later than thirty-three (33) months after the Trading Day so that any resultant adjustment will be included on the Recalculation Settlement Statement T+35M.

~~11.29.8.6~~ **[NOT USED]**

**11.29.8.67 Payment Pending Dispute**

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO which receives an Invoice or Payment Advice shall pay any net debit and shall be entitled to receive any net credit shown in the Invoice or Payment Advice on the Payment Date, whether or not there is any dispute regarding the amount of the debit or credit. The provisions of Section 13 shall apply to the disputed amount.

\* \* \*

#### 11.29.17.2.6 Default Look-Back Period

- (a) For each payment default that occurs any time prior to March 31, 2011, the Default Look-Back Period will be the most recent two (2) full calendar quarters for which T+~~5538~~B data are available. In no event will the CAISO consider settlement data for transactions occurring prior to March 31, 2009.
- (b) For each payment default that occurs in the second calendar quarter of 2011, the Default Look-Back Period will be the most recent two (2) full calendar quarters for which T+~~5538~~B data are available (*i.e.*, the third and fourth calendar quarters of 2010).
- (c) For each payment default that occurs in the third calendar quarter of 2011, the Default Look-Back Period will be the most recent three (3) full calendar quarters for which T+~~5538~~B data are available (*i.e.*, the third and fourth calendar quarters of 2010 and the first calendar quarter of 2011).
- (d) For each payment default that occurs in the fourth calendar quarter of 2011 or in any subsequent calendar quarter in which Section 11.29.17.2.1 is in effect, the Default Look-Back Period will be the most recent four (4) full calendar quarters for which T+~~5538~~B data are available.
- (e) Notwithstanding any other provision in this Section 11.29.17.2.6, the following provisions will apply to each Default-Invoiced SCID for an entity that is a new Market Participant that begins to participate in the CAISO Markets following the effective date of this Section 11.29.17.2.6:
  - (i) The Default-Invoiced SCID for that Market Participant will first be subject to allocation of payment default amounts under Section 11.29.17.2.1 in the second calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets and the applicable Default Look-Back Period will be the calendar quarter in which the Market Participant began to participate in the CAISO Markets.

- (ii) For each payment default that occurs in the third calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets, the applicable Default Look-Back Period will be the Market Participant's first two (2) calendar quarters of participation in the CAISO Markets.
- (iii) For each payment default that occurs in the fourth calendar quarter following the calendar quarter in which the Market Participant begins to participate in the CAISO Markets, the applicable Default Look-Back Period will be the Market Participant's first three (3) calendar quarters of participation in the CAISO Markets.
- (iv) For each payment default that occurs in any subsequent calendar quarter in which Section 11.29.17.2.1 is in effect, the applicable Default Look-Back Period will be determined as set forth in Section 11.29.17.2.6(d).

\* \* \*

### **11.32 Measures to Address Intertie Scheduling Practices**

The CAISO will take the following actions regarding Schedules that clear the Day-Ahead Market at the Interties and that ~~a Scheduling Coordinator are~~ wholly or partially reversed ~~s~~ in the HASP:

- (i) The CAISO will charge the Scheduling Coordinator the positive difference between the Day-Ahead Market price and the HASP price applicable to any imports that clear the Day-Ahead Market and are reduced in the HASP for which the Scheduling Coordinator has failed to submit an E-Tag or E-Tags consistent with the Scheduling Coordinator's Day-Ahead Schedule and WECC scheduling criteria.
- (ii) The CAISO will charge the Scheduling Coordinator the positive difference between the HASP price and the Day-Ahead Market price applicable to any exports that clear the Day-Ahead Market and are reduced in the HASP for which the Scheduling Coordinator has failed to submit an E-Tag or E-Tags consistent

with the Scheduling Coordinator's Day-Ahead Schedule and WECC scheduling criteria.

- (iii) The CAISO will treat any reduction by a Scheduling Coordinator to a Day-Ahead import or export Schedule in the HASP as a Virtual Award for purposes of adjusting CRR Revenue pursuant to Section 11.2.4.6 if the Scheduling Coordinator submits Schedules on behalf of or is a CRR Holder.
- (iv) For any import Schedule that clears the Day-Ahead Market which a Scheduling Coordinator reduces in the HASP, such reduced quantities will be subject to the allocation of Net RTM Bid Cost Uplift as set forth in Section 11.8.6.6.
- (v) The provisions of this Section 11.32 will not apply to Schedules that clear the Day-Ahead Market at the Interties and that a Scheduling Coordinator wholly or partially reverses in the HASP to the extent such Schedules are valid and balanced ETC, TOR, or Converted Rights Self-Schedules in the Day-Ahead Market.

\* \* \*

## **13.1 Applicability**

### **13.1.1 General Applicability**

Except as limited below or otherwise as limited by law (including the rights of any party to file a complaint with FERC under the relevant provisions of the FPA), the CAISO ADR Procedures shall apply to all disputes between parties which arise under the CAISO Documents except where the decision of the CAISO is stated in the provisions of this CAISO Tariff to be final. The CAISO ADR Procedures shall not apply to:

- (1) Disputes arising under contracts which pre-date the CAISO Operations Date, except as the disputing parties may otherwise agree;
- (2) Disputes as to whether rates and charges set forth in this CAISO Tariff are just and reasonable under the FPA.

### **13.1.2 Disputes Involving Government Agencies**

If a party to a dispute is a government agency the procedures herein that provide for the resolution of claims and arbitration of disputes are subject to any limitations imposed on the agency by law, including but not limited to the authority of the agency to effect a remedy. If the governmental agency is a federal entity, the procedures herein shall not apply to disputes involving issues arising under the United States Constitution.

### **13.1.3 Injunctive And Declaratory Relief**

Where the court having jurisdiction so determines, use of the CAISO ADR Procedures shall not be a condition precedent to a court action for injunctive relief nor shall the provisions of California Code of Civil Procedure sections 1281 et seq. apply to such court actions.

### **13.1.4 Disputes Arising Under Section 11**

In the case of a dispute of a Settlement Statement under section 11.29.8.4.2, 11.29.8.4.4, 11.29.8.4.5, 11.29.8.4.6, or 11.29.9.4.8, a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO must initiate any good faith negotiation or other dispute resolution remedy under this Section 13 within 90 days of the day on which the ISO provides notice of its resolution of a dispute under such section.

\* \* \*

### **20.3 Other Parties**

No Market Participant shall have the right hereunder to receive from the CAISO or to review any documents, data or other information of another Market Participant to the extent such documents, data or information is to be treated as in accordance with Section 20.2; provided, however, a Market Participant may receive and review any composite documents, data, and other information that may be developed based upon such confidential documents, data, or information, if the composite document does not disclose such confidential data or information relating to an individual Market Participant and provided, however, that the CAISO may disclose information as provided for in its bylaws. The CAISO may impose an administrative fee for the cost of providing any composite documents, data or other information to a

Market Participant and the fee shall be paid by the Market Participant requesting these documents, data or other information. NRG requests the CAISO provide more information about this fee.

#### **20.4 Disclosure**

Notwithstanding anything in this Section 20 to the contrary,

\* \* \*

- (e) Notwithstanding the provisions of Section 20.2(f), information submitted through the Transmission Planning Process shall be disclosed as follows:
  - (i) Critical Energy Infrastructure Information may be provided to a requestor where such person is employed or designated to receive CEII by: (a) a Market Participant; (b) an electric utility regulatory agency within California; (c) an Interconnection Customer that has submitted an Interconnection Request to the CAISO under the CAISO's Large Generator Interconnection Procedure or Small Generator Interconnection Procedure (LGIP or SGIP); (d) a developer having a pending or potential proposal for development of a Generating Facility or transmission addition, upgrade or facility and that is performing studies in contemplation of filing an Interconnection Request or submitting a transmission infrastructure project through the CAISO Transmission Planning Process; or (e) a not-for-profit organization representing consumer regulatory or environmental interests before a Local Regulatory Authority or federal regulatory agency. To obtain Critical Energy Infrastructure Information, the requestor must submit a statement as to the need for the CEII, and must execute and return to the CAISO the form of the non-disclosure agreement and non-disclosure statement

included as part of the Business Practice Manual. The CAISO may, at its sole discretion, reject a request for CEII and, upon such rejection, the requestor will be directed to utilize the FERC procedures for access to the requested CEII.

- (ii) Information that is confidential under Section 20.2(f)(i) or 20.2(f)(ii) may be disclosed to any individual designated by a Market Participant, electric utility regulatory agency within California, or other stakeholder that signs and returns to the CAISO the form of the non-disclosure agreement, nondisclosure statement and certification that the individual is a non-Market Participant, which is any person or entity not involved in a marketing, sales, or brokering function as market, sales, or brokering are defined in FERC's Standards of Conduct for Transmission Providers (18 C.F.R. § 358 et seq.), included as part of the Business Practice Manual; provided, however, that information obtained pursuant to this Section 20.4(e)(ii) will be provided only in composite form so that information related to individual Load Serving Entities or Scheduling Coordinators will not be disclosed.
- (iii) Data base and other transmission planning information obtained from the WECC, or its successor, may be disclosed to individuals designated by a Market Participant, electric utility regulatory agency within California, or other stakeholder in accordance with the procedures set forth in the Business Practice Manual.

Nothing in this Section 20 shall limit the ability of the CAISO to aggregate data for public release about the adequacy of supply.

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## **22.6 Staffing and Training to Meet Obligations**

The CAISO shall engage sufficient staff to perform its obligations under this CAISO Tariff in a satisfactory manner consistent with Good Utility Practice. The CAISO shall make its own arrangements for the engagement of all staff and labor necessary to perform its obligations hereunder and for their payment. The CAISO shall employ (or cause to be employed) only persons who are appropriately qualified, skilled and experienced in their respective trades or occupations. CAISO employees and contractors shall abide by the CAISO Code of Conduct for employees ~~contained in the CAISO bylaws and approved by FERC.~~

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### **27.1.2.3.2 Non-Spinning Reserve Pricing – Insufficient Supply**

When the shortage of supply to meet the Non-Spinning Reserve requirement in the Expanded System Region or in an Ancillary Service Sub-Region is less than or equal to seventy (70) MW, the Scarcity Reserve Demand Curve Value for Non-Spinning Reserve shall be fifty (50) percent of the maximum Energy Bid price permitted under Section 39.6.1.1. When the shortage of supply to meet the Non-Spinning Reserve requirement in the Expanded System Region is less than or equal to two-hundred ten (210) MW but greater than seventy (70) MW, the Scarcity Reserve Demand Curve Value for Non-Spinning Reserve shall be sixty (60) percent of the maximum Energy Bid price permitted under Section 39.6.1.1. When the shortage of supply to meet the Non-Spinning Reserve requirement in the Expanded System Region is greater than two-hundred ten (210) MW, the Scarcity Reserve Demand Curve Value for Non-Spinning Reserve shall be seventy (70) percent of the maximum Energy Bid price permitted under Section 39.6.1.1.

### **27.1.2.3.3~~2~~ Spinning Reserve Pricing – Insufficient Supply**

The Scarcity Reserve Demand Curve Value for Spinning Reserve in the Expanded System Region or in an Ancillary Service Sub-Region shall be ten (10) percent of the maximum Energy Bid price permitted under Section 39.6.1.1.

### **27.1.2.3.4~~3~~ Regulation Up Pricing - Insufficient Supply**

The Scarcity Reserve Demand Curve Value for Regulation Up in the Expanded System Region or in an

Ancillary Service Sub-Region shall be twenty (20) percent of the maximum Energy Bid price permitted under Section 39.6.1.1.

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#### **27.4.3.3 Insufficient Supply to Meet Self-Scheduled Demand in IFM**

In the IFM, when available supply is insufficient to meet all ~~S~~self-~~S~~scheduled ~~d~~Demand, ~~S~~self-~~S~~scheduled ~~d~~Demand is reduced to the point where the available supply is sufficient to clear the market. For price-setting purposes in such cases, the cleared ~~S~~self-~~S~~scheduled ~~d~~Demand is deemed to be willing to pay the maximum Energy Bid price specified in Section 39.6.1.1.

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#### **27.5.6 Management & Enforcement of Constraints in the CAISO Markets**

The CAISO operates the CAISO Markets through the use of a market software system that utilizes various information including the Base Market Model, the State Estimator, submitted Bids including Self-Schedules, Generated Bids, and Transmission Constraints, including Nomograms and Contingencies transmission and generation Outages. The market model used in each of the CAISO Markets is derived from the most current Base Market Model available at that time. To create a more relevant time-specific network model for use in each of the CAISO Markets, the CAISO will adjust the Base Market Model to reflect Outages and derates that are known and applicable when the respective CAISO Market will operate, and to compensate for observed discrepancies between actual real-time power flows and flows calculated by the market software. Through this process the CAISO creates the market model to be used in each Day-Ahead Market, HASP, and each process of the Real-Time Market. The CAISO will manage the enforcement of Transmission Constraints, including Nomograms and Contingencies, consistent with good utility practice, to ensure, to the extent possible, that the market model used in each market accurately reflects all the factors that contribute to actual Real-Time flows on the CAISO Controlled Grid and that the CAISO Market results are better aligned with actual physical conditions on the CAISO

Controlled Grid. In operating the CAISO Markets, the CAISO may take the following actions so that, to the extent possible, the CAISO Market solutions are feasible, accurate, and consistent with good utility practice:}

- (a) The CAISO may enforce, not enforce, or adjust flow-based Transmission Constraints, including Nomograms and Contingencies, if the CAISO observes that the CAISO Markets produce or may produce results that are inconsistent with observed or reasonably anticipated conditions or infeasible market solutions either because (a) the CAISO reasonably anticipates that the CAISO Market run will identify Congestion that is unlikely to materialize in Real-Time even if the Transmission Constraint were to be ignored in all the markets leading to Real-Time, or (b) the CAISO reasonably anticipates that the CAISO Market will fail to identify Congestion that is likely to appear in the Real-Time. The CAISO does not make such adjustments to intertie Scheduling Limits.
- (b) The CAISO may enforce or not enforce Transmission Constraints, including Nomograms and Contingencies, if the CAISO has determined that non-enforcement or enforcement, respectively, of such Transmission Constraints may result in the unnecessary pre-commitment and scheduling of use-limited resources.
- (c) The CAISO may not enforce Transmission Constraints, including Nomograms and Contingencies, if it has determined it lacks sufficient visibility to conditions on transmission facilities necessary to reliably ascertain constraint flows required for a feasible, accurate and reliable market solution.
- (d) For the duration of a planned or unplanned Outage, the CAISO may create and apply alternative Transmission Constraints, including Nomograms and Contingencies, that may add to or replace certain originally defined constraints.
- (e) The CAISO may adjust Transmission Constraints, including Nomograms and Contingencies, for the purpose of setting prudent operating margins consistent

with good utility practice to ensure reliable operation under anticipated conditions of unpredictable and uncontrollable flow volatility consistent with the requirements of Section 7.

To the extent that particular Transmission Constraints, including Nomograms and Contingencies, are not enforced in the operations of the CAISO Markets, the CAISO will operate the CAISO Controlled Grid and manage any Congestion based on available information including the State Estimator solutions and available telemetry to Dispatch resources through Exceptional Dispatch to ensure the CAISO is operating the CAISO Controlled Grid consistent with the requirements of Section 7.

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### **30.7.3 DAM Validation**

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

The CAISO conducts Bid validation in three steps:

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

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

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

can be accepted as is, the Bid will be assigned a status of conditionally valid, or valid. A Bid will be automatically modified and assigned a status of modified or conditionally modified Bid, whenever the CAISO inserts or modifies a Bid component. The CAISO will insert or modify a Bid component whenever (1) a Self-Schedule quantity is less than the lowest quantity specified as an Economic Bid for either an Energy Bid or Demand Bid, in which case the CAISO extends the Self-Schedule to cover the gap; (2) for non-Resource Adequacy Resources, the CAISO will extend the Energy Bid Curve using Proxy Costs to cover any capacity in a RUC Bid component, if necessary; and (3) for a Resource Adequacy Resource that is not a Use-Limited Resource, the CAISO will extend the Energy Bid Curve using Proxy Costs to cover any capacity in a RUC Bid component and, if necessary, up to the full registered Resource Adequacy Capacity. The CAISO will generate a Proxy Bid or extend an Energy Bid or Self-Schedule to cover any RUC Award or Day-Ahead Schedule in the absence of any Self-Schedule or Economic Bid components, or to fill in any gaps between any Self-Schedule Bid and any Economic Bid components to cover a RUC Award or Day-Ahead Schedule. To the extent that an Energy Bid to the HASP/RTM is not accompanied by an Ancillary Services Bid, the CAISO will insert a Spinning Reserve and Non-Spinning Reserve Ancillary Services Bid at \$ 0/MW for any certified Operating Reserve capacity. The CAISO will also generate a Self-Schedule Bid for any Generating Unit that has a Day-Ahead Schedule but has not submitted Bids in HASP/RTM, up to the quantity in the Day-Ahead Schedule. Throughout the Bid evaluation process, the Scheduling Coordinator shall have the ability to view the Bid and may choose to cancel the Bid, modify and re-submit the Bid, or leave the modified, conditionally modified or valid, conditionally valid Bid as is to be processed in the designated CAISO Market. The CAISO will not insert or extend any Bid for a Resource Adequacy Resource that is a Use-Limited Resource.

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#### **31.4 CAISO Market Adjustments To Non-Priced Quantities In The IFM**

All Self-Schedules are respected by SCUC to the maximum extent possible and are protected from curtailment in the Congestion Management process to the extent that there are Effective Economic Bids that can relieve Congestion. If all Effective Economic Bids in the IFM are exhausted, resource Self-

Schedules between the resource's Minimum Load and the first Energy level of the first Energy Bid point will be subject to adjustments by the CAISO Market optimization based on the scheduling priorities listed below. This functionality of the optimization software is implemented through the setting of scheduling parameters as described in Section 27.4.3 and specified in Section 27.4.3.1 and the Business Practice Manuals. Through this process, imports and exports may be reduced to zero, Demand Bids may be reduced to zero, Price Taker Demand (LAP load) may be reduced, and Generation may be reduced to a lower operating limit (or Regulation Limit) (or to a lower Regulation Limit plus any qualified Regulation Down award or Self-Provided Ancillary Services, if applicable). Any Self-Schedules below the Minimum Load level are treated as fixed Self-Schedules and are not subject to these adjustments for Congestion Management. The provisions of this section shall apply only to the extent they do not conflict with any MSS Agreement. In accordance with Section 27.4.3.5, the resources submitted in valid TOR, ETC or Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. Thus the adjustment sequence for the IFM from highest priority (last to be adjusted) to lowest priority (first to be adjusted), is as follows:

- (a) Reliability Must Run (RMR) Generation pre-dispatch reduction;
- (b) Day-Ahead TOR Self-Schedules reduction (balanced demand and supply reduction);
- (c) Day-Ahead ETC and Converted Rights Self-Schedules reduction; different ETC priority levels will be observed based upon global ETC priorities provided to the CAISO by the Responsible PTOs;
- (d) Internal Transmission Constraint relaxation for the IFM pursuant to Section 27.4.3.1;
- (e) Other Self-Schedules of CAISO Demand reduction subject to Section 31.3.1.3, exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports, and Self-Schedules of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity;

- (f) Self-Schedules of exports at Scheduling Points not explicitly sourced by non-Resource Adequacy Capacity, except those exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports as set forth in Section 31.4(d);
- (g) Day-Ahead Regulatory Must-Run Generation and Regulatory Must-Take Generation reduction;
- (h) Other Self-Schedules of Supply reduction.

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### **34.2.2 Real-Time Ancillary Services Procurement**

If the CAISO determines that additional Ancillary Services are required, other than those procured in the IFM, HASP, the RTUC will procure Ancillary Services on a fifteen (15) minute basis as necessary to meet reliability requirements and will determine Real-Time Ancillary Service interval ASMPs for such AS for the next Commitment Period. All Operating Reserves procured in the RTM are considered Contingency Only Operating Reserves. Any Ancillary Service awarded in RTUC will be taken as fixed for the three (3) five (5) minute RTD intervals of its target fifteen (15) minute interval. In the RTUC, all resources certified and capable of providing Operating Reserves that have submitted Real-Time Energy Bids shall also submit applicable Spinning or Non-Spinning Reserves Bids, respectively, depending on whether the resource is online or offline. The CAISO will utilize the RTUC to procure Operating Reserves to restore its Operating Reserve requirements in cases when: (1) Operating Reserves awarded in IFM, HASP or RTUC have been dispatched to provide Energy, (2) resource(s) awarded to provide Operating Reserves in the IFM, HASP or RTUC are no longer capable of providing such awarded Operating Reserves, or (3) the Operator determines that additional Operating Reserves are necessary to maintain Operating Reserves within NERC and WECC reliability standards, ~~including~~ [and](#) any requirements of the NRC. The CAISO will utilize the RTUC to procure additional Regulation capacity in Real-Time in cases when: (1)

resource(s) awarded to provide Regulation in the IFM, HASP or RTUC are no longer capable of providing such awarded Regulation, or (2) the Operator determines that additional Regulation is necessary to maintain sufficient control consistent with NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC and Good Utility Practice. The RTUC will produce fifteen (15) minute ASMPs for the four (4) binding fifteen (15) minute intervals for the applicable Trading Hour. These fifteen (15) minute ASMPs are then used for the Settlement of the fifteen (15) minute AS Awards. The RTUC run will also produce fifteen (15) minute Shadow Prices for each of the Interties for the four (4) fifteen (15) minute intervals for the applicable Trading Hour. These fifteen (15) minute Shadow Prices are then used to charge for Intertie Real-Time AS Award providers for Congestion on the Interties. RTUC AS Awards are settled in accordance with 11.10.1.3.

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### **34.5 General Dispatch Principles**

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

- (1) The CAISO shall issue AGC instructions electronically as often as every four (4) seconds from its Energy Management System (EMS) to resources providing Regulation and on Automatic Generation Control to meet NERC and WECC performance requirements;
- (2) In each run of the RTED or RTCD the objective will be to meet the projected Energy requirements over the applicable forward-looking time period of that run, subject to transmission and resource operational constraints, taking into account the short term CAISO Forecast of CAISO Demand adjusted as necessary by the CAISO Operator to reflect scheduled changes to Interchange and non-dispatchable resources in subsequent Dispatch Intervals;

- (3) Dispatch Instructions will be based on Energy Bids for those resources that are capable of intra-hour adjustments and will be determined through the use of SCED except when the CAISO must utilize the 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 [RunUp](#) Time and Minimum Down Time defined for each MSG configuration and Minimum [RunUp](#) Time and Minimum Down Time at the Generating Unit or Dynamic Resource-Specific System Resource.

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### **34.8 Dispatch Of Energy From Ancillary Services**

The CAISO may issue Dispatch Instructions to Participating Generators, Participating Loads, Proxy Demand Resources, (via communication with the Scheduling Coordinators of Demand Response Providers) System Units and System Resources contracted to provide Ancillary Services (either procured through the CAISO Markets, Self-Provided by Scheduling Coordinators, or dispatched in accordance with the RMR Contract) for the Supply of Energy. During normal operating conditions, the CAISO shall Dispatch those Participating Generators, Participating Loads, Proxy Demand Resources, System Units and System Resources that have contracted to provide Spinning and Non-Spinning Reserve, except for those reserves designated as Contingency Only, in conjunction with the normal Dispatch of Energy; [provided, however, the CAISO may adjust this Dispatch of Spinning and Non-Spinning Reserve as necessary to address forecasted conditions in subsequent intervals within the forward-looking time period of the optimization as well as transmission or resource operational constraints.](#) Contingency Only reserves are Operating Reserve capacity that have been designated, either by the Scheduling Coordinator or the CAISO, as available to supply Energy in the Real-Time only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency. The CAISO may designate any reserve not previously identified as Contingency Only by Scheduling Coordinator as Contingency Only reserves, as necessary to maintain NERC and WECC reliability standards, [including and](#) any requirements of the NRC. In the event of an unplanned Outage, a Contingency or a threatened or actual System Emergency, the CAISO may dispatch Contingency Only reserves. If Contingency Only reserves are dispatched through the RTCD, which as described in Section

34.3.2, only Dispatches in the event of a Contingency. Such Dispatch and pricing will be based on the original Energy Bids. If Contingency Only reserves are dispatched in response to a System Emergency that has occurred because the CAISO has run out of Economic Bids when no Contingency event has occurred, the RTED will Dispatch such Contingency Only reserves using maximum Bid prices as provided in Section 39.6.1 as the Energy Bids for such reserves and will set prices accordingly. If a Participating Generator, Participating Load, System Unit or System Resource that is supplying Operating Reserve is dispatched to provide Energy, the CAISO shall replace the Operating Reserve as necessary to maintain NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC. If the CAISO uses Operating Reserve to meet Real-Time Energy requirements, and if the CAISO needs Operating Reserves to satisfy NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC, the CAISO shall restore the Operating Reserves to the extent necessary to meet NERC and WECC reliability standards, ~~including and~~ any requirements of the NRC through either the procurement of additional Operating Reserve in the RTM or the Dispatch of other Energy Bids in SCED to allow the resources that were providing Energy from the Operating Reserve to return to their Dispatch Operating Point. The Energy Bid Curve is not used by the AGC system when Dispatching Energy from Regulation. For Regulation Up capacity, the upper portion of the resource capacity from its Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve. For a resource providing Regulation Up or Operating Reserves the remaining Energy Bid Curve shall be allocated to any RTM AS Awards in the following order from higher to lower capacity where applicable: (a) Spinning Reserve; and (b) Non-Spinning Reserve. For resources providing Regulation Up, the applicable upper Regulation Limit shall be used as the basis of allocation if it is lower than the upper portion of the Energy Bid Curve. The remaining portion of the Energy Bid Curve, if there is any, shall constitute a Bid for RTM Energy. For Regulation Down capacity, the lower portion of the resource capacity from its applicable Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve.

### **34.9 Exceptional Dispatch**

The CAISO may issue Exceptional Dispatches for the circumstances described in this Section 34.9, which may require the issuance of forced Shut-Downs, forced Start-Ups, or forced MSG Transitions and shall be

consistent with Good Utility Practice. Dispatch Instructions issued pursuant to Exceptional Dispatches shall be entered manually by the CAISO Operator into the Day-Ahead or RTM optimization software so that they will be accounted for and included in the communication of Day-Ahead Schedules and Dispatch Instructions to Scheduling Coordinators. Exceptional Dispatches are not derived through the use of the IFM or RTM optimization software and are not used to establish the LMP at the applicable PNode. The CAISO will record the circumstances that have led to the Exceptional Dispatch. Except as provided in this Section 34.9, the CAISO shall consider the effectiveness of the resource along with Start-Up Costs, Transition Costs, and Minimum Load Costs when issuing Exceptional Dispatches to commit a resource to operate at Minimum Load. When the CAISO issues Exceptional Dispatches for Energy, the CAISO shall also consider Energy Bids, if available and as appropriate. In accordance with Good Utility Practice, the CAISO shall make CPM<sup>A11</sup> designations of Eligible Capacity for an Exceptional Dispatch ~~CPM~~ by applying the following additional criteria in the order listed:

- (1) the effectiveness of the Eligible Capacity at meeting the designation criteria specified in Section 43.2;
- (2) the capacity costs associated with the Eligible Capacity;
- (3) the quantity of a resource's available Eligible Capacity, based on a resource's PMin, relative to the remaining amount of capacity needed;
- (4) the operating characteristics of the resource, such as dispatchability, Ramp Rate, and load-following capability; and
- (5) whether the resource is subject to restrictions as a Use-Limited Resource.

In applying these selection criteria, the goal of the CAISO will be to issue Exceptional Dispatches on a least-cost basis to resources that will be effective in meeting the reliability needs underlying the Exceptional Dispatches. In making this determination, the CAISO will apply the first criterion to identify the effective Eligible Capacity by considering the effectiveness of the resources at meeting the designation criteria for the Exceptional Dispatch and at resolving the underlying reliability need. The CAISO will apply the second criterion by considering the cost of the effective Eligible Capacity. The CAISO will endeavor to Exceptionally Dispatch a resource at the CPM Capacity price determined in accordance with Section 43.6.1 before selecting a resource with a higher unit-specific CPM Capacity

price specified under Section 43.6.2. The CAISO will endeavor to Exceptionally Dispatch resources that have specified a capacity price before designating resources that have not specified a CPM Capacity price under Section 43.6.2.1. The CAISO will apply the third criterion by considering the quantity of a resource's Eligible Capacity. The CAISO will endeavor to select a resource that has a PMin at or below the capacity that is needed to meet the reliability need before selecting a resource that has a PMin that would result in over-procurement. The CAISO will apply the fourth criterion by considering specific operating characteristics of a resource, such as dispatchability, ramp rate, and load-following capability to the extent that such characteristics are an important factor in resolving the reliability need. The CAISO will apply the fifth criterion by considering whether a resource is use-limited and whether that status may restrict its ability to be available to the CAISO in the Day-Ahead Market and Real-Time Market throughout the period for which it is being procured. To the extent that use-limited resources are capable of performing the required service for the duration of the Exceptional Dispatch, the CAISO will not unduly discriminate in favor of non-Use Limited resources when applying the selection criteria. Imbalance Energy delivered or consumed pursuant to the various types of Exceptional Dispatch is settled according to the provisions in Section 11.5.6.

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### **35.3 Finality Of Prices Subject To The Price Correction Process**

All prices shall be considered provisional until the CAISO has completed the price correction process regarding them. All prices for each Trading Day shall be considered final for purposes of this Section 35 once the price correction process for that Trading Day has ended and the CAISO will not make price corrections or change published prices after the price correction process time period has expired except as further discussed in this Section 35.3. The CAISO will not make price corrections after the price correction process time period specified in Section 35.2 has expired, except as otherwise directed by the Federal Energy Regulatory Commission. In addition, for intervals in which the CAISO experiences a problem with the processing or publication of prices, the CAISO will make changes to the affected prices to remedy the processing or publication problems within the time period following the applicable Trading

Day as specified in the Business Practice Manual, except as otherwise directed by the Federal Energy Regulatory Commission. After the ~~after~~ expiration of the applicable time horizon for addressing processing and publication issues, as specified in the Business Practice Manual, in the case of a price discrepancy between prices posted on the CAISO's OASIS and prices provided to Scheduling Coordinators through other means, the CAISO will use the price posted on OASIS for Settlement purposes.

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### **37.5.2 Inaccurate or Late Actual SQMD**

#### **37.5.2.1 Expected Conduct**

~~Market Participants~~ [Scheduling Coordinators representing Scheduling Coordinator Metered Entities](#) shall provide complete and accurate Settlement Quality Meter Data for each Trading Hour and shall correct any errors in such data no later than forty-eight (48) Business Days after the Trading Day (T+48B). Failure either to submit complete and accurate Actual Settlement Quality Meter Data or to replace Estimated Settlement Quality Meter Data with complete and accurate Actual Settlement Quality Meter Data by T+48B is late Actual Settlement Quality Meter Data and shall be a violation of this rule. The failure to provide complete and accurate Actual Settlement Quality Meter Data, as required by Section 10.3.6 that causes an error to exist in such Settlement Quality Meter Data after forty-eight (48) Business Days after the Trading Day (T+48B) shall be a violation of this rule. Scheduling Coordinators that fail to submit Scheduling Coordinator Estimated Settlement Quality Meter Data that is complete and based on a good faith estimate that reasonably represents Demand and/or Generation quantities for each Settlement Period as required by Section 10 shall be a violation of this rule and may be referred to DMM for investigation.

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#### **40.3.1.1 Local Capacity Technical Study Criteria**

The Local Capacity Technical Study will determine the minimum amount of Local Capacity Area Resources needed to address the Contingencies identified in Section 40.3.1.2. In performing the Local Capacity Technical Study, the CAISO will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided in NERC Reliability Standards TPL-001-0, TPL-002-0, TPL-003-0, and TPL-004-0, as augmented by CAISO Reliability Criteria in accordance with the Transmission Control Agreement and Section 24.2.1. The CAISO Reliability Criteria shall include:

- (1) Time Allowed for Manual Readjustment: This is the amount of time required for the Operator to take all actions necessary to prepare the system for the next Contingency. This time should not be ~~more~~less than thirty (30) minutes.
- (2) No voltage collapse or dynamic instability shall be allowed for a Contingency in Category D – extreme event (any B1-4 system readjusted (Common Mode) L-2), as listed in Section 40.3.1.2.

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#### **40.4.6.2.1 Available Import Capability Assignment Process**

For Resource Adequacy Plans covering any period after December 31, 2007, total Available Import Capability will be assigned on an annual basis for a one-year term to Load Serving Entities serving Load in the CAISO Balancing Authority Area and other Market Participants through their respective Scheduling Coordinators, as described by the following sequence of steps. However, should the CPUC modify by decision its compliance period from January to December of the calendar year to May through April of the calendar year, the CAISO shall extend the effectiveness of the assignment for Resource Adequacy Compliance Year 2008 through April 2009.

Step 1: Determination of Maximum Import Capability on Interties into the CAISO Balancing Authority Area: The CAISO shall establish the Maximum Import Capability for each Intertie into the CAISO

Balancing Authority Area, and will post those values on the CAISO Website in accordance with the schedule and process set forth in the Business Practice Manual.

Step 2: Determination of Available Import Capability by Accounting for Existing Contracts and Transmission Ownership Rights Held by Out-of- Balancing Authority Area LSEs: For each Intertie, the Available Import Capability will be determined by subtracting from the Maximum Import Capability established in Step 1 for each Intertie the import capability on each Intertie associated with (i) Existing Contracts and (ii) Transmission Ownership Rights held by load serving entities that do not serve Load within the CAISO Balancing Authority Area. The remaining sum of all Intertie Available Import Capability is the Total Import Capability. Total Import Capability shall be used to determine the Load Share Quantity for each Load Serving Entity that serves Load within the CAISO Balancing Authority Area.

Step 3: Determination of Existing Contract Import Capability by Accounting for Existing Contracts and Transmission Ownership Rights Held by CAISO Balancing Authority Area LSEs: From the Available Import Capability remaining on each Intertie after Step 2 above, Existing Contracts and Transmission Ownership Rights held by Load Serving Entities that serve Load within the CAISO Balancing Authority Area shall be reserved for the holders of such commitments and will not be subject to reduction under any subsequent steps in this Section. The import capability reserved pursuant to this Step 3 is the Existing Contract Import Capability.

Step 4: Assignment of Pre-RA Import Commitments: From the Available Import Capability remaining on each Intertie after reserving Existing Contract Import Capability under Step 3 above, the CAISO will assign to Load Serving Entities serving Load within the CAISO Balancing Authority Area Pre-RA Import Commitment Capability on a particular Intertie based on Pre-RA Import Commitments in effect (where a supplier has an obligation to deliver the Energy or make the capacity available) at any time during the Resource Adequacy Compliance Year for which the Available Import Capability assignment is being performed. The Pre-RA Import Commitment will be assigned to the Intertie selected by the Load Serving Entity during the Resource Adequacy Compliance Year 2007 import capability assignment process, which was required to be based on the Intertie upon which the Energy or capacity from the Pre-RA Import Commitment had been primarily scheduled or, for a Pre-RA

Import Commitment without a scheduling history at the time of the Resource Adequacy Compliance Year 2007 import capability assignment process, the primary Intertie upon which the Energy or capacity was anticipated to be scheduled. To the extent a Pre-RA Import Commitment was not presented during the Resource Adequacy Compliance Year 2007 import capability assignment process, the Load Serving Entity shall select the Intertie upon which the Pre-RA Import Commitment is primarily anticipated to be scheduled during the term of the Pre-RA Import Commitment and that selection shall be utilized in future annual Available Import Capability assignment processes. If a Pre-RA Import Commitment submitted on behalf of a LSE with Existing Contract Import Capability is assigned under this Section to the same Intertie on which the LSE holds Existing Contract Import Capability, the Pre-RA Import Commitment will be assumed to deliver over the Existing Contract Import Capability until exhausted, unless the LSE can demonstrate otherwise.

To the extent a particular Intertie becomes over requested with Pre-RA Import Commitments due to either Pre-RA Import Commitments not included in the Resource Adequacy Compliance Year 2007 import capability assignment process or changes in system conditions that decrease the Maximum Import Capability of the Intertie, such that the MW represented in all Pre-RA Import Commitments utilizing the Intertie exceed the Intertie's Available Import Capability in excess of that reserved for Existing Contracts and Transmission Ownership Rights under Steps 2 and 3, the Pre-RA Import Commitments will be assigned Pre-RA Import Commitment Capability, based on the Import Capability Load Share Ratio of each Load Serving Entity submitting Pre-RA Import Commitments on the particular Intertie. To the extent this initial assignment of Pre-RA Import Commitment Capability has not fully assigned the Available Import Capability of the particular over requested Intertie, the remaining Available Import Capability on the over requested Intertie will be assigned until fully exhausted based on the Import Capability Load Share Ratio of each Load Serving Entity whose submitted Pre-RA Import Commitment has not been fully satisfied by the previous Import Capability Load Share Ratio assignment iteration. The Available Import Capability assigned pursuant to this Step 4 is the Pre-RA Import Commitment Capability.

Step 5: Assignment of Remaining Import Capability Limited by Load Share Quantity: The Total Import Capability remaining after Step 4 will be assigned only to Load Serving Entities serving Load

within the CAISO Balancing Authority Area that have not received Existing Contract Import Capability and Pre-RA Import Commitment Capability under Steps 3 and 4, that exceed the Load Serving Entity's Load Share Quantity. Only the MW quantity of any Pre-RA Import Commitment Capability assigned to Existing Contract Import Capability under Step 4 that exceeds the Existing Contract Import Capability on the particular Intertie will be counted for purposes of this Step 5. This Total Import Capability will be assigned until fully exhausted to those Load Serving Entities eligible to receive an assignment under this Step based on each Load Serving Entity's Import Capability Load Share Ratio up to, but not in excess of, its Load Share Quantity. The quantity of Total Import Capability assigned to the Load Serving Entity under this Step is the Load Serving Entity's Remaining Import Capability. This Step 5 does not assign Remaining Import Capability on a specific Intertie.

Step 6: CAISO Posting of Assigned and Unassigned Capability: Following the completion of Step 5, the CAISO will post to the CAISO Website, in accordance with the schedule set forth in the Business Practice Manual the following information:

- (a) The Total Import Capability;
- (b) The quantity in MW of Existing Contracts and Transmission Ownership Rights assigned to each Intertie, distinguishing between Existing Contracts and Transmission Ownership Rights held by Load Serving Entities within the CAISO Balancing Authority Area and those held by load serving entities outside the CAISO Balancing Authority Area;
- (c) The aggregate quantity in MW, and identity of the holders, of Pre-RA Import Commitments assigned to each Intertie; and
- (d) The aggregate quantity in MW of Available Import Capability after Step 4, the identity of the Interties with Available Import Capability, and the MW quantity of Available Import Capability on each such Intertie.

Step 7: CAISO Notification of LSE Assignment Information: Following the completion of Step 5, in accordance with the schedule set forth in the Business Practice Manual, the CAISO will notify the Scheduling Coordinator for each Load Serving Entity of:

- (a) The Load Serving Entity's Import Capability Load Share;
- (b) The Load Serving Entity's Load Share Quantity; and
- (c) The amount of, and Intertie on which, the Load Serving Entity's Existing Contract Import Capability and Pre-RA Import Commitment Capability, as applicable, has been assigned; and
- (d) The Load Serving Entity's Remaining Import Capability.

Step 8: Transfer of Import Capability: In accordance with the schedule set forth in the Business Practice Manual, a Load Serving Entity shall be allowed to transfer some or all of its Remaining Import Capability to any other Load Serving Entity or Market Participant. The CAISO will accept transfers among LSEs and Market Participants only to the extent such transfers are reported to the CAISO, in accordance with the schedule set forth in the Business Practice Manual and through the CAISO's Import Capability Transfer Registration Process, by the entity receiving the Remaining Import Capability who must set forth (1) the name of the counter-parties, (2) the MW quantity, (3) term of transfer, and (4) price on a per MW basis. The CAISO will post to the CAISO Website by August 8, 2007 for Resource Adequacy Compliance Year 2008 and for subsequent Resource Adequacy Compliance Years in accordance with the schedule set forth in the Business Practice Manual the information on transfers of Remaining Import Capability received under this Step 8.

Step 9: Initial Scheduling Coordinator Request to Assign Remaining Import Capability by Intertie: In accordance with the schedule set forth in the Business Practice Manual, the Scheduling Coordinator for each Load Serving Entity or Market Participant shall notify the CAISO of its request to assign its post-trading Remaining Import Capability on a MW basis per available Intertie. Total requests for assignment of Remaining Import Capability by a Scheduling Coordinator cannot exceed the sum of the post-traded Remaining Import Capability of its Load Serving Entities. The CAISO will honor the requests to the extent an Intertie has not been over requested. If an Intertie is over requested, the requests for Remaining Import Capability on that Intertie will be assigned based on each Load Serving Entity's Import Capability Load Share Ratio in the same manner as set forth in Step 4. A Market Participant without an Import Capability Load Share will be assigned the Import Capability Load Share equal to the average Import Capability Load Share of those Load Serving Entities from

which it received transfers of Remaining Import Capability.

Step 10: CAISO Notification of Initial Remaining Import Capability Assignments and Unassigned Capability: In accordance with the schedule set forth in the Business Practice Manual, the CAISO will:

- (a) Notify the Scheduling Coordinator for each Load Serving Entity or Market Participant of the Load Serving Entity or Market Participant's accepted request(s) for assigning Remaining Import Capability under Step 9; ~~and~~
- (b) Publish on the CAISO Website aggregate unassigned Available Import Capability, if any, the identity of the Interties with unassigned Available Import Capability, and the MW quantity of Available Import Capability, on each such Intertie; ~~and~~
- (c) Issue a Market Notice to advise the Scheduling Coordinator for each Load Serving Entity or Market Participant that Step 10 is complete and to specify the time at which the ISO will ~~beginning~~ accepting requests for the Remaining Import Capability for Step 11.

Step 11: Secondary Scheduling Coordinator Request to Assign Remaining Import Capability by Intertie: To the extent Remaining Import Capability remains unassigned as disclosed by Step 10, in accordance with the schedule set forth in the Business Practice Manual, Scheduling Coordinators for Load Serving Entities or Market Participants shall notify the CAISO of their requests to assign any ~~remaining~~ Remaining Import Capability on a MW per available Intertie basis. Step 10 must be completed before a Scheduling Coordinator may submit a request under this step for any Remaining Import Capability. Any requests received prior to the time stated in the Market Notice issued at the completion of Step 10 will not be honored by the ISO. The CAISO will honor the timely requests received to the extent an Intertie has not been over requested. If an Intertie is over requested, the requests on that Intertie will be assigned based on each Load Serving Entity or Market Participant's Import Capability Load Share Ratio, as used in Steps 4 and 9.

Step 12: Notification of Secondary Remaining Import Capability Assignments and Unassigned

Capability: In accordance with the schedule set forth in the Business Practice Manual, the CAISO will:

- (a) Notify the Scheduling Coordinator for each Load Serving Entity or Market Participant of the Load Serving Entity or Market Participant's accepted request(s) for assigning Remaining Import Capability under Step 11; ~~and~~
- (b) Publish on the CAISO Website unassigned aggregate Available Import Capability, if any, the identity of the Interties with Available Remaining Import Capability, and the MW quantity of Availability Import Capability on each such Intertie; ~~and~~
- (c) Step 10 must be completed before a Scheduling Coordinator may submit a request under this step for any Remaining Import Capability. Any requests received prior to the time stated in the Market Notice issued at the completion of Step 10 will not be honored by the ISO.

Step 13: Requests for Balance of Year Unassigned Available Import Capability: To the extent total Available Import Capability remains unassigned as disclosed by Step 12, Scheduling Coordinators for Load Serving Entities or Market Participants may notify the CAISO ~~at any time, except as limited herein,~~ of a request for unassigned Available Import Capability on a specific Intertie on a per MW basis. Step 12 must be completed before a Scheduling Coordinator may submit a request under this step for any remaining unassigned Import Capability. Any requests received prior to the time stated in the Market Notice issued at the completion of Step 12 will not be honored by the ISO. Each request must include the identity of Load Serving Entity or Market Participant on whose behalf the request is made. The CAISO will accept only two (2) requests per calendar week from any Scheduling Coordinator on behalf of a single Load Serving Entity or other Market Participant. The CAISO will honor timely requests in priority of the time requests from Scheduling Coordinators were received until the Intertie is fully assigned and without regard to any Load Serving Entity's Load Share Quantity. Any honored request shall be for the remainder of the Resource Adequacy Compliance Year; however, any notification by the CAISO of acceptance of the request in accordance with this Section after the 20th calendar day of any month shall not be permitted to be included in the Load

Serving Entity's Resource Adequacy Plan submitted in the same month as the acceptance.

The CAISO shall provide an electronic means, either through the Import Capability Transfer Registration Process or otherwise, of notifying the Scheduling Coordinator of the time the request was deemed received by the CAISO and, within seven (7) days of receipt of the request, whether the request was honored. If honored, it shall be the responsibility of the Scheduling Coordinator and its Load Serving Entity to notify the CPUC or applicable Local Regulatory Authority of the acceptance of the request for unassigned Available Import Capability. If the request is not honored because the Intertie requested was fully assigned, the request will be deemed rejected and the Scheduling Coordinator, if it still seeks to obtain unassigned Available Import Capability, will be required to submit a new request for unassigned Available Import Capability on a different Intertie. The CAISO will update on its website the list of unassigned Available Import Capability by Intertie in accordance with the schedule set forth in the Business Practice Manual.

This multi-step process for assignment of Total Import Capability does not guarantee or result in any actual transmission service being assigned and is only used for determining the import capability that can be credited towards satisfying the Reserve Margin of a Load Serving Entity under this Section 40. Upon the request of the CAISO, Scheduling Coordinators must provide the CAISO with information on Pre-RA Import Commitments and any transfers or sales of assigned Total Import Capability.

\* \* \*

#### **42.1.3 Applicable Reliability Criteria Not Met In Peak Demand**

If the forecast shows that the Applicable Reliability Criteria cannot be met during peak Demand periods, then the CAISO shall facilitate the development of market mechanisms to bring the CAISO Controlled Grid during peak periods into compliance with the Applicable Reliability Criteria (or such more stringent criteria as the CAISO may impose). The CAISO shall solicit Bids in the form of Ancillary Services, short-term Generation supply contracts of up to one (1) year with Generators, and Load curtailment contracts giving the CAISO the right to reduce the Demands of those parties that win the contracts when there is

insufficient Generation capacity to satisfy those Demands in addition to all other Demands. The Load curtailment contracts shall provide that the CAISO's curtailment rights can only be exercised after all available Generation capacity has been fully utilized unless the exercise of such rights would allow the CAISO to satisfy the Applicable Reliability Criteria at lower cost, and the curtailment rights shall not be exercised to stabilize or otherwise influence prices for power in the Energy markets.

#### **42.1.4 Lowest Cost Bids Satisfying Applicable Reliability Criteria**

If Ancillary Services contracts, short-term Generation supply contracts, or Load curtailment contracts are required to meet Applicable Reliability Criteria, the CAISO shall select the Bids bids that permit the satisfaction of those Applicable Reliability Criteria at the lowest cost.

\* \* \*

#### **43.6.4 [Not Used] Board Of Governors Report**

~~The CAISO will include in the operations report provided to the CAISO Governing Board at each board meeting a summary of CPM costs.~~

\* \* \*

#### **- CAISO Audit Committee**

A committee of the CAISO Governing Board appointed pursuant to ~~Article IV, Section 5 of~~ the CAISO bylaws to (1) review the CAISO's annual independent audit, (2) report to the CAISO Governing Board on such audit, and (3) monitor compliance with the CAISO Code of Conduct.

\* \* \*

#### **- CAISO Code Of Conduct**

~~For employees, t~~The codes of conduct for officers, governors and employees approved by the CAISO Governing Board~~and substantially full-time consultants and contractors of the CAISO as set out in exhibit A to the CAISO bylaws; for governors, the code of conduct for governors of the CAISO as set out in exhibit B to the CAISO bylaws.~~

\* \* \*

#### **- Contingency Only**

A resource providing Operating Reserve capacity that may be Dispatched by the CAISO only in the event of a Contingency or an imminent or actual System Emergency.

\* \* \*

**- Critical Energy Infrastructure Information (CEII)**

Critical Energy Infrastructure Information shall have the meaning given the term in the regulations of FERC at 18 C.F.R. § 388.11342, et seq.

\* \* \*

**- Dispatch Interval**

The Time Period, which may range between five (5) and thirty (30) minutes, over which the Real-Time Dispatch measures deviations in Generation and Demand, and selects Ancillary Service and supplemental Energy resources to provide balancing Energy in response to such deviations. The Dispatch Interval shall be five (5) minutes. Following a decision by the CAISO Governing Board, the CAISO may, by seven (7) days' notice published on the CAISO Website, increase or decrease the Dispatch Interval within the range of five (5) to thirty (30) minutes.

\* \* \*

**- Eligible Customer**

(i) any utility (including Participating TOs, Market Participants and any power marketer), Federal power marketing agency, or any person generating Energy for sale or resale; Energy sold or produced by such entity may be Energy produced in the United States, Canada or Mexico; however, such entity is not eligible for transmission service that would be prohibited by Section 212(h)(2) of the Federal Power Act; and (ii) any retail customer taking unbundled transmission service pursuant to a state retail access program or pursuant to a voluntary offer of unbundled retail transmission service by the Participating TO.

\* \* \*

**Eligible Intermittent Resource**

A Generating Unit or Dynamic System Resource ~~1-MW or larger~~ subject to a Participating Generator Agreement, Net Scheduled PGA, Dynamic Scheduling Agreement for Scheduling Coordinators, or Pseudo-Tie Participating Generator Agreement that is powered by wind or solar energy, except for a de minimis amount of Energy from other sources.

\* \* \*

**- Host Balancing Authority Area**

The Balancing Authority Area in which a System Resource ~~subject to this CAISO Tariff~~ is connected to the electric grid. The Host Balancing Authority Area may, or may not, be directly interconnected with the CAISO Balancing Authority Area.

\* \* \*

**- Hourly Real-Time LAP Price**

The load deviation weighted average of the hourly average of the Dispatch Interval LMPs for the LAP in the relevant Trading Hour used for the ~~s~~Settlement of UIE.

\* \* \*

**- Hydro Spill Generation**

Hydro~~-~~electric Generation in existence prior to the CAISO Operations Date that: i) has no storage capacity and that, if backed down, would spill; ii) has exceeded its storage capacity and is spilling even though the generators are at full output; iii) has inadequate storage capacity to prevent loss of hydro~~-~~electric Energy either immediately or during the forecast period, if hydro~~-~~electric Generation is reduced; or iv) has increased regulated water output to avoid an impending spill.

\* \* \*

**- Identification Code**

An identification number or set of letters assigned to each Scheduling Coordinator by the CAISO.

\* \* \*

**- IFM Congestion Credit**

A credit provided to Scheduling Coordinators to offset any IFM Congestion~~s~~ Charges that would otherwise be applied to the valid and balanced portions of any ETC, TOR or Converted Rights Self-Schedule in the IFM as provided in Section 11.2.1.5.

\* \* \*

**- IFM Marginal Losses Surplus Credit**

The amount of money distributed to a Scheduling Coordinators in the allocation of IFM Marginal Losses Surplus in proportion to the Scheduling Coordinator's Measured Demand in accordance with Section 11.2.1.6.

\* \* \*

**- IFM MSS Price**

Either (1) ~~T~~he IFM LAP price for the MSS when the MSS scheduled internal Demand exceeds the MSS scheduled internal Supply; or (2) the weighted average of the IFM LMPs for all applicable PNodes within the relevant MSS when MSS scheduled internal Supply exceeds MSS scheduled internal Demand where weighting factors for computing the weighted average are based on the scheduled Supply at the corresponding PNodes.

\* \* \*

**- Intertie Block Bid**

A Bid from a System Resource in the DAM that offers the same quantity of Energy, ~~RUC Availability, or Ancillary Services~~ across multiple, contiguous hours of the Trading Day.

\* \* \*

**- Load Serving Entity (LSE)**

Any entity (or the duly designated agent of such an entity, including, e.g., a Scheduling Coordinator), including a load aggregator or power marketer, that (a) (i) serves End Users within the CAISO Balancing Authority Area and (ii) has been granted authority or has an obligation pursuant to California state or local law, regulation, or franchise to sell electric energy to End Users located within the CAISO Balancing Authority Area; (b) is a federal power marketing authority that serves End Users; or (c) is the State Water Resources Development System commonly known as the State Water Project of the California Department of Water Resources.

\* \* \*

**- Local Furnishing Participating To**

Any Tax-Exempt Participating TO that owns facilities financed by Local Furnishing Bonds.

\* \* \*

**- Market Clearing Price**

The price in a market at which supply equals demand. All demand prepared to pay at least this price has been satisfied and all supply prepared to operate at or below this price has been purchased.

\* \* \*

**- Market Manipulation**

[Market Manipulation](#) has the meaning set forth in Section 37.7.

\* \* \*

**- Market Violation**

A CAISO Tariff violation, violation of a ~~Commission~~[FERC](#)-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies.

\* \* \*

**- Meter Data**

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

\* \* \*

**- Metered Subsystem Agreement (MSS Agreement)**

A negotiated agreement between the CAISO and an MSS Operator regarding the operation of an MSS in relation to the CAISO entered into pursuant to Section 4.9, which MSS Agreement will incorporate the provisions of Section 4.9, unless otherwise agreed.

\* \* \*

**- Minimum Load**

For a Generating Unit, the minimum sustained operating level at which it can operate at a continuous sustained level. For a Participating Load, the ~~Operating~~ Llevel at reduced consumption pursuant to a Dispatch Instruction. For a Proxy Demand Resource, the smallest discrete load reduction possible for the Proxy Demand Resource.

\* \* \*

**- Nomogram**

A set of operating or scheduling rules which are used to ensure that simultaneous operating limits are respected, in order to meet NERC and WECC reliability standards, ~~including~~ and any requirements of the NRC.

\* \* \*

**- Non-priced Quantity**

As set forth in Section 27.4.3, a quantitative value in a CAISO Market that may be adjusted by the SCUC or SCED in the CAISO market optimizations but that does not have an associated ~~b~~Bid price submitted by a Scheduling Coordinator. The Non-priced Quantities that may be so adjusted are: Energy Self-Schedules, Transmission Constraints, market ~~e~~Energy balance constraints, Ancillary Service requirements, conditionally qualified and conditionally unqualified Ancillary Service self-provision, limits in RUC on ~~m~~Minimum ~~l~~Load ~~e~~Energy, ~~quick-start~~Fast Start Unit capacity and minimum ~~g~~Generation, Day-Ahead Energy Schedules resulting from the IFM, and estimated HASP Energy Self-Schedules used in RUC.

\* \* \*

**- Operating Reserve**

The combination of Spinning and Non-Spinning Reserve required to meet NERC and WECC reliability standards, ~~including~~ and any requirements of the NRC for reliable operation of the CAISO Balancing Authority Area.

\* \* \*

**- Recalculation Settlement Statement**

The recalculation of a Settlement Statement in accordance with the provisions of the CAISO Tariff, which includes the Recalculation Settlement Statement T+~~38~~55B, the Recalculation Settlement Statement T+76B, the Recalculation Settlement Statement T+18M, the Recalculation Settlement Statement T+35M, the Recalculation Settlement Statement T+36M or any other Recalculation Settlement Statement authorized by the CAISO Governing Board.

\* \* \*

**- Recalculation Settlement Statement T+~~38~~55B**

The reissue of an Initial Settlement Statement T+3B by the CAISO on the ~~fifty-fifth (55th)~~thirty-eighth (38th) Business Day from the relevant Trading Day.

**- Recalculation Settlement Statement T+76B**

The reissue of an Initial Settlement Statement T+3B or a Recalculation Settlement Statement T+~~38~~55B by the CAISO on the seventy-sixth (76th) Business Day from the relevant Trading Day (T+76B).

**- Recalculation Settlement Statement T+18M**

The reissue of an Initial Settlement Statement T+3B, a Recalculation Settlement Statement T+~~38~~55B, or a Recalculation Settlement Statement T+76B on the Business Day eighteen (18) calendar months from the relevant Trading Day (T+18M).

**- Recalculation Settlement Statement T+35M**

The reissue of an Initial Settlement Statement T+3B, a Recalculation Settlement Statement T+~~38~~55B, a Recalculation Settlement Statement T+76B, or a Recalculation Settlement Statement T+18M, on the Business Day thirty-five (35) calendar months from the relevant Trading Day (T+35M).

**- Recalculation Settlement Statement T+36M**

The reissue of an Initial Settlement Statement T+3B, a Recalculation Settlement Statement T+~~38~~55B, a Recalculation Settlement Statement T+18M or a Recalculation Settlement Statement T+35M on the Business Day thirty-six (36) calendar months from the relevant Trading Day (T+36M).

\* \* \*

### **- Regulation**

The service provided either by resources certified by the CAISO as equipped and capable of responding to the CAISO's direct digital control signals, or by System Resources that have been certified by the CAISO as capable of delivering such service to the CAISO Balancing Authority Area, in an upward and downward direction to match, on a Real-Time basis, Demand and resources, consistent with established NERC and WECC reliability standards, ~~including~~ [and](#) any requirements of the NRC. Regulation is used to control the operating level of a resource within a prescribed area in response to a change in system frequency, tie line loading, or the relation of these to each other so as to maintain the target system frequency and/or the established Interchange with other Balancing Authority Areas within the predetermined Regulation Limits. Regulation includes both an increase in Energy production by a resource or decrease in Energy consumption by a resource (Regulation Up) and a decrease in Energy production by a resource or increase in Energy consumption by a resource (Regulation Down). Regulation Up and Regulation Down are distinct capacity products, with separately stated requirements and ASMPs in each Settlement Period.

\* \* \*

### **- Regulatory Must-Run Generation**

Hydro Spill Generation and Generation which is required to run by applicable federal or California laws, regulations, or other governing jurisdictional authority. Such requirements include but are not limited to hydrological flow requirements, environmental requirements, such as minimum fish releases, fish pulse releases and water quality requirements, irrigation and water supply requirements, [or the requirements](#) of solid waste Generation, or other Generation contracts specified or designated by the jurisdictional regulatory authority as it existed on December 20, 1995, or as revised by federal or California law or Local Regulatory Authority.

\* \* \*

### **- ~~Standard~~ Large Generator Interconnection Agreement (LGIA)**

The form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility, a pro forma version of which is set forth in Appendix V.

### **- ~~Standard~~ Large Generator Interconnection Procedures (LGIP)**

The interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that ~~is~~ [are](#) set forth in Appendix U.

\* \* \*

**- Start-Up Cost**

The cost incurred by a particular Generating Unit during Start-Up from the time of first fire, the time of receipt of a CAISO Dispatch Instruction, or the time the unit was last synchronized to the grid, whichever is later, until the time the Generating Unit reaches its [Minimum Load](#)~~minimum operating level~~.

\* \* \*

**- State Commission**

The regulatory body of a ~~S~~state having jurisdiction to regulate rates and charges for the sale of electric energy to consumers within the ~~S~~state.

\* \* \*

**- UDP Aggregation**

Two or more units scheduled by the same Scheduling Coordinator [and connected to the same CAISO Controlled Grid bus and voltage](#)<sup>[A2]</sup>~~with the same Resource ID~~ that are to be considered interchangeable for calculating the Uninstructed Deviation Penalty.

\* \* \*

## Appendix B.1 Scheduling Coordinator Agreement

\* \* \*

### 3. Term and Termination.

3.1 This Agreement shall commence on the later of (a) \_\_\_\_\_ or (b) the date the Scheduling Coordinator is certified by the CAISO as a Scheduling Coordinator.

3.2 This Agreement may be terminated in accordance with the provisions of Section 4.5.4.4 and 4.5.4.5 of the CAISO Tariff; provided, however, [that](#) any outstanding financial right or obligation or any other right or obligation under the CAISO Tariff of the Scheduling Coordinator that may have arisen under this Agreement, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive such termination until satisfied. The CAISO shall timely file any notice of termination with FERC, if this Agreement has been filed with FERC, or must otherwise comply with the requirements of FERC rules regarding termination.

\* \* \*

## Appendix B.2 Participating Generator Agreement

**THIS AGREEMENT** is dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ and is entered into, by and between:

(iii) **[Full Legal Name]** having its registered and principal place of business located at **[Address]** (the "Participating Generator");

and

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

The Participating Generator and the CAISO are hereinafter referred to as the "Parties".

### Whereas:

- A.** The CAISO Tariff provides that the CAISO shall not accept Bids for Energy or Ancillary Services generated by any Generating Unit interconnected to the CAISO Controlled Grid, or to the Distribution System of a Participating TO or of a UDC otherwise than through a Scheduling Coordinator.
- B.** The CAISO Tariff further provides that the CAISO shall not be obliged to accept Bids relating to Generation from any Generating Unit interconnected to the CAISO Controlled Grid unless the relevant Generator undertakes in writing to the CAISO to comply with all applicable provisions of the CAISO Tariff.
- C.** The Participating Generator wishes to be able to submit Bids to the CAISO through a Scheduling Coordinator and, therefore, wishes to undertake 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 Participating Generator 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 to 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.

\* \* \*

### Appendix B.3 Net Scheduled Participating Generator Agreement

**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 **[Address]** (the "Participating Generator");

and

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

The Participating Generator and the CAISO are hereinafter referred to as the "Parties".

#### Whereas:

- A. The CAISO Tariff provides that the CAISO shall not accept Bids for Energy or Ancillary Services generated by any Generating Unit interconnected to the CAISO Controlled Grid, or to the Distribution System of a Participating TO or of a UDC or MSS Operator otherwise than through a Scheduling Coordinator.
- B. The CAISO Tariff further provides that the CAISO shall not be obliged to accept Bids relating to Generation from any Generating Unit interconnected to the CAISO Controlled Grid unless the relevant Generator undertakes in writing to the CAISO to comply with all applicable provisions of the CAISO Tariff.
- C. The Participating Generator wishes to be able to submit Bids, from a Qualifying Facility Net Scheduled QF to the CAISO through a Scheduling Coordinator and, therefore, wishes to undertake to the CAISO that it will comply with the applicable provisions of the CAISO Tariff, except as otherwise specified in this Agreement.
- D. It is the intent of the Parties that this Agreement will harmonize the special operational characteristics of the Participating Generator's Qualifying Facility with the CAISO's grid operation function. Nothing in this Agreement is intended to limit or restrict the rights of the Participating Generator under Section 4.6.3.2 of the CAISO Tariff.
- E. The Parties are entering into this Agreement in order to establish the terms and conditions on which the CAISO and the Participating Generator 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.** Unless defined in this Agreement, all capitalized terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to 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, except as expressly provided otherwise in this Agreement;
- (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.

\* \* \*

## Appendix B.4 Participating Load Agreement

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 "Participating Load");

and

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

The Participating Load and the CAISO are hereinafter referred to as the "Parties".

### Whereas:

- A. The CAISO Tariff provides that the CAISO shall not accept Bids for Ancillary Services from a Load interconnected to the CAISO Controlled Grid, or to the Distribution System of a Participating TO or of a UDC otherwise than through a Scheduling Coordinator.
- B. The CAISO Tariff further provides that Curtailable Demand services shall be provided by Participating Loads.
- C. The Participating Load desires to provide Curtailable Demand services, intends to submit Bids to the CAISO through a Scheduling Coordinator and, therefore, 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 Participating Load 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 to 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.

\* \* \*

## Appendix B.5 Dynamic Scheduling Agreement For SCs

**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 **[Address]** (the "Scheduling Coordinator");

and

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

The Scheduling Coordinator and the CAISO are hereinafter referred to as the "Parties."

### Whereas:

- A. The CAISO Tariff provides that a Scheduling Coordinator may submit Dynamic Schedules to the CAISO from System Resources.
- B. The Scheduling Coordinator is currently Scheduling Coordinator for a System Resource associated with a power plant(s) interconnected in a Balancing Authority Area other than the CAISO Balancing Authority Area (the "Host Balancing Authority Area").
- C. The Scheduling Coordinator wishes to implement and operate a dynamic functionality that allows bidding dynamically from a System Resource into the CAISO Balancing Authority Area from the Host Balancing Authority Area and, therefore, wishes to undertake 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 Scheduling Coordinator 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 to 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.

\* \* \*

## Appendix B.6 MSA For Metered Entities (MSA CAISOME)

**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 **[Address]** (the “CAISO Metered Entity”);

and

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

The CAISO Metered Entity and the CAISO are hereinafter referred to as the “Parties”.

### Whereas:

- A. Section 10 of the CAISO Tariff requires the CAISO to establish meter service agreements with CAISO Metered Entities for the collection and transfer of Meter Data.
- B. Section 10 of the CAISO Tariff further provides that a CAISO Metered Entity shall certify its revenue quality meters and Section 10 provides that CAISO Metered Entities shall make Meter Data available to RMDAPS.
- C. The Parties are entering into this Agreement in order to establish the terms and conditions upon which the CAISO and the CAISO Metered Entity shall discharge their respective duties and responsibilities pursuant to this Agreement, and the CAISO Tariff.
- D. All obligations and responsibilities included in this Agreement may be set forth in further detail in 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.** Unless defined in Section 1.2 of this Agreement, all terms and expressions used in this Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.
- 1.2 **Special Definitions for this Agreement.** In this Agreement, the following words and expressions shall have the meanings set forth below:
  - 1.2.1 **“Authorized Users”** means users authorized by the CAISO Metered Entity to access the Meter Data of that CAISO Metered Entity held by the CAISO.
- 1.3 **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;
- (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; and
- (l) references to the CAISO Tariff and other CAISO Documents shall be interpreted in accordance with any exceptions or exemptions to such as may have been granted by the CAISO.

\* \* \*

## Appendix B.7 Meter Service Agreement For SCs (MSA SC)

**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 **[Address]** (the "SC");

and

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

The Scheduling Coordinator and the CAISO are hereinafter referred to as the "Parties".

### Whereas:

- A. Section 10 of the CAISO Tariff requires the CAISO to enter into a meter service agreement with each Scheduling Coordinator responsible for providing Settlement Quality Meter Data for Scheduling Coordinator Metered Entities that it represents.
- B. Section 10 of the CAISO Tariff requires Scheduling Coordinators to ensure that the Scheduling Coordinator Metered Entities that they represent adhere to the requirements and standards for Metering Facilities set forth in Section 10.3.
- C. The Parties are entering into this Agreement in order to establish the terms and conditions upon which the CAISO and the Scheduling Coordinator shall discharge their respective duties and responsibilities pursuant to this Agreement and the CAISO Tariff.
- D. All obligations and responsibilities included in this Agreement may be set forth in further detail in 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 to 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;
- (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; and
- (l) references to the CAISO Tariff and other CAISO Documents shall be interpreted in accordance with any exceptions or exemptions to such as may have been granted by the CAISO.

\* \* \*

## Appendix B.8 Utility Distribution Company OA (UDCOA)

**THIS OPERATING AGREEMENT** is dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_ and is entered into, by and between:

- (1) **[Full legal name of UDC]** having its registered and principal place of business located at **[Address]** (the "UDC");  
  
and
- (2) **California Independent System Operator Corporation ("CAISO")**, a California non-profit public benefit corporation having its principal place of business located in 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 UDC and the CAISO are hereinafter referred to as the "Parties".

### Whereas:

- A. The purpose of this Operating Agreement is to establish the rights and obligations of the UDC and the CAISO with respect to the UDC's Interconnection with the CAISO Controlled Grid and the UDC's cooperation and coordination with the CAISO to aid the reliability and the Operational Control of the CAISO Controlled Grid and the UDC's Distribution System.
- B. The UDC owns and operates a Distribution System within the CAISO Balancing Authority Area subject to the authority of a Local Regulatory Authority.
- C. The UDC wishes to transmit Energy and/or supply Ancillary Services to or from the CAISO Controlled Grid under the terms and conditions set forth in the CAISO Tariff. The UDC also wishes to support and be part of the coordinated response to System Emergencies and to System Reliability concerns relating to the CAISO Controlled Grid.
- D. The CAISO has certain statutory obligations under California law to maintain the reliability of the CAISO Controlled Grid.
- E. This Operating Agreement obligates the UDC and the CAISO to comply with the relevant sections of the CAISO Tariff, the CAISO Operating Procedures and the CAISO Specifications.
- F. The UDC and the Participating TO with which it is interconnected intend to coordinate the planning and implementation of any expansions or modifications of the UDC's or Participating TO's systems that will affect their transmission interconnection, the CAISO Controlled Grid or the transmission services to be required by the UDC.

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.** Unless defined in Section 1.2 of this Operating Agreement, all terms and expressions used in this Operating Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.

**1.2 Special Definitions for this Operating Agreement.** In this Operating Agreement, the following words and expressions shall have the meanings set opposite them:

**“CAISO Specifications”** means those standards pertaining to the areas of operation listed in Article IV of this Operating Agreement, approved by the CAISO to establish detailed technical performance and reliability parameters at the CAISO Controlled Grid and UDC Interconnection, associated with the CAISO Tariff, as those standards may be amended from time to time.

**“CAISO Operating Procedures”** means those procedures pertaining to the areas of operation listed in Article IV of this Operating Agreement, created by the CAISO to establish detailed operating practices at the CAISO Controlled Grid and UDC Interconnection, associated with general provisions required in the CAISO Tariff, as those standards may be amended from time to time.

\* \* \*

## Appendix B.9 DSHBA Operating Agreement (DSHBAOA)

**THIS DYNAMIC SCHEDULING HOST BALANCING AUTHORITY OPERATING AGREEMENT** (“**AGREEMENT**”) is established this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_ and is accepted by and between:

[**Full legal name**] (“Host Balancing Authority”), having its registered and principal executive office at [address],

and

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

The Host Balancing Authority and the CAISO are hereinafter referred to as the “Parties”.

### Whereas:

- A. The Parties named above operate Balancing Authority Areas.
- B. The Parties wish to coordinate operation of dynamic scheduling functionality to satisfy North American Electric Reliability Corporation (“NERC”) and Western Electricity Coordinating Council (“WECC”) standards and criteria and Good Utility Practice.
- C. The Host Balancing Authority desires to implement an agreement to facilitate dynamic scheduling from System Resources in its Balancing Authority Area to the CAISO Balancing Authority Area.
- D. The Parties wish to enter into this Agreement to establish the terms and conditions for the operation of the dynamic scheduling functionality from Host Balancing Authority’s Balancing Authority Area to the CAISO Balancing Authority Area.
- E. The CAISO has certain statutory obligations under California law to maintain power system reliability.

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

### 1. Term and Termination

#### 1.1 Effective Date

This Agreement shall be effective as of the date set forth above, unless this Agreement is accepted for filing and made effective by the Federal Energy Regulatory Commission (“FERC”) on some other date, if FERC filing is required, and shall continue in effect until terminated.

#### 1.2 Termination

This Agreement may be terminated by either Party upon thirty (30) days written notice to the other Party or upon mutual consent of both Parties. For entities subject to FERC jurisdiction, termination will be effective upon acceptance by FERC of notice of termination, if this Agreement has been filed with FERC, or thirty (30) days after the date of the notice of termination by a Party, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders. The CAISO shall timely file any required notice of termination with FERC. 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 with FERC within sixty (60) days after issuance of the notice of termination by a Party; or (2) the CAISO files the notice of termination with FERC in accordance with the requirements of FERC Order No. 2001.

\* \* \*

## Appendix B.10 Small Utility Distribution Co. OA (SUDCOA)

**THIS OPERATING AGREEMENT** is dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_ and is entered into, by and between:

- (1) **[Full legal name of SUDC]**, having its registered and principal place of business located at **[Address]** (the "SUDC");  
and
- (2) **California Independent System Operator Corporation ("CAISO")**, a California non-profit public benefit corporation having its principal place of business located in 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 SUDC and the CAISO are hereinafter referred to individually as "Party" and collectively as "Parties".

### Whereas:

- A. The purpose of this Operating Agreement is to establish the rights and obligations of the SUDC and the CAISO with respect to the SUDC's Facilities interconnected with the CAISO Controlled Grid and the SUDC's cooperation and coordination with the CAISO regarding reliability and the operational control of the CAISO Controlled Grid and the SUDC's Distribution System.
- B. The SUDC owns and operates a small Distribution System within the CAISO Balancing Authority Area subject to the authority of a Local Regulatory Authority.
- C. The SUDC wishes to receive and transmit Energy and/or Ancillary Services to and/or from the CAISO Controlled Grid under the terms and conditions set forth in the CAISO Tariff.
- D. The CAISO has certain statutory obligations under California law to maintain the reliability of the CAISO Controlled Grid.
- E. The Parties recognize that while a single SUDC has little or no ability to materially, adversely affect reliability of the CAISO Controlled Grid or the CAISO Balancing Authority Area, the SUDC agrees to support and be part of the coordinated response to System Emergencies and to reliability concerns relating to the CAISO Balancing Authority Area as set forth in this Operating Agreement.
- F. This Operating Agreement obligates the SUDC to comply with the sections of the CAISO Tariff, the CAISO Operating Procedures and the CAISO Specifications specified in this Operating Agreement.

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.** Unless defined in Section 1.2 of this Operating Agreement, all defined terms and expressions used in this Operating Agreement shall have the same meaning as those contained in the Master Definitions Supplement to the CAISO Tariff.
- 1.2 **Special Definitions for this Operating Agreement.** In this Operating Agreement, the following words and expressions shall have the meanings set opposite them:  
**"CAISO Specifications"** means those standards pertaining to the areas of operation listed in Article IV of this Operating Agreement and listed in Schedule 6, approved by the CAISO to

establish detailed technical performance and reliability parameters at the CAISO Controlled Grid and SUDC Interconnection, associated with the CAISO Tariff, as those standards may be amended from time to time.

**“CAISO Operating Procedures”** means those procedures pertaining to the areas of operation listed in Article IV of this Operating Agreement and listed in Schedule 9, created by the CAISO to establish detailed operating procedures at the CAISO Controlled Grid and SUDC Interconnection, associated with general provisions required in the CAISO Tariff, as those standards may be amended from time to time.

**“SUDC Facilities”** shall have the meaning accorded to such term as provided in Section 3.2 of this Operating Agreement.

**1.3 Rules of Interpretation.** The following rules of interpretation and conventions shall apply to this Operating Agreement:

- (a) if there is any inconsistency between this Operating 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 Operating Agreement, as the case may be, unless the context otherwise requires;
- (f) a reference in this Operating Agreement to a given agreement, instrument or the CAISO Tariff shall be a reference to that agreement, instrument or the CAISO Tariff 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 Operating Agreement are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Operating Agreement.

\* \* \*

## Appendix B.11 Pro Forma CRR Entity Agreement

**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 **[Address]** (the "CRR Entity");

and

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

The CRR Entity and the CAISO are hereinafter referred to individually as a "Party" and collectively as the "Parties."

### Whereas:

- A. The CAISO Tariff provides that any entity that holds or intends to hold CRRs must register and qualify with the CAISO and comply with the terms of the CAISO Tariff, regardless of whether they are to acquire CRRs through the CRR Allocation or CRR Auction, or through the Secondary Registration System.
- A. The CRR Entity has completed the Candidate CRR Holder application process and is eligible to participate in the CRR Allocation or CRR Auction or register as a CRR Holder through the Secondary Registration System.
- C. The CAISO Tariff further provides that any entity who wishes to participate in the CRR Allocation or CRR Auction or register as a CRR Holder through the Secondary Registration System must meet all of the Candidate CRR Holder requirements and creditworthiness provisions in the CAISO Tariff and the relevant Business Practice Manual, including demonstration of its ability to accommodate the financial responsibility associated with holding CRRs.
- D. The CRR Entity intends to obtain CRRs either through the CRR Allocation or CRR Auction or to register as a CRR Holder through the Secondary Registration System and, therefore, wishes to undertake to the CAISO that it will comply with the applicable provisions of the CAISO Tariff.
- E. The Parties are entering into this Agreement in order to establish the terms and conditions pursuant to which the CAISO and the CRR Entity 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 CRR ENTITY AND CAISO**

**2.1 Scope of Application to Parties.** The CRR Entity and CAISO acknowledge that all Candidate CRR Holders or CRR Holders must sign this Agreement in accordance with section 4.10.1.9.1 of 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 both 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 Article V, the CAISO may terminate this Agreement by giving written notice to the CRR Entity of termination in the event that the CRR Entity commits any material default under this Agreement and/or the CAISO Tariff as it pertains to this Agreement which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given, to the CRR Entity, written notice of the default, unless excused by reason of Uncontrollable Forces in accordance with Article X of this Agreement or unless the CAISO agrees, in writing, to an extension of the time to remedy such material default. 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 CRR Entity.** In the event that the CRR Entity is no longer a CRR Holder, it may terminate this Agreement, on giving the CAISO not less than ninety (90) days' written notice; provided, however, that any outstanding financial right or obligation or any other obligation under the CAISO Tariff of the Candidate CRR Holder or CRR Holder that have arisen while the CRR Entity was a Candidate CRR Holder or a CRR Holder, 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 sixty (60) days after 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 CRR Entity'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 CRR Holder Requirements.** The CRR Entity must register and qualify with the CAISO and comply with all terms of the CAISO Tariff applicable to Candidate CRR Holders or CRR Holders, regardless of the manner in which they acquire CRRs whether by CRR Allocation, CRR Auction, or through the Secondary Registration System.
- 4.2 CRR Holder Creditworthiness Requirements.** The CRR Entity must comply with the requirements for creditworthiness applicable to Candidate CRR Holders or CRR Holders, including the creditworthiness provisions of the CAISO Tariff and the relevant Business Practice Manual.
- 4.3 Settlement Account.** The CRR Entity shall maintain at all times an account with a bank capable of Fed-Wire transfer to which credits or debits shall be made in accordance with the billing and Settlement provisions of Section 11 of the CAISO Tariff. Such account shall be the account referred to in Schedule 2 hereof or as notified by the CRR Entity to the CAISO from time to time

by giving at least seven (7) days written notice before the new account becomes operational. Such changes to Schedule 2 shall not constitute an amendment to this Agreement.

- 4.4 Electronic Contracting.** All submitted applications, bids, confirmations, changes to information on file with the CAISO and other communications conducted via electronic transfer (e.g., direct computer link, FTP file transfer, bulletin board, e-mail, facsimile or any other means established by the CAISO) shall have the same legal rights, responsibilities, obligations and other implications as set forth in the terms and conditions of the CAISO Tariff as if executed in written format.
- 4.5 Agreement Subject to CAISO Tariff.** The Parties will comply with all provisions of the CAISO Tariff applicable to Candidate CRR Holders or CRR Holders. This Agreement shall be subject to the CAISO Tariff, which shall be deemed to be incorporated herein.

## **ARTICLE V PERFORMANCE**

- 5.1 Penalties.** The CRR Entity shall be subject to all penalties made applicable to Candidate CRR Holders and CRR Holders set forth in the CAISO Tariff. 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 CRR Entity to oppose or protest the specific imposition by the CAISO of any FERC-approved penalty on the CRR Entity.
- 5.2 Corrective Measures.** If the CRR Entity or the CAISO fails to meet or maintain the requirements set forth in this Agreement and/or the CAISO Tariff as it pertains to this Agreement, the CAISO or the CRR Entity shall be permitted to take any of the measures, contained or referenced in the CAISO Tariff, which the Party seeking enforcement deems to be necessary to correct the situation.

## **ARTICLE VI COSTS**

- 6.1 Operating and Maintenance Costs.** The CRR Entity shall be responsible for all its costs incurred in connection with all its CRR related activities.

## **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 CRR Entity and references to the CAISO Tariff shall be read as references to this Agreement.

## **ARTICLE VIII REPRESENTATIONS AND WARRANTIES**

- 8.1 Representation and Warranties.** 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.

## **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 CRR Entity 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 CRR Entity 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 and other CAISO Tariff requirements as applied to Candidate CRR Holders or CRR Holders. 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 CRR Entity 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 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes to Schedule 1 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: (i) any court of the State of California, (ii) any federal court of the United States of America located in the State of California, except to the extent subject to the protections of the Eleventh Amendment of the United States Constitution or, (iii) 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 [NOT USED]**
- 11.9 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 CRR Entity 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~~~~the Commission~~ 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~~~~the Commission~~ shall apply when acting upon proposed modifications to this Agreement by ~~FERC~~~~the Commission~~'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~~~~is~~ provided for informational purposes and revisions to ~~those that~~ schedules do not constitute a material change in the Agreement warranting ~~FERC~~~~Commission~~ review.
- 11.10 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: \_\_\_\_\_

**[Name of CRR Entity]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**SCHEDULE 1**

**NOTICES**  
**[Section 11.2]**

**CRR Entity**

Name of Primary

Representative: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip Code: \_\_\_\_\_

Email Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax No: \_\_\_\_\_

Name of Alternative

Representative: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

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: \_\_\_\_\_

Name of Alternative

Representative: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip Code: \_\_\_\_\_

Email address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

**SCHEDULE 2**

**SETTLEMENT ACCOUNT**

**[SECTION 4.3]**

**CRR Entity Account Information**

Settlement Account No:

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Title:

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Sort Code:

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Bank:

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## Appendix B.12 MSS Aggregator CRR Entity Agent Agreement

**THIS AGREEMENT** is dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and is entered into, by and between:

(1) **[INSERT NAME OF MSS AGGREGATOR]**, a **[INSERT TYPE OF ENTITY]**, having its registered and principal place of business located at **[INSERT ADDRESS]**, acting as the agent on behalf of the following principals: **[INSERT NAMES OF MSS OPERATOR LSEs]**, all of which are MSS Operators and Load Serving Entities, (“MSS Operators”) pursuant to the terms of that certain **[INSERT TITLE OF MSS AGGREGATOR AGREEMENT]** (“MSSAA”) dated \_\_\_\_\_ (the “CRR Entity Agent”);

and

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

The CRR Entity Agent and the CAISO are hereinafter referred to individually as a “Party” and collectively as the “Parties.”

### Whereas:

- A.** The CAISO Tariff provides that any entity that holds or intends to hold CRRs must register and qualify with the CAISO and comply with the terms of the CAISO Tariff (either directly or through its agent), regardless of whether they are to acquire CRRs through the CRR Allocation or CRR Auction, or through the Secondary Registration System.
- B.** The CRR Entity Agent pursuant to the terms of the MSSAA is authorized by the aggregated MSS Operators to act on the behalf of the MSS Operators with regard to matters relating to CRRs, including, but not limited to, allowing the CRR Entity Agent to participate in the CRR nomination process on behalf of the MSS Operators, to accept financial responsibility under this Agreement, to perform settlement functions, and to comply with CAISO Tariff requirements.
- C.** The CRR Entity Agent has completed the Candidate CRR Holder application process on behalf of its aggregated MSS Operators and pursuant to the terms of the MSSAA is eligible to participate on behalf of the MSS Operators in the CRR Allocation or CRR Auction or register through the Secondary Registration System on behalf of the MSS Operators. However, the CRR Entity Agent will not hold title to or ownership of any CRRs issued to any of its aggregated MSS Operators through the CRR Allocation, CRR Auction, or Secondary Registration System processes. Rather, the CRR Entity Agent will hold title for the CRRs allocated to the individual MSS Operator’s Load in trust on behalf of the MSS Operator.
- D.** The CAISO Tariff further provides that any entity that wishes to participate in the CRR Allocation or CRR Auction or register as a CRR Holder through the Secondary Registration System must meet all of the Candidate CRR Holder requirements and creditworthiness provisions in the CAISO Tariff and the relevant Business Practice Manual, including demonstration of its ability to accommodate the financial responsibility associated with holding CRRs.
- E.** The aggregated MSS Operators desire to act through the CRR Entity Agent to comply with all requirements referenced in part D, above, in order to obtain CRRs through the CRR Allocation, CRR Auction, or Secondary Registration System.

- F. The CRR Entity Agent, on behalf of its aggregated MSS Operators, wishes to undertake such necessary tasks and requirements set forth herein to comply with the applicable provisions of the CAISO Tariff in order to allow the MSS Operators to participate in the CRR Allocation, CRR Auction, and Secondary Registration System processes.
- G. The Parties are entering into this Agreement in order to establish the terms and conditions pursuant to which the CAISO and the CRR Entity Agent 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, unless otherwise defined herein.
- 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 CRR ENTITY AGENT AND CAISO**

**2.1 Scope of Application to Parties.** The CRR Entity Agent and CAISO acknowledge that all MSS Aggregators that are authorized by their aggregated MSS Operators to act as the agent of those MSS Operators in undertaking all obligations and responsibilities of Candidate CRR Holders or CRR Holders must sign this Agreement in accordance with section 4.10.1.9.1 of 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 both 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.** Upon notice that the agency relationship between all of the aggregated MSS Operators and the CRR Entity Agent has terminated, including any notice that the MSSAA has terminated, the CAISO may terminate this Agreement by giving written notice to the CRR Entity Agent of termination. Further, subject to Article V, the CAISO may terminate this Agreement by giving written notice to the CRR Entity Agent of termination in the event that the CRR Entity Agent commits any material default under this Agreement and/or the CAISO Tariff as it pertains to this Agreement which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given, to the CRR Entity Agent, written notice of the default, unless excused by reason of Uncontrollable Forces in accordance with Article X of this Agreement or unless the CAISO agrees, in writing, to an extension of the time to remedy such material default. 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 CRR Entity Agent.** In the event that the CRR Entity Agent is no longer a CRR Holder as trustee for any or all of its aggregated MSS Operators, the CRR Entity Agent may terminate this Agreement, on giving the CAISO not less than ninety (90) days' written notice; provided, however, [that](#) any outstanding financial right or obligation or any other obligation under the CAISO Tariff of the Candidate CRR Holder or CRR Holder (regardless of whether such obligation shall be borne by an aggregated MSS Operator or the CRR Entity Agent) that has arisen while the CRR Entity Agent was a Candidate CRR Holder or a CRR Holder as trustee for any or all of its MSS Operators, 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 sixty (60) days after 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 CRR Entity Agent'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 CRR Holder Requirements.** The CRR Entity Agent acting on behalf of its aggregated MSS Operators must register and qualify on behalf of the MSS Operators with the CAISO and comply with all terms of the CAISO Tariff applicable to Candidate CRR Holders or CRR Holders, regardless of the manner in which it acquires the CRRs on behalf of its aggregated MSS Operators, whether by CRR Allocation or CRR Auction, or through the Secondary Registration System. The CRR Entity Agent shall participate in the CRR nomination process on an aggregated basis on behalf of each of its aggregated MSS Operators on the basis of that individual MSS Operator's Load ratio share set forth in Schedule 3. The CAISO shall allocate CRRs to each individual MSS Operator based on its Load ratio share set forth in Schedule 3, which CRRs will be held in the aggregate by the CRR Entity Agent on behalf of its aggregated MSS Operators. The CRR Entity Agent acknowledges and agrees that it shall not hold title to or ownership of any of the CRRs of its aggregated MSS Operators. Ownership and title of any obtained CRRs shall be held in trust by the CRR Entity Agent on behalf of the applicable MSS Operator in accordance with each MSS Operator's Load share ratio as set forth in Schedule 3.
- 4.2 CRR Holder Creditworthiness Requirements.** The CRR Entity Agent acting on behalf of its aggregated MSS Operators must comply with the requirements for creditworthiness applicable to Candidate CRR Holders or CRR Holders, including the creditworthiness provisions of the CAISO Tariff and the relevant Business Practice Manual.
- 4.3 Settlement Account.** The CRR Entity Agent on behalf of its aggregated MSS Operators shall maintain at all times an account with a bank capable of Fed-Wire transfer to which credits or debits shall be made in accordance with the billing and Settlement provisions of Section 11 of the CAISO Tariff. Such account shall be the account referred to in Schedule 2 hereof or as notified by the CRR Entity Agent to the CAISO from time to time by giving at least seven (7) days written notice before the new account becomes operational. Such changes to Schedule 2 shall not constitute an amendment to this Agreement.
- 4.4 CRR Entity Agent Responsibility for MSS Operator Load Share Ratio.** The CRR Entity Agent shall track each aggregated MSS Operator's Load share ratio of CRRs separately as set forth in Schedule 3 and shall be solely responsible for tracking such allocations. The CRR Entity Agent acknowledges and agrees that CAISO shall have no responsibility with regard to such pro rata allocations of CRRs as set forth in Schedule 3. The CAISO shall issue CRRs allocated to the aggregated MSS Operators in aggregate to the CRR Entity Agent, and the CRR Entity Agent shall be solely responsible for ensuring the proper allocation of such CRRs to each aggregated MSS Operator. In the event the MSS Operator and CRR Entity Agent aggregation or agency relationship terminates, the CRR Entity Agent shall be solely responsible for ensuring that the appropriate pro rata share of every CRR Source is properly assigned to the applicable MSS Operator.
- 4.5 Provision of Evidence of CRR Entity Agent Authority.** The CRR Entity Agent shall provide the CAISO with a copy of the MSSAA or other sufficient evidence to assure the CAISO of its authority to act as agent on behalf of its aggregated MSS Operators with regard to the matters addressed in this Agreement. The CRR Entity Agent shall provide the CAISO with the contact name, address, e-mail address, and phone number of an individual representative of each of its aggregated MSS Operators whom the CAISO may contact regarding matters addressed in this Agreement. The CRR Entity Agent shall immediately notify the CAISO in writing of any revision

to the terms of the MSSAA that affects its authority to act as agent on behalf of its aggregated MSS Operators or any other change in its relationship with any of its aggregated MSS Operators.

- 4.6 Electronic Contracting.** All submitted applications, bids, confirmations, changes to information on file with the CAISO and other communications conducted via electronic transfer (e.g., direct computer link, FTP file transfer, bulletin board, e-mail, facsimile or any other means established by the CAISO) shall have the same legal rights, responsibilities, obligations and other implications as set forth in the terms and conditions of the CAISO Tariff as if executed in written format.
- 4.7 Agreement Subject to CAISO Tariff.** The Parties will comply with all provisions of the CAISO Tariff applicable to Candidate CRR Holders or CRR Holders. This Agreement shall be subject to the CAISO Tariff, which shall be deemed to be incorporated herein.

## **ARTICLE V PERFORMANCE**

- 5.1 Penalties.** The CRR Entity Agent on behalf of its aggregated MSS Operators shall be subject to all penalties made applicable to Candidate CRR Holders and CRR Holders set forth in the CAISO Tariff. 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 CRR Entity Agent on behalf of its aggregated MSS Operators to oppose or protest the specific imposition by the CAISO of any FERC-approved penalty on the CRR Entity Agent or any MSS Operator.
- 5.2 Corrective Measures.** If the CRR Entity Agent or the CAISO fails to meet or maintain the requirements set forth in this Agreement and/or the CAISO Tariff, the CAISO or the CRR Entity Agent shall be permitted to take any of the measures, contained or referenced in the CAISO Tariff as it pertains to this Agreement, which the Party seeking enforcement deems to be necessary to correct the situation.

## **ARTICLE VI COSTS**

- 6.1 Operating and Maintenance Costs.** The CRR Entity Agent shall be responsible for all its costs and any costs of its aggregated MSS Operators incurred in connection with all its CRR related activities.

## **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 one or more aggregated MSS Operators and/or the CRR Entity Agent (as applicable) and references to the CAISO Tariff shall be read as references to this Agreement.

**ARTICLE VIII  
REPRESENTATIONS AND WARRANTIES**

- 8.1 Representation and Warranties.** 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, and that the proper agreements providing for the CRR Entity Agent relationship with each aggregated MSS Operator, including, but not limited to, the MSSAA, are in full force and effect.

**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 one or more aggregated MSS Operators and/or the CRR Entity Agent (as applicable), and references to the CAISO Tariff shall be read as references to this Agreement. Further, in reliance on the agency relationship between the CRR Entity Agent and each aggregated MSS Operator, CAISO shall treat the CRR Entity Agent as the MSS Operators and shall not be liable to any aggregated MSS Operator for any claims, liabilities, or errors arising from this agency relationship, including, but not limited to, CRR ownership or Settlement Accounts, unless the CAISO causes such claim(s), liability(ies) or error(s) due to its gross negligence or willful conduct.

**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 one or more aggregated MSS Operators and/or the CRR Entity Agent (as applicable) 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 and other CAISO Tariff requirements as applied to Candidate CRR Holders or CRR Holders. 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 CRR Entity Agent 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 1. A Party must update the information in Schedule 1 of this Agreement as information changes. Such changes to Schedule 1 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: (i) any court of the State of California, (ii) any federal court of the United States of America located in the State of California, except to the extent subject to the protections of the Eleventh Amendment of the United States Constitution, or (iii) 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 [NOT USED]**
- 11.9 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 CRR Entity Agent 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~~~~the Commission 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~~~~the Commission~~ shall apply when acting upon proposed modifications to this Agreement by ~~FERC~~~~the Commission'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 that~~ schedules do not constitute a material change in the Agreement warranting ~~FERC~~~~Commission~~ review.

**11.10 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: \_\_\_\_\_

**[INSERT NAME OF CRR ENTITY AGENT]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**SCHEDULE 1**

**NOTICES**

**[Section 11.2]**

**CRR Entity Agent**

Name of Primary

Representative:

Title:

Company:

Address:

City/State/Zip Code:

Email Address:

Phone:

Fax No:

Name of Alternative

Representative:

Title:

Company:

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: \_\_\_\_\_

Name of Alternative

Representative: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip Code: \_\_\_\_\_

Email address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

**SCHEDULE 2**

**SETTLEMENT ACCOUNT**

**[Section 4.3]**

**CRR Entity Agent Account Information**

Settlement Account No:

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Title:

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Sort Code:

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Bank:

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**SCHEDULE 3**

**[Pro Rata Load Share per MSS Operator Represented by CRR Entity Agent]**

**[Section 4.4]**

## Appendix B.13 Resource-Specific System Resource Agreement

**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 **[Address]** (the "System Resource Owner");

and

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

The System Resource Owner and the CAISO are hereinafter referred to as the "Parties".

### Whereas:

- A. The CAISO Tariff provides that the CAISO shall not accept Bids for Energy or Ancillary Services otherwise than through a Scheduling Coordinator.
- B. The CAISO Tariff further provides that the CAISO shall not be obliged to provide Bid Cost Recovery to any Resource-Specific System Resource unless the relevant Resource-Specific System Resource Owner undertakes in writing to the CAISO to comply with all applicable provisions of the CAISO Tariff.
- C. The Parties are entering into this Agreement in order to establish the terms and conditions on which the CAISO and the System Resource Owner 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 to 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.

\* \* \*

**Appendix B.14 Proxy Demand Resource Agreement**

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

**AND**

**[DEMAND RESPONSE PROVIDER]**

**PROXY DEMAND RESOURCE AGREEMENT**

**PROXY DEMAND RESOURCE AGREEMENT (PDRA)**

**THIS AGREEMENT** is dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ and is entered into, by and between:

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

and

(2) **California Independent System Operator Corporation ("CAISO")**, a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, ~~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 from a Scheduling Coordinator.
- B.** The CAISO Tariff further provides that Demand Response Services may be provided by Demand Response Providers.
- C.** The Demand Response Provider desires to provide Demand Response Services from Proxy Demand Resources through a Scheduling Coordinator and represents to the CAISO that it will comply with the applicable provisions of the CAISO Tariff.
- D.** The Parties are entering into this Agreement in order to establish the terms and conditions on which the CAISO and the Demand Response Provider will discharge their respective duties and responsibilities under the CAISO Tariff.

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

## **ARTICLE I**

### **DEFINITIONS AND INTERPRETATION**

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

\* \* \*

**Appendix B.15 Convergence Bidding Entity Agreement**

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

**AND**

**[CONVERGENCE BIDDING ENTITY]**

**CONVERGENCE BIDDING ENTITY AGREEMENT**

**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 **[Address]** (the “Convergence Bidding Entity”);

and

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

The Convergence Bidding Entity and the CAISO are hereinafter referred to individually as a “Party” and collectively as the “Parties.”

**Whereas:**

- A.** The CAISO Tariff provides that any entity that intends to submit Virtual Bids (which can only be submitted through a Scheduling Coordinator that is either the entity itself or a representative of the entity) must register and qualify with the CAISO and comply with the terms of the CAISO Tariff.
- B.** The Convergence Bidding Entity has completed the Convergence Bidding Entity application process and is eligible to submit Virtual Bids.
- C.** The CAISO Tariff further provides that any entity who wishes to submit Virtual Bids must meet all of the Convergence Bidding Entity requirements in the CAISO Tariff and the relevant Business Practice Manual.
- D.** The Convergence Bidding Entity intends to submit Virtual Bids and, therefore, wishes to undertake to the CAISO that it will comply with the applicable provisions of the CAISO Tariff.
- E.** The Parties are entering into this Agreement in order to establish the terms and conditions pursuant to which the CAISO and the Convergence Bidding Entity 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

- a. **Master Definitions Supplement.** All terms and expressions used in this Agreement shall have the same meanings as those contained in the Master Definitions Supplement in Appendix A of the CAISO Tariff.
- b. **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.

\* \* \*

**Appendix B.16 Pseudo-Tie Participating Generator Agreement Version: 0.0.0 Effective: 11/1/2011**

**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 **[Address]** (the "Participating Generator");

and

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

The Participating Generator and the CAISO are hereinafter referred to as the "Parties."

**Whereas:**

- A.** The CAISO Tariff provides that the CAISO shall not accept Bids for Energy or Ancillary Services generated by any Generating Unit otherwise than through a Scheduling Coordinator.
- B.** The CAISO Tariff further provides that the CAISO shall not be obliged to accept Bids relating to Generation from any Generating Unit unless the relevant Generator undertakes in writing to the CAISO to comply with all applicable provisions of the CAISO Tariff.
- C.** The Participating Generator owns a Generating Unit physically interconnected in a Native Balancing Authority Area other than the CAISO Balancing Authority Area.
- D.** The Participating Generator and the CAISO wish to implement and operate a Pseudo-Tie for the Generating Unit to allow the Participating Generator to submit Self-Schedules and Bids for Energy and Ancillary Services to the CAISO through a Scheduling Coordinator dynamically from the Pseudo-Tie into the CAISO Balancing Authority Area from the Native Balancing Authority Area.
- E.** The Participating Generator wishes to undertake to the CAISO that it will comply with the applicable provisions of the CAISO Tariff that are applicable to a Participating Generator with a Pseudo-Tie.
- F.** The Parties are entering into this Agreement in order to establish the terms and conditions on which the CAISO and the Participating Generator 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 to 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, this Agreement 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.

\* \* \*

## Appendix F Rate Schedules

### Schedule 1 Grid Management Charge

#### **Part A – Monthly Calculation of Grid Management Charge (GMC)**

The GMC consists of the following separate service charges: (1) the Market Services Charge; (2) the System Operations Charge; and (3) the CRR Services Charge. The GMC revenue requirement, determined in accordance with Part C of this Schedule 1, shall be allocated to the service charges specified in Part A of this Schedule 1 as follows: twenty seven (27) percent to Market Services; sixty nine (69) percent to System Operations; and four (4) percent to CRR Services.

1. The rate for the Market Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category by the forecast annual gross absolute value of MW per hour of Ancillary Services capacity awarded in the Day-Ahead and Real-Time Markets, MWh of Energy cleared in the Day-Ahead market, Virtual Demand Award, Virtual Supply Award, and Instructed Imbalance Energy, less the forecast annual gross absolute value of such Energy as may be excluded for a load following MSS pursuant to an MSS agreement, Standard Ramping Energy, Regulation Energy, Ramping Energy Deviation, Residual Imbalance Energy, Exceptional Dispatch Energy and Operational Adjustments for the Day-Ahead and Real-Time.
2. The rate for the System Operations Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category by forecast annual gross absolute value of MWh of real-time energy flows on the ISO Controlled Grid, net of amounts excluded pursuant to Part E of this Schedule.
3. The rate for the CRR Services Charge will be calculated by dividing the annual GMC revenue requirement allocated to this service category by the forecast annual sum of awarded MW of CRRs per hour.

The rates for the foregoing charges shall be adjusted automatically each year, effective January 1 for the following twelve (12) months, in the manner set forth in Part D of this Schedule.

#### **Part B – Quarterly Adjustment, If Required**

Each component rate of the GMC will be adjusted automatically on a quarterly basis, up or down, so that rates reflect the annual revenue requirement as posted on the CAISO Website, as applicable, if the estimated revenue collections for that component, after accounting for revenue collected from the Bid Segment Transaction Fee, the CRR Transaction Fee, the Inter-Scheduling Coordinator Trade Transaction Fee, and the Scheduling Coordinator ID Charge, on an annual basis, change by more than two (2) percent or \$1 million, whichever is greater, during the year. Such adjustment may be implemented not more than once per calendar quarter, and will be effective the first day of the next calendar month.

The rates will be adjusted according to the formulae listed in Appendix F, Schedule 1, Part A with the billing determinant(s) readjusted on a going-forward basis to reflect the change of more than two (2) percent or \$1 million, whichever is greater, from the estimated revenue collections provided in the annual informational filing.

#### **Part C – Costs Recovered through the GMC**

As provided in Section 11.22.2 of the CAISO Tariff, the GMC includes the following costs, as projected in the CAISO's budget for the year to which the GMC applies:

- CAISO Operating Costs;
- CAISO Other Costs and Revenues, including penalties, interest earnings and other revenues;

- CAISO Financing Costs, including debt service on CAISO Start Up and Development Costs and subsequent capital expenditures;
- CAISO Operating Cost Reserve; and
- CAISO Cash-Funded Capital and Project Costs.

Such costs, for the CAISO as a whole, are allocated to the service charges that comprise the GMC: (1) Market Services, (2) System Operations, and (3) CRR Services, according to the factors listed in Part A of this Schedule 1, and

**adjusted annually for:**

- any surplus revenues from the previous year as deposited in the CAISO Operating Reserve Account, or deficiency of revenues, as recorded in a memorandum account;

**divided by:**

- forecasted annual billing determinant volumes;

**adjusted quarterly for:**

- a change in the volume estimate used to calculate the individual GMC components, if, on an annual basis, the change is ~~five~~<sup>two</sup> (~~5~~<sup>2</sup>) percent or \$1 million, whichever is greater, from the estimated revenue collections provided in the annual informational filing.

The GMC revenue requirement formula is as follows:

GMC revenue requirement =

CAISO Operating Costs + CAISO Financing Costs + CAISO Other Costs and Revenues + CAISO Operating ~~Cost Reserve adjustment~~<sup>Reserve Credit</sup> + CAISO Cash Funded Capital and Project Costs,

[The "USoA" reference below is the FERC Uniform System of Accounts, and is intended to include subsequent re-numbering or re-designation of the same accounts or subaccounts.]

Where,

(1) CAISO Operating Costs include:

- Transmission expenses (USoA 560-574);
- Regional market expenses (USoA 575.1-575.8);
- Maintenance accounts (USoA 576-576.5)
- Customer accounting expenses (USoA 901-905);
- Customer service and informational expenses (USoA 906-910);
- Sales expenses (USoA 911-917);
- Administrative & general expenses (USoA 920-935);
- Taxes other than income taxes that relate to CAISO operating income (USoA 408.1); and
- Miscellaneous, non-operating expenses, penalties and other deductions (USoA 426 subaccounts).

(2) CAISO Financing Costs include:

- For any fiscal year, scheduled principal and interest payments, sinking fund payments related to balloon maturities, repayment of commercial paper notes, net payments required pursuant to a payment obligation, or payments due on any CAISO notes. This amount includes the current year accrued principal and

interest payments due in the first one hundred twenty (120) days of the following year except for the collection of the remaining payments of the 2008 bonds which shall be divided evenly between 2012 and 2013.

- (b) The debt service coverage requirement, which is a percentage of the senior lien debt service, i.e., all debt service that has a first lien on CAISO net operating revenues. The coverage requirement is twenty-five (25) percent, unless otherwise specified by the rate covenants of the official statements for each CAISO bond offering.
- (3) CAISO Other Costs and Revenues include:
  - (a) Interest earnings (USoA 419) on funds not restricted by bond or note proceeds specifically designated for capital projects or capitalized interest. Unrealized gains or losses shall be excluded and realized gains and losses shall be included. If it has been determined that a permanent impairment in an investment has occurred, it shall be included.
  - (b) Miscellaneous revenues (USoA 421 and 456 subaccounts), including but not limited to Scheduling Coordinator application and training fees, and fines assessed and collected by the CAISO.
  - (c) Other interest expenses (USoA 431) not provided for elsewhere.
- (4) CAISO Operating Cost Reserve adjustment is the sum of
  - (a) The excess or shortfall in collections of the prior year's rates compared to the budgeted amounts;
  - (b) The excess or shortfall in actual CAISO Operating Costs, CAISO Other Costs and Revenues and CAISO Financing Costs for the prior year compared to the budgeted amounts;
  - (c) The estimate of current year collections and costs compared to budgeted amounts for the current year; and
  - (d) The change in CAISO Operating Cost Reserve consistent with the level of the CAISO Operating Cost Reserve requirement.
- (5) CAISO Cash-Funded Capital and Project Costs include funding from current year revenue for approved capital and projects.

A separate revenue requirement shall be established for each component of the GMC by developing the revenue requirement for the CAISO as a whole and then assigning such costs to the service categories using the allocation factors provided in Appendix F, Schedule 1, Part [A](#).

## **Part D – Information Requirements**

### **Budget Schedule**

The CAISO will convene, prior to the commencement of the annual budget process, an initial meeting with stakeholders to: (a) receive ideas to control CAISO costs; (b) receive ideas for projects to be considered in the capital budget development process; and, (c) receive suggestions for reordering CAISO priorities in the coming year.

Within two (2) weeks of the initial meeting, the ideas presented by the stakeholders shall be communicated in writing to the CAISO's officers, directors and managers as part of the budget development process, and a copy of this communication shall be made available to stakeholders.

Subsequent to the initial submission of the draft budget to the CAISO Governing Board, the CAISO will provide stakeholders with the following information: (a) proposed capital budget with indicative projects for the next subsequent calendar year, a budget-to-actual review for capital expenditures for the previous calendar year, and a budget-to-actual review of current year capital costs; and, (b) expenditures and activities in detail for the next subsequent calendar year (in the form of a draft of the budget book for the CAISO Governing Board), budget-to-actual review of expenditures and activities for the previous calendar

year, and a budget-to-actual review of expenditures for the current year. Certain of this detailed information which is deemed commercially sensitive will only be made available to parties that pay the CAISO's GMC (or regulators) who execute a confidentiality agreement.

The CAISO shall provide such materials on a timely basis to provide stakeholders at least one full Board meeting cycle to review and prepare comments on the draft annual budget to the CAISO Governing Board.

At least one month prior to the CAISO Governing Board meeting scheduled to consider approval of the proposed budget, the CAISO will hold a meeting open to all stakeholders to discuss the details of the CAISO's budget and revenue requirement for the forthcoming year.

Prior to a final recommendation by the CAISO Governing Board on the CAISO's draft annual budget, the CAISO shall respond in writing to all written comments on the draft annual budget submitted by stakeholders and/or the CAISO shall issue a revised draft budget indicating in detail the manner in which the stakeholders' comments have been taken into consideration.

The CAISO will provide no fewer than forty-five (45) days for stakeholder review of its annual budget between initial budget posting and final approval of the budget by the CAISO Governing Board.

### **Budget Posting**

After the approval of the annual budget by the CAISO Governing Board, the CAISO will post on the CAISO Website the CAISO operating and capital budget to be effective during the subsequent fiscal year, and the billing determinant volumes used to develop the rate for each component of the GMC, together with workpapers showing the calculation of such rates.

### **Periodic Financial Reports**

The CAISO will create periodic financial reports consisting of an income statement, balance sheet, statement of operating reserves, and such other reports as are required by the CAISO Governing Board. The periodic financial reports will be posted on the CAISO Website not less than quarterly.

### **Part E – System Operations Charge Exemption for Certain Long-Term Power Supply Contracts**

- (1) The real time MWh Energy flows from Generating Units with certain existing power supply contracts will be exempt from the System Operations Charge until the first opportunity to renegotiate the contract or the contract expires. To be eligible for this exemption, the generating unit and the power supply contract must meet the following criteria:
  - (a) The generator owner must be the Scheduling Coordinator for the generating unit;
  - (b) The power supply contract may not be with another Scheduling Coordinator that has the same parent company as the generator owner;
  - (c) The power supply contract may not be with the same Scheduling Coordinator ID Code as the Generating Unit;
  - (d) The power supply contract precludes the supplier from recovering additional GMC costs incurred as a result of the GMC rate design that became effective on January 1, 2012;
  - (e) The power supply contract must have been executed prior to January 1, 2011;
  - (f) The duration of the power supply contract must be such that it is three (3) years or more until the termination of the contract or the first opportunity to renegotiate the terms and conditions of the contract.

- (2) To establish eligibility for exemption from the Systems Operation charge, the generator owner must submit the following information in accordance with the procedures set forth on the ISO website:
  - (a) Power supply contract timeline, including the execution date and either termination date or the earliest date upon which the contract may be renegotiated;
  - (b) Resource ID;
  - (c) SCID; and,
  - (d) Effected MW.
- (3) An officer of the generation owner company must provide a signed affidavit attesting to the information that demonstrates the power supply contract eligibility for the exemption.

**Part F –[Not Used]**

\* \* \*

**Appendix G, Pro Forma Reliability Must-Run Contract**

**Appendix G**

**Pro Forma Reliability Must-Run Contract**

**MUST-RUN SERVICE AGREEMENT**

THIS MUST-RUN SERVICE AGREEMENT is made as of the \_\_\_\_ day of \_\_\_\_\_, 1920, between \_\_\_\_\_, a [corporation/limited liability company/municipal corporation] organized under the laws of the State of \_\_\_\_\_ (the "Owner"), and the CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, a nonprofit public benefit corporation incorporated under the laws of the State of California (the "CAISO").

**RECITALS**

- A. Owner is the owner or lessee of, or is otherwise entitled to dispatch and market the Energy and Ancillary Services produced from and provided by, the electrical generating Units located at the Facility described in Schedule A to this Agreement;
- B. Under Section 345 of the California Public Utilities Code, CAISO is responsible for the efficient use and reliable operation of the CAISO Controlled Grid;
- C. CAISO has determined that it needs the ability to dispatch Units under the terms and conditions of this Agreement to have Owner deliver Energy into or provide Ancillary Services to the CAISO Controlled Grid when required by CAISO to ensure the reliability of the CAISO Controlled Grid; and
- D. Each Unit covered by this Agreement has been designated as a Reliability Must-Run Unit.

In consideration of the covenants and agreements contained in this Agreement, the Parties agree as follows:

\* \* \*

**Appendix G, Schedule J Notices**

**Schedule J  
Notices**

Owner

Name:  
Title:  
Address:  
Telephone:

Facsimile:

E-mail:

With a copy to: Owner's Representative:

CAISO:

Nancy Traweek  
Director, Operations Support  
California ISO Corporation  
~~151 Blue Ravine Road~~ [250 Outcropping Way](#)  
Folsom, CA 95630  
Telephone: (916) 351-2113  
Facsimile: (916) 351-2267  
Email: [ntraweek@caiso.com](mailto:ntraweek@caiso.com)

With a copy to:

Sidney Mannheim Davies  
Assistant General Counsel  
Tariff and Tariff Compliance  
California ISO Corporation  
~~151 Blue Ravine Road~~ [250 Outcropping Way](#)  
Folsom, CA 95630  
Telephone: (916) 608-7144  
Facsimile: (916) 608-7222  
Email: [sdavies@caiso.com](mailto:sdavies@caiso.com)

\* \* \*

## Appendix K Ancillary Service Requirements Protocol (ASRP) Version: 4.0.0 Effective: 12/1/2011

### PART A

#### CERTIFICATION FOR REGULATION

- A 1** An Ancillary Service Provider wishing to provide Regulation as an Ancillary Service from a resource whether pursuant to a CAISO award or as part of a self-provision arrangement must meet the following operating characteristics and technical requirements in order to be certified by the CAISO to provide Regulation service unless granted a temporary exemption by the CAISO in accordance with criteria which the CAISO shall publish on the CAISO Website;
- A 1.1** **Operating Characteristics**
- A 1.1.1** the rated capacity of the resource must be 500 KW or greater (i.e. the resource must be capable of providing at least 500 KW of Regulation) unless the resource is participating in an aggregation arrangement approved by the CAISO;
- A 1.1.2** the maximum amount of Regulation to be offered must be reached within a period that may range from a minimum of ten (10) minutes to a maximum of thirty (30) minutes, as such period may be specified by the CAISO and published on the CAISO Website;
- A 1.1.3** the resource must be able to increase or decrease real power levels immediately in response to signals from the CAISO's EMS control;
- A 1.1.4** Regulation capacity offered by a resource must be dispatchable on a continuous basis for at least sixty (60) minutes in the Day Ahead Market and at least thirty (30) minutes in the Real Time Market after issuance of the Dispatch Instruction, including (if necessary) attaining this capability using Regulation Energy Management. The CAISO will measure continuous Energy from the time a resource reaches its award capacity. Scheduling Coordinators for Non-Generator Resources located within the CAISO Balancing Authority Area that require Energy from the Real-Time Market to offer their full capacity as Regulation Energy Management may request the use of Regulation Energy Management as described in Section 8.4.1.2. The Scheduling Coordinators for a resource using Regulation Energy Management may submit a Regulation Bid for capacity (MW) of up to four (4) times the maximum Energy (MWh) the resource can generate or curtail for fifteen (15) minutes after issuance of the Dispatch Instruction.
- A 1.2** **Technical Requirements**
- A 1.2.1** **Control**
- A 1.2.1.1** a direct, digital, unfiltered control signal generated from the CAISO EMS through a standard CAISO direct communication and direct control system, must meet the minimum performance standards for communications and control which will be developed and posted by the CAISO on the CAISO Website;
- A 1.2.1.2** the resource response (in MW) to a control signal must meet the minimum performance standards for control and response which will be developed and posted by the CAISO on the CAISO Website. As indicated by the resource response (in MW), the resource must respond immediately, without manual operator intervention, to control signals and must sustain its specified Ramp Rate, within specified Regulation Limits, for each minute of control response (MW/minute);
- A 1.2.1.3** **Ancillary Service Providers for Non-Generator Resources** may define a Ramp Rate for operating as Generation and a Ramp Rate for operating as Load, respectively.

**A 1.2.2 Monitoring:**

the resource must have a standard CAISO direct communication and direct control system to send signals to the CAISO EMS to dynamically monitor, at a minimum the following:

**A 1.2.2.1** actual real power level (MW);

**A 1.2.2.2** high limit, low limit and rate limit values as selected by the resource operator; and

**A 1.2.2.3** in-service status indication confirming availability of Regulation service.

**A 1.2.2.4** Ancillary Service Providers for Non-Generator Resources (whether or not the resource uses Regulation Energy Management) shall provide CAISO the following additional telemetry data:

- G. Resource Ramp Rate when operating as Generation (MW/min);
- H. Resource Ramp Rate when operating as Load (MW/min);
- I. The maximum instantaneous ability to produce or consume Energy in MW; and
- J. The maximum capability to provide Energy as expressed in MWh over a fifteen (15) minute interval.

**A 1.2.3 Voice Communications:**

CAISO approved communication must be in place between the CAISO Control Center and the operator controlling the resource.

**A 2** An Ancillary Service Provider wishing to be considered for certification for Regulation service by the CAISO must make a written request to the CAISO, giving details of the technical capability of the resource concerned and identifying the Scheduling Coordinator through whom the Ancillary Service Provider intends to offer Regulation service. The Ancillary Service Provider shall at the same time send a copy of its request to that Scheduling Coordinator. Technical review request forms will be available from the CAISO.

**A 3** No later than one week after receipt of the Ancillary Service Provider's request, the CAISO shall provide the Ancillary Service Provider with a listing of required interface equipment for Regulation, including a standard CAISO direct communication and direct control system. The CAISO shall send a copy of the listing to the resource's Scheduling Coordinator.

**A 4** The Ancillary Service Provider may propose alternatives that it believes may provide an equivalent level of communication and control for consideration by the CAISO. Such proposals shall be in writing and contain sufficient detail for the CAISO to make a determination of suitability. The CAISO may request additional information, if required, to assist in its evaluation of the proposal.

**A 5** The CAISO shall respond by accepting the alternative proposal, rejecting the alternative proposal, or suggesting modifications to the alternative proposal. Such acceptance, rejection, or suggested revision must be provided not later than six (6) weeks after the proposal is received by the CAISO. The Ancillary Service Provider and the CAISO shall

keep the Scheduling Coordinator informed of this process by each sending to the Scheduling Coordinator a copy of any written communication which it sends to the other.

- A 6** Upon agreement as to any alternative method of communication and control to be used by the Ancillary Service Provider, the CAISO shall provisionally approve the proposal in writing providing a copy to the Ancillary Service Provider's Scheduling Coordinator at the same time. If agreed by the CAISO, the Ancillary Service Provider may then proceed to procure and install the equipment and make arrangements for the required communication and control.
- A 7** Design, acquisition, and installation of the CAISO-approved communication and control equipment shall be under the control of the CAISO. The CAISO shall bear no cost responsibility or functional responsibility for such equipment, except that the CAISO shall arrange for and monitor the maintenance of the communication and control system at the Ancillary Service Provider's expense, unless otherwise agreed by the CAISO and the Ancillary Service Provider. The CAISO shall be responsible for the design, acquisition and installation of any necessary modifications to the CAISO EMS at its own cost.
- A 8** The CAISO, in cooperation with the Ancillary Service Provider shall perform testing of the communication and control equipment to ensure that the communication and control system performs to meet the CAISO requirements.
- A 9** When the CAISO is satisfied that the communication and control systems meet the CAISO's requirements, the Ancillary Service Provider shall request in writing that the CAISO conduct a certification test with a suggested primary date and time and at least two (2) alternative dates and times. The CAISO shall, within ~~two (2)~~three (3) Business Days of receipt of the Ancillary Service Provider's request, accept a proposed time if possible or suggest at least three (3) alternatives to the Ancillary Service Provider. If the CAISO responds by suggesting alternatives, the Ancillary Service Provider shall, within two (2) Business Days of receipt of the CAISO's response, respond in turn by accepting a proposed alternative if possible or suggesting at least three (3) alternatives, and this procedure shall continue until agreement is reached on the date and time of the test. The Generator shall inform its Scheduling Coordinator of the agreed date and time of the test.
- A 10** Testing shall be performed by the CAISO, with the cooperation of the Ancillary Service Provider. Such tests shall include, but not be limited to, the following:
- (a) confirmation of control communication path performance;
  - (b) confirmation of voice circuit for receipt of Dispatch Instructions;
  - (c) confirmation of the resource's control performance; and
  - (d) confirmation of the CAISO EMS control to include changing the resource operating level over the range of Regulation proposed at different set points, from minimum to maximum, and at different rates of change from the minimum to the maximum permitted by the design of the resource.
- A 10.1** Testing for Non-Generator Resources requesting the use of Regulation Energy Management shall include a market simulation as described in the CAISO's Operating Procedures.

- A 11** Upon successful completion of the test, the CAISO shall certify the resource as being permitted to provide Regulation as an Ancillary Service Provider and shall provide a copy of the certificate to the Scheduling Coordinator at the same time. The Scheduling Coordinator shall request the CAISO to update its database to reflect the ability of the resource to provide Regulation.
- A 12** The Scheduling Coordinator may submit Bids for Regulation service from the certified resource into the CAISO Markets starting with the Day-Ahead Market for the hour ending 0100 on the second Trading Day after the CAISO's database reflects the resource's certificate.
- A 13** The certification to provide Regulation shall remain in force until:
- (a) withdrawn by the Scheduling Coordinator or the Ancillary Service Provider by written notice to the CAISO to take effect at the time notified in the notice, which must be the end of a Trading Day; or
  - (b) if the resource obtained CAISO certification on the basis of a prior communication and control technology, until revoked by the CAISO for failure to comply with the requirement set forth in A 13.1 that the resource install a CAISO-specified standard CAISO direct communication and direct control system (unless exempted by the CAISO).
- A 13.1** Unless exempted by the CAISO, if the resource obtained CAISO certification on the basis of a prior communication and control technology, the CAISO shall provide written notice to the Ancillary Service Provider of the Ancillary Service Provider's obligation to install a CAISO-specified standard direct communication and direct control system along with a required date for said work to be completed as mutually agreed upon by the CAISO and the Ancillary Service Provider. Failure to meet the completion date shall be grounds for the revocation of certification, provided that the CAISO must provide the Ancillary Service Provider with at least ninety (90) days advance notice of the proposed revocation.
- A 14** The certification may be revoked by the CAISO only under provisions of the CAISO Tariff.

\* \* \*

**PART D**  
**CERTIFICATION FOR VOLTAGE SUPPORT**

- ~~**D 1** — A Generator wishing to provide Voltage Support as an Ancillary Service from a Generating Unit must meet the following requirements in order to be certified by the CAISO to provide Voltage Support service:~~
- ~~**D 1.1** — the rated capacity of the Generating Unit must be 1 MW or greater unless the Generating Unit is participating in an aggregation arrangement approved by the CAISO;~~
- ~~**D 1.2** — the Generating Unit must be able to produce VARs at lagging power factors less than 0.90 and absorb VARs at leading power factors more than 0.95 within the safe operating parameters for the Generating Unit;~~

- ~~D 1.3~~ — the Generating Unit must be able to produce or absorb VARs outside the 0.90 lag to 0.95 lead bandwidth over a range of real power outputs which the Generator expects to produce when offering Voltage Support;
- ~~D 1.4~~ — the Generating Unit must be able to produce or absorb VARs at the boundary of the Generating Unit's capability curve by reducing real power output to either absorb or produce additional VARs within the safe operating parameters for the Generating Unit; and
- ~~D 1.5~~ — metering and SCADA equipment must be in place to provide both real and reactive power data from the Generating Unit providing Voltage Support to the CAISO Control Center.
- ~~D 2~~ — A Generator wishing to be considered for certification for Voltage Support service by the CAISO must make a written request to the CAISO, giving details of the technical capability of the Generating Unit concerned and identifying the Scheduling Coordinator through whom the Generator intends to offer Voltage Support service. The Generator shall at the same time send a copy of its request to that Scheduling Coordinator. The details of the Generating Unit's technical capability must include the Generating Unit name plate data, performance limits, and capability curve. The Generator must also define the operating limitations in both real and reactive power (lead and lag) to be observed when Voltage Support is being provided to the CAISO for both normal and reduced real power output conditions. Technical review request forms will be available from the CAISO.
- ~~D 3~~ — No later than one week after receipt of the Generator's request, the CAISO shall provide the Generator with a listing of acceptable communication options and interface equipment options for Voltage Support. The CAISO shall send a copy of the listing to the Generator's Scheduling Coordinator.
- ~~D 4~~ — The Generator may elect to implement any of the approved options defined by the CAISO, and, if it wishes to proceed with its request for certification, the Generator shall give written notice to the CAISO of its selected communication option and interface equipment option, with a copy to its Scheduling Coordinator.
- ~~D 5~~ — When it receives the Generator's notice the CAISO shall notify the Generator and the Scheduling Coordinator in writing no later than two weeks after receipt of the notice confirming receipt of the notice and issuing provisional approval of the selected options. Upon receipt of the CAISO acknowledgment the Generator may proceed as indicated below to secure the necessary facilities and capabilities required.
- ~~D 6~~ — The Generator may also propose alternatives that the Generator believes may provide an equivalent level of control for consideration by the CAISO. Such proposals shall be in writing no later than two weeks after receipt of the notice and contain sufficient detail for the CAISO to make a determination of suitability. The CAISO may request additional information, if required, to assist in its evaluation of the proposal.
- ~~D 7~~ — The CAISO shall respond by accepting the alternative proposal, rejecting the alternative proposal, or suggesting modifications to the alternative proposal. Such acceptance, rejection, or suggested revision shall be provided not later than six weeks after the proposal is received by the CAISO. The Generator and the CAISO shall keep the Scheduling Coordinator informed of this process by each sending to the Scheduling Coordinator a copy of any written communication which it sends to the other.

- ~~D 8~~ — Upon agreement as to the method of communication and control to be used by the Generator, the CAISO shall provisionally approve the proposal in writing providing a copy to the Generator's Scheduling Coordinator at the same time. The Generator may then proceed to procure and install the equipment and make arrangements for the required communication.
- ~~D 9~~ — Design, acquisition, and installation of the Generator's equipment are under the control of the Generator. The CAISO shall bear no cost responsibility or functional responsibility for such equipment.
- ~~D 10~~ — The CAISO shall be responsible for the design, acquisition and installation of any necessary modifications to the CAISO's equipment at its own cost.
- ~~D 11~~ — The Generator shall perform its own testing of its equipment to ensure that the control system performs to meet the CAISO requirements.
- ~~D 12~~ — When it is satisfied that its plant, equipment and communication systems meet the CAISO's requirements, the Generator shall request in writing that the CAISO conduct a certification test with a suggested primary date and time and at least two alternative dates and times. The CAISO shall, within two Business Days of receipt of the Generator's request, accept a proposed time if possible or suggest at least three alternatives to the Generator. If the CAISO responds by suggesting alternatives, the Generator shall, within two Business Days of receipt of the CAISO's response, respond in turn by accepting a proposed alternative if possible or suggesting at least three alternatives, and this procedure shall continue until agreement is reached on the date and time of the test. The Generator shall inform its Scheduling Coordinator of the agreed date and time of the test.
- ~~D 13~~ — Testing shall be performed under the direction of the CAISO. Such tests shall include, but not be limited to, the following:
- ~~D 13.1~~ — confirmation of control communication path performance;
- ~~D 13.2~~ — confirmation of primary and secondary voice circuits for receipt of Dispatch Instructions;
- ~~D 13.3~~ — confirmation of the Generating Unit automatic voltage regulator performance; and
- ~~D 13.4~~ — confirmation of the range of Voltage Support service over a range of Generating Unit real power outputs to verify the ability to both produce and absorb reactive power at different operating levels including minimum and maximum real power output.
- ~~D 14~~ — Upon successful completion of the test, the CAISO shall certify the Generating Unit as being permitted to provide Voltage Support as an Ancillary Service and shall provide a copy of the certificate to the Scheduling Coordinator at the same time. The CAISO shall change the Generating Unit data base to reflect the permission for the Generating Unit to provide Voltage Support.
- ~~D 15~~ — The Scheduling Coordinator may bid Energy for Voltage Support from the certified Generating Unit into the market starting with the market for the hour ending 0100 on the first Trading Day after the CAISO issues the certificate.
- ~~D 16~~ — The certification to provide Voltage Support shall remain in force until withdrawn by the Scheduling Coordinator or the Generator by written notice to the CAISO to take effect at the time notified in the notice, which must be the end of a Trading Day.

~~D-17~~ The certification may be revoked by the CAISO only under provisions of the ASRP or other provisions of the CAISO Tariff.

\* \* \*

## Appendix L Method To Assess Available Transfer Capability

### Appendix L Method To Assess Available Transfer Capability

#### L.1 Description of Terms

The following descriptions augment existing definitions found in Appendix A "Master Definitions Supplement."

**L.1.1 Available Transfer Capability (ATC)** is a measure of the transfer capability in the physical transmission network resulting from system conditions and that remains available for further commercial activity over and above already committed uses.

ATC is defined as the Total Transfer Capability (TTC) ~~less applicable operating Transmission Constraints due to system conditions and Outages (i.e., OTC)~~, less the Transmission Reliability Margin (TRM) (which value is set at zero), less the sum of any unused existing transmission commitments (ETComm) (i.e., transmission rights capacity for ETC or TOR), less the Capacity Benefit Margin (CBM) (which value is set at zero), less the Scheduled Net Energy from Imports/Exports, less Ancillary Service capacity from Imports.

**L.1.2 Total Transfer Capability (TTC)** is defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas, under specified system conditions. In collaboration with owners of rated paths ~~and the WECC Operating Transfer Capability Policy Committee (OTCPC)~~, the CAISO utilizes rated system path methodology to establish the TTC of CAISO Transmission Interfaces.

**L.1.3 Existing Transmission Commitments (ETComm)** include Existing Contracts and Transmission Ownership Rights (TOR). The CAISO reserves transmission capacity for each ETC and TOR based on TRTC Instructions the responsible Participating Transmission Owner or Non-Participating Transmission Owner submits to the CAISO as to the amount of firm transmission capacity that should be reserved on each Transmission Interface for each hour of the Trading Day in accordance with Sections 16 and 17 of the CAISO Tariff. The types of TRTC Instructions the CAISO receives generally fall into three basic categories:

- The ETC or TOR reservation is a fixed percentage of the TTC on a line, which decreases as the TTC is derated (ex. TTC = 300 MW, ETC fixed percentage = 2%, ETC = 6 MWs. TTC derated to 200 MWs, ETC = 4 MWs);
- The ETC or TOR reservation is a fixed amount of capacity, which decreases if the line's TTC is derated below the reservation level (ex. ETC = 80 MWs, TTC declines to 60 MW, ETC = TTC or 60 MWs; or
- The ETC or TOR reservation is determined by an algorithm that changes at various levels of TTC for the line (ex. Intertie TTC = 3,000 MWs, when line is operating greater than 2,000 MWs to full capacity ETC = 400 MWs, when capacity is below 2000 MWs ETC =  $TTC/2000^*$  ETC).

Existing Contract capacity reservations remain reserved during the Day-Ahead Market and Hour-Ahead Scheduling Process (HASP). To the extent that the reservations are unused, they are released in real-time operations for use in the Real-Time Market.

Transmissions Ownership Rights capacity reservations remain reserved during the Day-Ahead Market and HASP, as well as through real-time operations. This capacity is under the control of the Non-Participating Transmission Owner and is not released to the CAISO for use in the markets.

**L.1.4 ETC Reservations Calculator (ETCC).** The ETCC calculates the amount of firm transmission capacity reserved (in MW) for each ETC or TOR on each Transmission Interface for each hour of the Trading Day.

- **CAISO Updates to ETCC Reservations Table.** The CAISO updates the ETC and TOR reservations table (if required) prior to running the Day-Ahead Market and HASP. The amount of transmission capacity reservation for ETC and TOR rights is determined based on the TTC of each Transmission Interface and in accordance with the curtailment procedures stipulated in the existing agreements and provided to the CAISO by the responsible Participating Transmission Owner or Non-Participating Transmission Owner.
- **Market Notification.** ETC and TOR allocation (MW) information is published for all Scheduling Coordinators which have ETC or TOR scheduling responsibility in advance of the Day-Ahead Market and HASP. This information is posted on the Open Access Same-Time Information System (OASIS).
- For further information, see CAISO Operating Procedure M-423, Scheduling of Existing Transmission Contract and Transmission Ownership Rights, which is publicly available on the CAISO Website.

**L.1.5 Transmission Reliability Margin (TRM)** is an amount of transmission transfer capability reserved at a CAISO Intertie point that is necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.

The CAISO uses TRM at Intertie points to account for the following NERC-approved components of uncertainty:

- Forecast uncertainty in transmission system topology, including forced or unplanned outages or maintenance outages.
- Allowances for parallel path (loop flow) impacts, including unscheduled loop flow.
- Allowances for simultaneous path interactions.

The CAISO establishes hourly TRM values for each of the applicable components of uncertainty prior to the Market Close of the HASP. The CAISO does not use TRM (i.e., TRM values for Intertie points are set at zero) during the beyond day-ahead and pre-schedule (i.e., planning) time frame identified in R.1.3.3 of NERC Reliability Standard MOD-008-1. A positive TRM value for a given hour is set only if one or more of the conditions set forth below exists for a particular Intertie point. Where none of these conditions exist, the TRM value for a given hour is set at zero.

The methodology the CAISO uses to establish each component of uncertainty is as follows:

The CAISO uses the transmission system topology component of uncertainty to address a potential ATC path limit reduction at an Intertie resulting from an emerging event, such as an approaching wildfire, that is expected to cause a derate of one or more transmission facilities comprising the ATC path. When the CAISO, based on existing circumstances, forecasts that such a derate is expected to occur, the CAISO may establish a TRM value for the affected ATC path in an amount up to, but no greater than, the amount of the expected derate.

The CAISO uses the parallel path component of uncertainty to address the impact of unscheduled flow (USF) over an ATC path that is expected, in the absence of the TRM, to result in curtailment of Intertie Schedules in Real Time as a result of the requirements established in WECC's applicable USF mitigation

policies and procedures (WECC USF Policy). When the CAISO forecasts, based on currently observed USF conditions and projected scheduled flow for an upcoming Operating Hour(s), that in the absence of a TRM, scheduled flow will need to be curtailed in Real Time under the applicable WECC USF Policy, the CAISO may establish a TRM for the ATC path for the applicable hour(s) in an amount up to, but no greater than, the forecasted amount that is expected to be curtailed in Real Time pursuant to the WECC USF Policy.

The CAISO uses the simultaneous path interactions component of uncertainty to address the impact that transmission flows on an ATC path located outside the CAISO's Balancing Authority Area may have on the transmission transfer capability of an ATC path located at an Intertie. In the event of such path interactions, the CAISO uses a TRM value to prevent the risk of a system operating limit violation in Real Time for the CAISO ATC path. The amount of the TRM value may be set at a level up to, but not greater than, the forecasted impact on the CAISO ATC path's capacity imposed by expected flow on the non-CAISO ATC path.

The CAISO uses the following databases or information systems, or their successors, in connection with establishing TRM values: SLIC, Existing Transmission Contract Calculator (ETCC), PI, EMS, and CAS.

**L.1.6 Capacity Benefit Margin (CBM)** is that amount of transmission transfer capability reserved for Load Serving Entities (LSEs) to ensure access to Generation from interconnected systems to meet generation reliability requirements. In the Day-Ahead Market, CBM may be used to provide reliable delivery of Energy to CAISO Balancing Authority Area Loads and to meet CAISO responsibility for resource reliability requirements in Real-Time. The purpose of this DAM implementation is to avoid Real-Time Schedule curtailments and firm Load interruptions that would otherwise be necessary. CBM may be used to reestablish Operating Reserves. CBM is not available for non-firm transmission in the CAISO Balancing Authority Area. CBM may be used only after:

- all non-firm sales have been terminated,
- direct-control Load management has been implemented,
- customer interruptible Demands have been interrupted,
- if the LSE calling for its use is experiencing a Generation deficiency and its transmission service provider is also experiencing transmission Constraints relative to imports of Energy on its transmission system.

The level of CBM for each Transmission Interface is determined by the amount of estimated capacity needed to serve firm Load and provide Operating Reserves based on historical, scheduled, and/or forecast data using the following equation to set the maximum CBM:

$$\text{CBM} = (\text{Demand} + \text{Reserves}) - \text{Resources}$$

Where:

- Demand = forecasted area Demand
- Reserves = reserve requirements
- Resources = internal area resources plus resources available on other Transmission Interfaces

The CAISO does not use CBMs. The CBM value is set at zero.

## **L.2 ATC Algorithm**

The ATC algorithm is a calculation used to determine the transfer capability remaining in the physical transmission network and available for further commercial activity over and above already committed uses. The CAISO posts the ATC values in megawatts (MW) to OASIS in conjunction with the closing events for the Day-Ahead Market and HASP Real-Time Market process.

The following OASIS ATC algorithms are used to implement the CAISO ATC calculation for the ATC rated path (Transmission Interface):

ATC Calculation For Imports:

$$\text{ATC} = \text{TTC} - \text{CMB} - \text{TRM} - \text{AS from Imports} - \text{Net Energy Flow} - \text{Hourly Unused TR Capacity}.$$

ATC Calculation For Exports:

$$\text{ATC} = \text{TTC} - \text{CMB} - \text{TRM} - \text{Net Energy Flow} - \text{Hourly Unused TR Capacity}.$$

ATC Calculation For Internal Paths 15 and 26:

$$\text{ATC} = \text{TTC} - \text{CMB} - \text{TRM} - \text{Net Energy Flow}$$

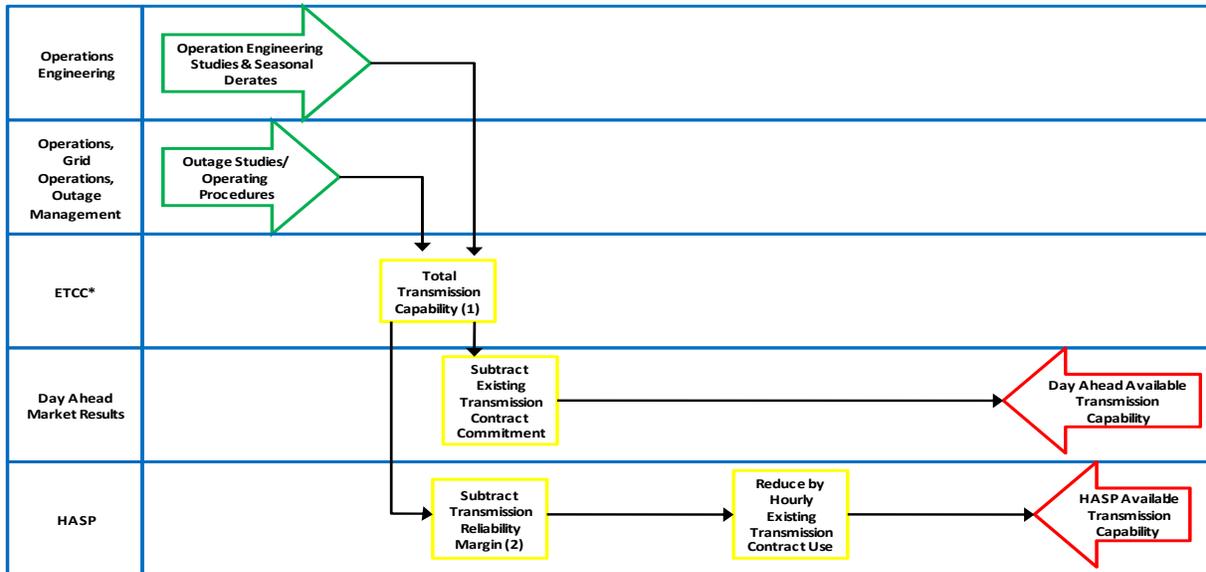
The specific data points used in the ATC calculation are each described in the following table.

ATC	ATC MW	Available Transfer Capability, in MW, per Transmission Interface and path direction.
Hourly Unused TR Capacity	USAGE_MW	The sum of any unscheduled existing transmission commitments (scheduled transmission rights capacity for ETC or TOR), in MW, per path direction.
Scheduled Net Energy from Imports/Exports (Net Energy Flow)	ENE IMPORT MW	Total hourly net Energy flow for a specified Transmission Interface.
AS from Imports	AS IMPORT MW	Ancillary Services scheduled, in MW, as imports over a specified Transmission Interface.
TTC	TTC MW	Hourly Total Transfer Capability of a specified Transmission Interface, per path direction, with consideration given to known Constraints and operating limitations.
CBM	CBM MW	Hourly Capacity Benefit Margin, in MW, for a specified Transmission Interface, per Path Direction.
TRM	TRM MW	Hourly Transmission Reliability Margin, in MW, for a specified Transmission Interface, per path direction.

Actual ATC mathematical algorithms and other ATC calculation information are located in the CAISO's ATC Implementation Document (ATCID) posted on OASIS.

### L.3 ATC Process Flowchart

#### Available Transmission Capability



\*ETCC – Existing Transmission Contract Calculator  
 (1) – WECC rated path methodology  
 (2) - See TRMID posted on OASIS

### L.4 TTC Determination

All transfer capabilities are developed to ensure that power flows are within their respective operating limits, both pre-Contingency and post-Contingency. Operating limits are developed based on thermal, voltage and stability concerns according to industry reliability criteria (WECC/NERC) for transmission paths. The process for developing TTC also requires the inclusion or exclusion of operating Constraints based on system conditions being studied.

**L.4.1** Transfer capabilities for studied configurations may be used as a maximum transfer capability for similar conditions without conducting additional studies. Increased transfer capability for similar conditions must be supported by conducting appropriate studies.

**L.4.1.2** At the CAISO, studies for all major inter-area paths' (mostly 500 kV) TTC are governed by the California Operating Studies Subcommittee (OSS) ~~as one of four sub-regional study groups of the WECC OTCPC (i.e., for California sub-region)~~, which provides detailed criteria and methodology. For transmission system elements below 500 kV the methodology for calculating these flow limits is detailed in Section L.4.3 and is applicable to the operating horizon.

**L.4.2** Transfer capability may be limited by the physical and electrical characteristics of the systems including any one or more of the following:

- **Thermal Limits** – Thermal limits establish the maximum amount of electric current that a transmission line or electrical facility can conduct over a specified time-period as established by the Transmission Owner.
- **Voltage Limits** – System voltages and changes in voltages must be maintained within the range of acceptable minimum and maximum limits to avoid a widespread collapse of system voltage.

- **Stability Limits** – The transmission network must be capable of surviving disturbances through the transient and dynamic time-periods (from milliseconds to several minutes, respectively) following the disturbance so as to avoid generator instability or uncontrolled, widespread interruption of electric supply to customers.

**L.4.3 Determination of transfer capability** is based on computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single "snapshot" of the operation of the interconnected network based on the projections of many factors. As such, they are viewed as reasonable indicators of network performance and may ultimately be used to determine Available Transfer Capability. The study is meant to capture the worst operating scenario based on ~~the RTE~~ experience and good engineering judgment.

**L.4.3.1 System Limits** – The transfer capability of the transmission network may be limited by the physical and electrical characteristics of the systems including thermal, voltage, and stability consideration. Once the critical Contingencies are identified, their impact on the network must be evaluated to determine the most restrictive of those limitations. Therefore, the TTC becomes:

TTC = lesser of {Thermal Limit, Voltage Limit, Stability Limit} following the worst [A3] credible contingency ~~N-1<sub>worst</sub>~~

## L.5 Developing a Power Flow Base-Case

**L.5.1 Base-cases** will be selected to model reality to the greatest extent possible including attributes like area Generation, area Load, Intertie flows, etc. At other times (e.g., studying longer range horizons), it is prudent to stress a base-case by making one or more attributes (Load, Generation, line flows, path flows, etc.) of that base-case more extreme than would otherwise be expected.

### ~~L.5.2 Power Flow Base-Cases Separated By Geographic Region~~

~~The standard RTE base-cases are split into geographical regions within the CAISO Controlled Grid.~~

### ~~L.5.3 Power Flow Base-Cases Selection Methodology~~

~~The RTE determines the studied geographical area of the procedure. This determines the study base-cases from the Bay Area, Fresno Area, North Area, SCE Area, or SDG&E Area.~~

~~The transfer capability studies may require studying a series of base-cases including both peak and off-peak operation conditions.~~

### L.5.24 Update a Power Flow Base-Case

~~After the RTE has obtained one or more base-case studies,~~ the selected base-case will be updated to represent the current grid conditions during the applicable season. The following will be considered to update the base-cases:

- Recent transmission network changes and updates
- Overlapping scheduled and Forced Outages
- Area Load level
- Major path flows
- Generation level
- Voltage levels
- Operating requirements

### L.5.42.1 Outage Consideration

Unless detailed otherwise, the RTECAISO considers modeling Outages of:

- Transmission lines, 500 kV

- Transformers, 500/230 kV
- Large Generating Units
- Generating Units within the studied area
- Transmission elements within the studied area

At the judgment of the RTECAISO, only the necessary Outages will be modeled to avoid an unnecessarily burdensome and large number of base-cases.

#### **L.5.42.2 Area Load Level**

Base-case Demand levels should be appropriate to the current studied system conditions and customer Demand levels under study and may be representative of peak, off-peak or shoulder, or light Demand conditions. The RTECAISO estimates the area Load levels to be utilized in the peak, partial-peak and/or off-peak base-cases. The RTECAISO will utilize the current CAISO Load forecasting program (e.g., ALFS), ProcessBook (PI) or other competent method to estimate Load level for the studied area. Once the ~~RTE has determined the correct~~ appropriate Load levels ~~are determined to be utilized~~, the RTECAISO may scale the scale the base-case Loads to the area studied, as appropriate.

#### **L.5.42.3 Modify Path Flows**

The scheduled electric power transfers considered representative of the base system conditions under analysis and agreed upon by the parties involved will be used for modeling. As needed, the RTECAISO may estimate select path flows depending on the studied area. In the event that it is not possible to estimate path flows, the RTECAISO will make safe assumptions about the path flows. A safe assumption is more extreme or less extreme (as conservative to the situation) than would otherwise be expected. If path flow forecasting is necessary, if possible the RTECAISO will trend path flows on previous similar days.

#### **L.5.42.4 Generation Level**

Utility and non-utility Generating Units will be updated to keep the swing Generating Unit at a reasonable level. The actual unit-by-unit Dispatch in the studied area is more vital than in the un-studied areas. The RTECAISO will examine past performance of select Generating Units to estimate the Generation levels, focusing on the Generating Units within the studied area. In the judgment of the RTECAISO, large Generating Units outside the studied area will also be considered.

#### **L.5.42.5 Voltage Levels**

Studies will maintain appropriate voltage levels, based on operation procedures for critical buses for the studied base-cases. The RTECAISO will verify that bus voltage for critical busses in within tolerance. If a bus voltage is outside the tolerance band, the RTECAISO will model the use of voltage control devices (e.g., synchronous condensers, shunt capacitors, shunt reactors, series capacitors, generators).

#### **L.6 Contingency Analysis**

~~The RTE will perform~~ Contingency analysis studies ~~are performed~~ in an effort to determine the limiting conditions, especially for scheduled Outages, including pre- and post-Contingency power flow analysis modeling pre- and post-Contingency conditions and measuring the respective line flows, and bus voltages.

Other studies like reactive margin and stability may be performed as deemed appropriate.

#### **L.6.1 Operating Criteria and Study Standards**

Using standards derived from NERC and WECC Reliability Standards and historical operating experience, the RTECAISO will perform Contingency analysis with the following operating criteria:

##### **Pre-Contingency**

- All pre-Contingency line flows shall be at or below their normal ratings.

- All pre-Contingency bus voltages shall be within a pre-determined operating range.

### Post-Contingency

- All post-Contingency line flows shall be at or below their emergency ratings.
- All post-Contingency bus voltages shall be within a pre-determined operating range.

The CAISO simulates the appropriate Contingencies as required by applicable NERC and WECC Reliability Standards and criteria.

### **The RTE models the following Contingencies:**

- ~~Generating Unit Outages (including combined-cycle Generating Unit Outages which are considered single Contingencies).~~
- ~~Line Outages~~
- ~~Line Outages combined with one Generating Unit Outage~~
- ~~Transformer Outages~~
- ~~Synchronous condenser Outages~~
- ~~Shunt capacitor or capacitor bank Outages~~
- ~~Series capacitor Outages~~
- ~~Static VAR compensator Outages~~
- ~~Bus Outages — bus Outages can be considered for the following ongoing Outage conditions.~~
  - ~~For a circuit breaker bypass and clear Outage, bus Contingencies shall be taken on both bus segments that the bypassed circuit breaker connects to.~~
  - ~~For a bus segment Outage, the remaining parallel bus segment shall be considered as a single Contingency.~~
  - ~~Credible overlapping Contingencies — Overlapping Contingencies typically include transmission lines connected to a common tower or close proximity in the same right-of-way.~~

### **L.6.2 Manual Contingency Analysis**

If manual Contingency analysis is used, the [RTECAISO](#) will perform pre-Contingency steady-state power flow analysis and determines if pre-Contingency operating criteria is violated. If pre-Contingency operating criteria cannot be preserved, the [RTECAISO](#) records the lines and buses that are not adhering to the criteria. If manual post-Contingency analysis is used the [RTECAISO](#) obtains one or more Contingencies in each of the base cases. For each Contingency resulting in a violation or potential violation in the operating criteria above, the [RTECAISO](#) records the critical post-Contingency facility loadings and bus voltages.

### **L.6.3 Contingency Analysis Utilizing a Contingency Processor**

For a large area, the [RTECAISO](#) may utilize a Contingency processor.

#### **L.6.4 Determination of Crucial Limitations**

After performing Contingency analysis studies, the RTECAISO analyzes the recorded information to determine limitations. The limitations are conditions where the pre-Contingency and/or post-Contingency operating criteria cannot be conserved and may include a manageable overload on the facilities, low post-Contingency bus voltage, etc. If no crucial limitations are determined, the RTECAISO determines if additional studies are necessary.

#### **L.7 Traditional Planning Methodology to Protect Against Violating Operating Limits**

After performing Contingency analysis studies, the RTECAISO next develops the transfer capability and develops procedures, Nomograms, RMR Generation requirements, or other Constraints to ensure that transfer capabilities respect operating limits.

#### **L.8 Limits for Contingency Limitations**

Transfer limits are developed when the post-Contingency loading on a transmission element may breach the element's emergency rating. The type of limit utilized is dependent on the application and includes one of the following limits:

- Simple Flow Limit - best utilized when the derived limit is repeatable or where parallel transmission elements feed radial Load.
- RAS or SPS – existing Remedial Action Schemes (RAS) or special protection systems (SPS) may impact the derivation of simple flow limits. When developing the limit, the RTECAISO determines if the RAS or SPS will be in-service during the Outage and factors the interrelationship between the RAS or SPS and the derived flow limit. RTECAISO will update the transfer limits in recognition of the changing status and/or availability of the RAS or SPS.

## Appendix P CAISO Department of Market Monitoring

\* \* \*

### 9. Ethics.

9.1 DMM employees shall have no professional or commercial affiliation with a Market Participant where such affiliation would tend to affect, or give the appearance of affecting, their judgment in the performance of their duties.

9.2 DMM employees shall not serve as officers, employees, or partners of a Market Participant.

9.3 DMM employees shall have no material financial interest in any Market Participant or affiliate, with the exception of mutual funds and non-directed investments.

9.4 DMM employees shall not engage in any market transactions other than in the performance of their duties under the CAISO Tariff.

9.5 DMM employees shall not be compensated, other than by CAISO, for any expert witness testimony or other commercial services in connection with any legal or regulatory proceeding or commercial transaction relating to the CAISO.

9.6 DMM employees shall not accept from a Market Participant any item with a value in excess of \$25.

9.7 DMM employees shall advise a supervisor (or in the case of the Director of DMM, the CAISO CEO) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of the Market Participant.

9.7.1 For the purposes of this provision, the term "seeking employment" shall have the same meaning it does in 5 CFR § 2635.603, or its successor provision.

9.8 DMM employees shall comply with the CAISO ~~Employee~~ Code of Conduct [for employees](#), as amended from time to time.

\* \* \*

## Appendix Q Eligible Intermittent Resources Protocol (EIRP)

\* \* \*

### 4 FORECASTING

The CAISO is responsible for overseeing the development of tools or services to forecast Energy for Participating Intermittent Resources. The CAISO will use its best efforts to develop accurate and unbiased forecasts, as limited by the availability of relevant explanatory data. Objective criteria and thresholds for unbiased, accurate forecasts shall be set forth in a Business Practice Manual, and shall be used to certify Participating Intermittent Resources in accordance with Section 2.2.4 of this EIRP.

#### 4.1 Hour-Ahead Forecast

The CAISO shall develop expert, independent hourly forecasts of Energy generation for each Participating Intermittent Resource. A forecast shall be published each hour for each of the next seven operating hours. Other forecasts, including a Day-Ahead forecast, may be developed at the CAISO's discretion. The Scheduling Coordinator representing the Participating Intermittent Resource must use the hour-ahead forecast that is available thirty (30) minutes prior to the deadline for submitting the HASP/RTM Bids. The CAISO shall use best efforts to provide reliable and timely forecasts. However, if the CAISO fails to deliver the hour-ahead forecast to the Scheduling Coordinator prior to fifteen (15) minutes before the deadline for submitting HASP/RTM Bids, then the hour-ahead forecast shall be the most recent Energy forecast provided by the CAISO to the Scheduling Coordinator for the operating hour for which Bids are next due.

#### 4.2 [NOT USED]

#### 4.3 Confidentiality

The CAISO shall maintain the confidentiality of proprietary data for each Participating Intermittent Resource in accordance with Section 20 of the CAISO Tariff.

\* \* \*

## Appendix T Small Generator Interconnection Agreement

### Small Generator Interconnection Agreement

This Small Generator Interconnection Agreement ("Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ ("Participating TO"), the California Independent System Operator Corporation, a California nonprofit public benefit corporation organized and existing under the laws of the State of California ("CAISO") and \_\_\_\_\_ ("Interconnection Customer") each hereinafter sometimes referred to individually as "Party" or referred to collectively as the "Parties."

#### Participating TO Information

Participating TO: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

#### CAISO Information

Attention: \_\_\_\_\_ ~~Keith Johnson~~  
~~Manager, Infrastructure Policy & Contracts Department~~  
Address: \_\_\_\_\_  
~~151 Blue Ravine Road~~  
Folsom, CA 95630  
Phone: \_\_\_\_\_ ~~916-351-4400~~ Fax: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_: ~~\_\_\_\_\_~~ ~~kjohnson@caiso.com~~

#### Interconnection Customer Information

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

Interconnection Customer ~~Application~~ Queue Position No: \_\_\_\_\_

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

#### Article 1. Scope And Limitations Of Agreement

- 1.1 This Agreement shall be used for all Small Generating Facility Interconnection Requests submitted under the applicable generator procedure (either the Generator Interconnection Procedures (GIP) set forth in Appendix Y or the Small Generator Interconnection Procedures (SGIP) set forth in Appendix S) except for those submitted under the 10 kW Inverter Process contained in GIP Appendix 7 ~~Attachment 5~~ or SGIP Attachment 5. For those Interconnection

Requests, Attachment 5 contains the terms and conditions which serve as the Interconnection Agreement.

- 1.2 This Agreement governs the terms and conditions under which the Interconnection Customer's Small Generating Facility will interconnect with, and operate in parallel with, the Participating TO's Transmission System.
- 1.3 This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power. The purchase or delivery of power and other services that the Interconnection Customer may require will be covered under separate agreements, if any. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity in accordance with the CAISO Tariff.
- 1.4 Nothing in this Agreement is intended to affect any other agreement between or among the Parties.
- 1.5 Responsibilities of the Parties
  - 1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice. The Parties shall use the Large Generator Interconnection Agreement (CAISO Tariff Appendix V or Appendix CC, as applicable) to interpret the responsibilities of the Parties under this Agreement.
  - 1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, and in accordance with this Agreement, and with Good Utility Practice.
  - 1.5.3 The Participating TO shall construct, operate, and maintain its Interconnection Facilities and Upgrades in accordance with this Agreement, and with Good Utility Practice. The CAISO and the Participating TO shall cause the Participating TO's Transmission System to be operated and controlled in a safe and reliable manner and in accordance with this Agreement.
  - 1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer agrees to design, install, maintain, and operate its Small Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of the Participating TO and any Affected Systems. The Interconnection Customer shall comply with the Participating TO's Interconnection Handbook. In the event of a conflict between the terms of this Agreement and the terms of the Participating TO's Interconnection Handbook, the terms in this Agreement shall govern.
  - 1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their

respective sides of the pPoint of eChange of eOwnership. The Participating TO and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the CAISO Controlled Grid, the Participating TO's electric system, the Participating TO's personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Attachments to this Agreement.

1.5.6 The Participating TO and the CAISO shall coordinate with Affected Systems to support the interconnection.

1.5.7 [This provision is intentionally omitted.]

#### 1.6 Parallel Operation Obligations

Once the Small Generating Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Small Generating Facility in the CAISO Balancing Authority Area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in the CAISO Tariff for the CAISO Controlled Grid and; 2) the Operating Requirements set forth in Attachment 5 of this Agreement.

#### 1.7 Metering

The Interconnection Customer shall be responsible for the reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Attachments 2 and 3 of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

#### 1.8 Reactive Power

1.8.1 The Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the terminals of each generating unit at a power factor within the range of 0.95 leading to 0.90 lagging, unless the CAISO has established different requirements that apply to all similarly situated generators in the CAISO Balancing Authority Area on a comparable basis. The requirements of this paragraph shall not apply to wind asynchronous generators and the requirements of Attachment 7 shall apply instead.

1.8.2 Payment to the Interconnection Customer for reactive power that the Small Generating Facility provides or absorbs when the CAISO requests the Interconnection Customer to operate its Small Generating Facility outside the range specified in Article 1.8.1 will be made by the CAISO in accordance with the applicable provisions of the CAISO Tariff.

1.9 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of this Agreement.

\* \* \*

### **Article 3. Effective Date, Term, Termination, And Disconnection**

#### 3.1 Effective Date

This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by the FERC. The

Participating TO and the CAISO shall promptly file this Agreement with the FERC upon execution, if required.

### 3.2 Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of \_\_\_\_ years from the Effective Date (term specified in individual agreements to be ten (10) years or such other longer period as the Interconnection Customer may request) and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with [Article 3.3](#) of this Agreement.

### 3.3 Termination

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Agreement (if required), which notice has been accepted for filing by FERC.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving the Participating TO and the CAISO twenty (20) Business Days written notice.

3.3.2 Any Party may terminate this Agreement after Default pursuant to [Article 7.6](#).

3.3.3 Upon termination of this Agreement, the Small Generating Facility will be disconnected from the CAISO Controlled Grid. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this Agreement or such non-terminating Party otherwise is responsible for these costs under this Agreement.

3.3.4 The termination of this Agreement shall not relieve any Party of its liabilities and obligations, owed or continuing at the time of termination.

3.3.5 The provisions of this article shall survive termination or expiration of this Agreement.

### 3.4 Temporary Disconnection

Temporary disconnection of the Small Generating Facility or associated Interconnection Facilities shall continue only for so long as reasonably necessary under Good Utility Practice.

#### 3.4.1 Emergency Conditions

"Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; (2) that, in the case of the CAISO, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the CAISO Controlled Grid or the electric systems of others to which the CAISO Controlled Grid is directly connected; (3) that, in the case of the Participating TO, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Participating TO's Transmission System, the Participating TO's Interconnection Facilities, Distribution System, or the electric systems of others to which the Participating TO's electric system is directly connected; or (4) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generating Facility or the Interconnection Customer's Interconnection Facilities. Under Emergency Conditions, the CAISO or the Participating TO may immediately suspend interconnection service and temporarily disconnect the Small Generating Facility. The Participating TO or the CAISO shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Small Generating Facility or the Interconnection Customer's Interconnection Facilities. The Interconnection Customer shall notify the Participating TO and the CAISO promptly when

it becomes aware of an Emergency Condition that may reasonably be expected to affect the CAISO Controlled Grid, the Participating TO's Interconnection Facilities, or any Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of the Interconnection Customer's or Participating TO's facilities and operations, its anticipated duration, and the necessary corrective action.

#### 3.4.2 Routine Maintenance, Construction, and Repair

The Participating TO or the CAISO may interrupt interconnection service or curtail the output of the Small Generating Facility and temporarily disconnect the Small Generating Facility from the CAISO Controlled Grid when necessary for routine maintenance, construction, and repairs on the CAISO Controlled Grid or the Participating TO's electric system. The Party scheduling the interruption shall provide the Interconnection Customer with (5) five Business Days notice prior to such interruption. The Party scheduling the interruption shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

The Interconnection Customer shall update its planned maintenance schedules in accordance with the CAISO Tariff. The CAISO may request the Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the CAISO Controlled Grid in accordance with the CAISO Tariff. Such planned maintenance schedules and updates and changes to such schedules shall be provided by the Interconnection Customer to the Participating TO concurrently with their submittal to the CAISO.

#### 3.4.3 Forced Outages

During any forced outage, the Participating TO or the CAISO may suspend Interconnection Service to effect immediate repairs on the CAISO Controlled Grid or the Participating TO's electric system. The Participating TO or the CAISO shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Participating TO or the CAISO shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection. The Interconnection Customer shall notify CAISO, as soon as practicable, of all forced outages or reductions of the Small Generating Facility in accordance with the CAISO Tariff.

#### 3.4.4 Adverse Operating Effects

The Participating TO or the CAISO shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Small Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generating Facility could cause damage to the CAISO Controlled Grid, the Participating TO's Transmission System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Participating TO or the CAISO may disconnect the Small Generating Facility. The Participating TO or the CAISO shall provide the Interconnection Customer with (5) five Business Day notice of such disconnection, unless the provisions of Article 3.4.1 apply.

#### 3.4.5 Modification of the Small Generating Facility

The Interconnection Customer must receive written authorization from the Participating TO and the CAISO before making any change to the Small Generating Facility that may have a material impact on the safety or reliability of the CAISO Controlled Grid or the Participating TO's electric system. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without the Participating TO's and the

CAISO's prior written authorization, the Participating TO or the CAISO shall have the right to temporarily disconnect the Small Generating Facility.

3.4.6 Reconnection

The Parties shall cooperate with each other to restore the Small Generating Facility, Interconnection Facilities, the Participating TO's electric system, and the CAISO Controlled Grid to their normal operating state as soon as reasonably practicable following a temporary disconnection.

\* \* \*

**Article 5. Cost Responsibility For Network Upgrades**

5.1 Applicability

No portion of this Article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

5.2 Network Upgrades

The Participating TO shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement. If the Participating TO and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. Unless the Participating TO elects to pay for Network Upgrades, the actual cost of the Network Upgrades, including overheads, shall be borne initially by the Interconnection Customer.

5.3 Transmission Credits

No later than thirty (30) calendar [A4] days prior to the Commercial Operation Date, the Interconnection Customer may make a one-time election by written notice to the CAISO and the Participating TO to receive Congestion Revenue Rights as defined in and as available under the CAISO Tariff at the time of the election in accordance with the CAISO Tariff, in lieu of a refund of the cost of Network Upgrades in accordance with Article 5.3.1.

5.3.1 Repayment of Amounts Advanced for Network Upgrades

5.3.1.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

Upon the Commercial Operation Date of a Small Generating Facility that is not a Phased Generating Facility, the Interconnection Customer shall be entitled to a repayment, equal to the total amount paid to the Participating TO for the cost of Network Upgrades. Such amount shall include any tax gross-up or other tax-related payments associated with Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the Participating TO on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the Commercial Operation Date; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years from the Commercial

Operation Date. Notwithstanding the foregoing, if this Agreement terminates within five (5) years from the Commercial Operation Date, the Participating TO's obligation to pay refunds to the Interconnection Customer shall cease as of the date of termination.

#### 5.3.1.2 Repayment of Amounts Advanced Regarding Phased Generating Facilities

Upon the Commercial Operation Date of each phase of a Phased Generating Facility, the Interconnection Customer shall be entitled to a repayment equal to the amount paid to the Participating TO for the cost of Network Upgrades for that completed phase for which the Interconnection Customer is responsible, if all of the following conditions are satisfied:

- (a) The [Small](#) Generating Facility is capable of being constructed in phases;
- (b) The [Small](#) Generating Facility is specified in the SGIA as being constructed in phases;
- (c) The completed phase corresponds to one of the phases specified in the SGIA;
- (d) The Interconnection Customer has tendered notice pursuant to the SGIA that the phase has achieved Commercial Operation;
- (e) All parties to the SGIA have agreed that the completed phase meets the requirements set forth in the SGIA and any other operating, metering, and interconnection requirements to permit generation output of the entire capacity of the completed phase as specified in the SGIA;
- (f) The Network Upgrades necessary for the completed phase to meet the desired level of deliverability are in service; and
- (g) The Interconnection Customer has posted one hundred (100) percent of the Interconnection Financial Security required for the Network Upgrades for all the phases of the [Small](#) Generating Facility.

Upon satisfaction of these conditions (a) through (g), the Interconnection Customer shall be entitled to receive a partial repayment of its financed cost responsibility in an amount equal to the percentage of the [Small](#) Generating Facility declared to be in Commercial Operation multiplied by the cost of the Network Upgrades associated with the completed phase. The Interconnection Customer shall be entitled to repayment in this manner for each completed phase until the entire [Small](#) Generating Facility is completed.

If the SGIA includes a partial termination provision and the partial termination right has been exercised with regard to a phase that has not been built, then the Interconnection Customer's eligibility for repayment under this Article as to the remaining phases shall not be diminished. If the Interconnection Customer completes one or more phases and then defaults on the SGIA, the Participating TO and the CAISO shall be entitled to offset any losses or damages resulting from the default against any repayments made for Network Upgrades related to

the completed phases, provided that the Party seeking to exercise the offset has complied with any requirements which may be required to apply the stream of payments utilized to make the repayment to the Interconnection Customer as an offset.

Any repayment amount for completion of a phase shall include any tax gross-up or other tax-related payments associated with Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the Participating TO on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the Commercial Operation Date; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years from the Commercial Operation Date. Notwithstanding the foregoing, if this Agreement terminates within five (5) years from the Commercial Operation Date, the Participating TO's obligation to pay refunds to the Interconnection Customer shall cease as of the date of termination.

#### 5.3.1.3 Interest Payments and Assignment Rights

Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. §35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment. Interest shall continue to accrue on the repayment obligation so long as this Agreement is in effect. The Interconnection Customer may assign such repayment rights to any person.

#### 5.3.1.4 Failure to Achieve Commercial Operation

If the Small Generating Facility fails to achieve commercial operation, but it or another Generating Facility is later constructed and makes use of the Network Upgrades, the Participating TO shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.

#### 5.3.2 Special Provisions for Affected Systems

The Interconnection Customer shall enter into an agreement with the owner of the Affected System and/or other affected owners of portions of the CAISO Controlled Grid, as applicable, in accordance with the applicable generation interconnection procedure under which the Small Generating Facility was processed (SGIP or GIP). Such agreement shall specify the terms governing payments to be made by the Interconnection Customer to the owner of the Affected System and/or other affected owners of portions of the CAISO Controlled Grid. In no event shall the Participating TO be responsible for the repayment for any facilities that are not part of the Participating TO's Transmission System.

#### 5.3.3 Rights Under Other Agreements

Notwithstanding any other provision of this Agreement, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that the Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Small Generating Facility.

## **Article 6. Billing, Payment, Milestones, And Financial Security**

### **6.1 Billing and Payment Procedures and Final Accounting**

6.1.1 The Participating TO shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within thirty (30) calendar days of receipt, or as otherwise agreed to by the Parties. Notwithstanding the foregoing, any invoices between the CAISO and another Party shall be submitted and paid in accordance with the CAISO Tariff.

6.1.2 Within six (6) months of completing the construction and installation of the Participating TO's Interconnection Facilities and/or Upgrades described in the Attachments to this Agreement, the Participating TO shall provide the Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Participating TO for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Participating TO shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Participating TO within thirty (30) calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, the Participating TO shall refund to the Interconnection Customer an amount equal to the difference within [thirty \(30\)](#) calendar days of the final accounting report.

### **6.2 Milestones**

The Parties shall agree on milestones for which each Party is responsible and list them in Attachment 4 of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, as defined in [Article 7.5.1](#), it shall immediately notify the other Parties of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones, and (2) request appropriate amendments to Attachment 4. The Parties affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless (1) they will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) they have reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

### **6.3 Interconnection Financial Security Arrangements for Small Generating Facilities Processed Under the Fast Track Process or Small Generating Facilities Processed under SGIP**

*The terms and conditions of this Article 6.3 shall apply only to:*

1. *Small Generating Facilities that are no larger than 5 MW that are processed under the Fast Track Process under the Generation Interconnection Procedures, CAISO Tariff Appendix Y; and*
2. *Small Generating Facilities processed under the Small Generation Interconnection Procedures set forth in CAISO Tariff Appendix S.*  
*In such case, the terms of Article 6.4 below do not apply to this Agreement.*

*For easy reference, the Parties shall check the Box below when this Article 6.3 applies:*

**THIS ARTICLE 6.3 APPLIES**

6.3.1 At least twenty (20) Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Participating TO's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Participating TO, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Participating TO and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Participating TO's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Participating TO under this Agreement during its term.

6.3.2 If a guarantee is provided, the guarantee must be made by an entity that meets the creditworthiness requirements of the Participating TO, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.

6.3.3 If a letter of credit or surety bond is provided, the letter of credit or surety bond must be issued by a financial institution or insurer reasonably acceptable to the Participating TO and must specify a reasonable expiration date.

6.4 [Interconnection](#) Financial Security Arrangements for All Other Small Generating Facilities

*The terms of this Article 6.4 apply to Small Generating Facilities that have been processed under either*

1. *the Cluster Study Process or*
2. *the Independent Study Track Process*

*of the Generation Interconnection Procedures set forth in CAISO Tariff Appendix Y. In such case, the provisions of Article 6.3 do not apply to this Agreement.*

*In such case, the terms of Article 6.3 above do not apply to this Agreement.*

*For easy reference, the Parties shall check the Box below when this Article 6.4 applies:*

**THIS ARTICLE 6.4 APPLIES**

6.4.1 The Interconnection Customer is obligated to provide all necessary Interconnection Financial Security required under Section 9 of the GIP in a manner acceptable under Section 9 of the GIP. Failure by the Interconnection Customer to timely satisfy the GIP's requirements for the provision of Interconnection Financial Security shall be deemed a breach of this Agreement and a condition of Default of this Agreement.

6.4.2 Notwithstanding any other provision in this Agreement for notice of Default and opportunity to cure such Default, the CAISO or the Participating TO shall provide Interconnection Customer with written notice of any Default due to timely failure to post

Interconnection Financial Security, and the Interconnection Customer shall have five (5) Business Days from the date of such notice to cure such Default by posting the required Interconnection Financial Security. If the Interconnection Customer fails to cure the Default, then this Agreement shall be deemed terminated.

\* \* \*

## **Article 12. Miscellaneous**

### **12.1 Governing Law, Regulatory Authority, and Rules**

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of \_\_\_\_\_ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

### **12.2 Amendment**

The Parties may amend this Agreement by a written instrument duly executed by all of the Parties, or under ~~a~~ Article 12.12 of this Agreement.

### **12.3 No Third-Party Beneficiaries**

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

### **12.4 Waiver**

12.4.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

12.4.2 Any waiver at any time by any Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or Default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Participating TO. Any waiver of this Agreement shall, if requested, be provided in writing.

### **12.5 Entire Agreement**

This Agreement, including all Attachments, constitutes the entire agreement among the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between or among the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

### **12.6 Multiple Counterparts**

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

### **12.7 No Partnership**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership among the Parties or to impose any partnership obligation or

partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.

12.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9 Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. FERC expects all transmission providers, market participants, and interconnection customers interconnected to electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

12.10 Environmental Releases

Each Party shall notify the other Parties, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Parties copies of any publicly available reports filed with any governmental authorities addressing such events.

12.11 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.

12.11.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Participating TO or the CAISO be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

12.11.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

12.12 Reservation of Rights

The CAISO and Participating TO shall each have the right to make a unilateral filing with FERC to modify this Agreement pursuant to section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to the following articles of

this Agreement and with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation covered by these articles:

Introductory Paragraph, 1.1, 1.2, 1.3, 1.4, 1.5.1, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.6, 1.7, 1.8.1, 1.9, 2.1, 2.2.1, 2.3, 3, 4.1.1 (last sentence only), 5.1, 5.3, 6.2, 7, 8, 9, 11, 12, 13, Attachment 1, Attachment 4, Attachment 5, and Attachment 7.

The Participating TO shall have the exclusive right to make a unilateral filing with FERC to modify this Agreement pursuant to section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to the following articles of this Agreement and with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation covered by these articles:

2.2.2, 4.1.1 (all but the last sentence), 4.1.2, 4.2, 5.2, 6.1.1 (all but the last sentence), 6.1.2, 6.3, 10 (all but preamble), Attachment 2, Attachment 3 and Attachment 6.

The CAISO shall have the exclusive right to make a unilateral filing with FERC to modify this Agreement pursuant to section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to the following articles of this Agreement and with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation covered by these articles:

1.8.2, 6.1.1 (last sentence only) and 10 (preamble only).

The Interconnection Customer, the CAISO, and the Participating TO shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by another 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 Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise mutually agree as provided herein.

**Article 13. Notices**

13.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Interconnection Customer:  
Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

If to the Participating TO:  
Participating TO: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

If to the CAISO:

California Independent System Operator [Corporation](#)

Attention: \_\_\_\_\_

[250 Outcropping Way](#)~~151 Blue Ravine Road~~

Folsom, CA 95630

Phone: 916-351-4400

Fax: \_\_\_\_\_

13.2 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

13.3 Alternative Forms of Notice

Any notice or request required or permitted to be given by any Party to the other Parties and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail address: \_\_\_\_\_

If to the Participating TO:

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail address: \_\_\_\_\_

If to the CAISO:

California Independent System Operator [Corporation](#)

Attention: \_\_\_\_\_

[250 Outcropping Way](#)~~151 Blue Ravine Road~~

Folsom, CA 95630

Phone: 916-351-4400

Fax: \_\_\_\_\_

E-mail address: \_\_\_\_\_

13.4 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Participating TO's Operating Representative:

Participating TO: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

CAISO's Operating Representative

California Independent System Operator [Corporation](#)  
Attention: \_\_\_\_\_  
[250 Outcropping Way](#)~~151 Blue Ravine Road~~  
Folsom, CA 95630  
Phone: 916-351-4400 Fax: \_\_\_\_\_

13.5 Changes to the Notice Information

Any Party may change this information by giving five Business Days written notice to the other Parties prior to the effective date of the change.

**Article 14. Signatures**

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the California Independent System Operator [Corporation](#)

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Participating TO

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Interconnection Customer

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## Attachment 1

### Glossary of Terms

**Affected System** – An electric system other than the CAISO Controlled Grid that may be affected by the proposed interconnection, including the Participating TO's electric system that is not part of the CAISO Controlled Grid.

**Applicable Laws and Regulations** – All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Balancing Authority Area** - The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

**Business Day** – Monday through Friday, excluding federal holidays and the day after Thanksgiving Day.

**Commercial Operation Date** – The date on which a Small Generating Facility commenced generating electricity for sale as agreed upon by the Participating TO and the Interconnection Customer and in accordance with any implementation plan agreed to by the Participating TO and the CAISO for multiple individual generating units or project phases at a Small Generating Facility where an Interconnection Customer intends to establish separate Commercial Operation Dates for those generating units or project phases.

**CAISO Controlled Grid** – The system of transmission lines and associated facilities of the parties to a Transmission Control Agreement that have been placed under the CAISO's Operational Control.

**CAISO Tariff** – The CAISO's tariff, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

**Default** – The failure of a breaching Party to cure its breach under this Agreement.

**Distribution System** – Those non-CAISO-controlled transmission and distribution facilities owned by the

Participating TO.

**Distribution Upgrades** – The additions, modifications, and upgrades to the Participating TO's Distribution System. Distribution Upgrades do not include Interconnection Facilities.

**Generating Facility** – An Interconnection Customer's generating unit(s) used for the production of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Good Utility Practice** – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, CAISO, Participating TO, or any affiliate thereof.

**Interconnection Facilities** – The Participating TO's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to the Participating TO's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

**Interconnection Handbook** – A handbook, developed by the Participating TO and posted on the Participating TO's website or otherwise made available by the Participating TO, describing technical and operational requirements for wholesale generators and loads connected to the Participating TO's Transmission System, as such handbook may be modified or superseded from time to time. The Participating TO's standards contained in the Interconnection Handbook shall be deemed consistent with Good Utility Practice and applicable reliability standards.

**Interconnection Request** – A request, in accordance with the CAISO Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with the CAISO Controlled Grid.

~~**CAISO Controlled Grid** – The system of transmission lines and associated facilities of the parties to a Transmission Control Agreement that have been placed under the CAISO's Operational Control.~~

~~**CAISO Tariff** – The CAISO's tariff, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.~~

**Material Modification** – A modification that has a material impact on the cost or timing of any Interconnection Request or any other valid interconnection request with a later queue priority date.

**Network Upgrades** – Additions, modifications, and upgrades to the Participating TO's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with the CAISO Controlled Grid to accommodate the interconnection of the Small Generating Facility with the CAISO Controlled Grid. Network Upgrades do not include Distribution Upgrades.

**Operational Control** – The rights of the CAISO under a Transmission Control Agreement and the CAISO Tariff to direct the parties to the Transmission Control Agreement how to operate their transmission lines and facilities and other electric plant affecting the reliability of those lines and facilities for the purpose of affording comparable non-discriminatory transmission access and meeting applicable reliability criteria.

**Operating Requirements** – Any operating and technical requirements that may be applicable due to the CAISO, Western Electricity Coordinating Council, Balancing Authority Area, or the Participating TO's requirements, including those set forth in this Agreement.

**Party or Parties** – The Participating TO, CAISO, Interconnection Customer or the applicable combination of the above.

**Phased Generating Facility** – A [Small](#) Generating Facility that is structured to be completed and to achieve Commercial Operation in two or more successive sequences that are specified in this SGIA, such that each sequence comprises a portion of the total megawatt generation capacity of the entire [Small](#) Generating Facility.

**Point of Interconnection** – The point where the Interconnection Facilities connect with the Participating TO's Transmission System.

**Reasonable Efforts** – With respect to an action required to be attempted or taken by a Party under this Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Small Generating Facility** – The Interconnection Customer's device for the production of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Transmission Control Agreement** – CAISO FERC Electric Tariff No. 7.

**Transmission System** – The facilities owned and operated by the Participating TO and that have been placed under the CAISO's Operational Control, which facilities form part of the CAISO Controlled Grid.

**Upgrades** – The required additions and modifications to the Participating TO's Transmission System and Distribution System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

\* \* \*

## **Attachment 7 Interconnection Requirements for a Wind Generating Plant**

### **INTERCONNECTION REQUIREMENTS FOR AN ASYNCHRONOUS [SMALL](#) GENERATING FACILITY**

Attachment 7 sets forth requirements and provisions specific to all Asynchronous Generating Facilities. All other requirements of this Agreement continue to apply to Asynchronous Generating Facility interconnections.

#### **A. Technical Standards Applicable to Asynchronous Generating Facilities**

##### **i. Low Voltage Ride-Through (LVRT) Capability**

An Asynchronous Generating Facility shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the requirements below.

- 1 An Asynchronous Generating Facility shall remain online for the voltage disturbance caused by any fault on the transmission grid, or within the Asynchronous Generating Facility between the Point of Interconnection and the high voltage terminals of the Asynchronous Generating Facility's step up transformer, having a duration equal to the lesser of the normal three-phase fault clearing time (4-9 cycles) or one-hundred fifty (150) milliseconds, plus any subsequent post-fault voltage recovery to the final steady-state post-fault voltage. Clearing time shall be based on the maximum normal clearing time associated with any three-phase fault location that reduces the voltage at the Asynchronous Generating Facility's Point of Interconnection to 0.2 per-unit of nominal voltage or less, independent of any fault current contribution from the Asynchronous Generating Facility.
- 2 An Asynchronous Generating Facility shall remain online for any voltage disturbance caused by a single-phase fault on the transmission grid, or within the Asynchronous Generating Facility between the Point of Interconnection and the high voltage terminals of the Asynchronous Generating Facility's step up transformer, with delayed clearing, plus any subsequent post-fault voltage recovery to the final steady-state post-fault voltage. Clearing time shall be based on the maximum backup clearing time associated with a single point of failure (protection or breaker failure) for any single-phase fault location that reduces any phase-to-ground or phase-to-phase voltage at the Asynchronous Generating Facility's Point of Interconnection to 0.2 per-unit of nominal voltage or less, independent of any fault current contribution from the Asynchronous Generating Facility.
- 3 Remaining on-line shall be defined as continuous connection between the Point of Interconnection and the Asynchronous Generating Facility's units, without any mechanical isolation. Asynchronous Generating Facilities may cease to inject current into the transmission grid during a fault.
- 4 The Asynchronous Generating Facility is not required to remain on line during multi-phased faults exceeding the duration described in Section A.i.1 of this [Attachment 7 Appendix H](#) or single-phase faults exceeding the duration described in Section A.i.2 of this [Attachment 7 Appendix H](#).
- 5 The requirements of this Section A.i. of this [Attachment 7 Appendix H](#) do not apply to faults that occur between the Asynchronous Generating Facility's terminals and the high side of the step-up transformer to the high-voltage transmission system.
- 6 Asynchronous Generating Facilities may be tripped after the fault period if this action is intended as part of a special protection system.
- 7 Asynchronous Generating Facilities may meet the requirements of this Section A.i of this [Attachment 7 Appendix H](#) through the performance of the generating units or by installing additional equipment within the Asynchronous Generating Facility, or by a combination of generating unit performance and additional equipment.
- 8 The provisions of this Section A.i of this [Attachment 7 Appendix H](#) apply only if the voltage at the Point of Interconnection has remained within the range of 0.9 and 1.10 per-unit of nominal voltage for the preceding two seconds, excluding any sub-cycle transient deviations.

## ii. Frequency Disturbance Ride-Through Capacity

An Asynchronous Generating Facility shall comply with the off nominal frequency requirements set forth in the WECC Under Frequency Load Shedding Relay Application Guide or successor requirements as they may be amended from time to time.

### **iii. Power Factor Design ~~Criteria and Operating Requirements~~ (Reactive Power)**

An Asynchronous Generating Facility shall operate within a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this SLGIA in order to maintain a specified voltage schedule, if the Phase II Interconnection Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two, if agreed to by the Participating TO and CAISO. The Interconnection Customer shall not disable power factor equipment while the Asynchronous Generating Facility is in operation. Asynchronous Generating Facilities shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the Phase II Interconnection Study shows this to be required for system safety or reliability

### **iv. Supervisory Control and Data Acquisition (SCADA) Capability**

An Asynchronous Generating Facility shall provide SCADA capability to transmit data and receive instructions from the Participating TO and CAISO to protect system reliability. The Participating TO and CAISO and the Asynchronous Generating Facility Interconnection Customer shall determine what SCADA information is essential for the proposed Asynchronous Generating Facility, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability.

### **v. Power System Stabilizers (PSS)**

Power system stabilizers are not required for Asynchronous Generating Facilities.

## Appendix U

### Standard Large Generator Interconnection Procedures (LGIP)

\* \* \*

#### Appendix 1

#### INTERCONNECTION REQUEST

Provide three copies of this completed form pursuant to Section 7 of this LGIP Appendix 1 below.

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with the CAISO Controlled Grid pursuant to the CAISO Tariff.
2. This Interconnection Request is for (check one):  
 A proposed new Large Generating Facility.  
 An increase in the generating capacity or a Material Modification of an existing Generating Facility.
3. [NOT USED]
4. The Interconnection Customer provides the following information:
  - a. Address or location, including the county, of the proposed new Large Generating Facility site or, in the case of an existing Generating Facility, the name and specific location, including the county, of the existing Generating Facility;
  - b. Maximum megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
  - c. Type of project (i.e., gas turbine, hydro, wind, etc.) and general description of the equipment configuration;
  - d. Proposed In-Service Date, Trial Operation date and Commercial Operation Date by day, month, and year and term of service;
  - e. Name, address, telephone number, and e-mail address of the Interconnection Customer's contact person;
  - f. Approximate location of the proposed Point of Interconnection; and
  - g. Interconnection Customer data (set forth in Attachment A)
5. Applicable deposit amount as specified in the LGIP.
6. Evidence of Site Control as specified in the LGIP and name(s), address(es) and contact information of site owner(s) (check one):  
 Is attached to this Interconnection Request  
 Will be provided at a later date in accordance with this LGIP

7. This Interconnection Request shall be submitted to the representative indicated below:

New Resource Interconnection  
California ISO  
P.O. Box 639014  
Folsom, CA 95763-9014

Overnight address: [250 Outcropping Way](#)~~151 Blue Ravine Road~~, Folsom, CA 95630

8. Representative of the Interconnection Customer to contact:

[To be completed by the Interconnection Customer]

9. This Interconnection Request is submitted by:

Name of the Interconnection Customer:

By (signature):

Name (type or print):

Title:

Date:

\* \* \*

**Appendix 7  
Agreement for Allocating LGIP and Study Responsibilities**

\* \* \*

**ATTACHMENT B  
CONTACTS FOR NOTICES  
[Section 4.15]**

**California ISO**

Manager, Transmission Engineering  
[250 Outcropping Way](#)~~151 Blue Ravine Road~~  
Folsom, CA 95630  
Phone: 916.351.2104  
Fax: 916.351.2264

**[NAME OF PTO]**

[Address of PTO]

## Appendix DD

### Generator Interconnection and Deliverability Allocation Procedures (GIDAP)

\* \* \*

#### 8.9.2 Second Component: Allocating TP Deliverability To The Current Queue Cluster

If the CAISO determines, under Section 8.9.1-4 above, that no TP Deliverability exists for allocation to the current Queue Cluster, then no allocation of TP Deliverability shall be made to the current Queue Cluster. If TP Deliverability is available for allocation, then the ISO will allocate such capacity to eligible Generating Facilities.

The CAISO shall allocate any TP Deliverability available after taking into account the commitments described in the prior section to eligible Generating Facilities in the current Interconnection Study Cycle and eligible parked Generating Facilities from the previous Interconnection Study Cycle.

The ISO shall allocate available TP Deliverability to Generating Facilities according to the Interconnection Customers' demonstration of having met the criteria listed below for all or a portion of the full MW generating capacity of the Generating Facility as specified in the Interconnection Request. Where a criterion is met by a portion of the full MW generating capacity of the Generating Facility, the eligibility score associated with that criterion shall apply to the portion that meets the criterion. The demonstration must relate to the same proposed Generating Facility as described in Appendix A to the Interconnection Request. The Generating Facility shall be assigned a numerical score reflecting the Interconnection Customer's demonstration of having met the criteria below under the methodology set forth in the Business Practice Manual. At a minimum, the Generating Facility must meet (1)d and (2)a or (2)d.

- (1) Permitting status. An Interconnection Customer's Generating Facility must meet at least one of the following:
  - a. The Interconnection Customer has received its final governmental permit or authorization allowing the Generating Facility to commence construction.
  - b. The Interconnection Customer has received a draft environmental report document (or equivalent environmental permitting document) indicating likely approval of the requested permit and/or which indicates that the permitting authority has not found an environmental impact which would likely prevent the permit approval.
  - c. The Interconnection Customer has applied for the necessary governmental permits or authorizations and the authority has deemed such documentation as data adequate for the authority to initiate its review process.
  - d. The Interconnection Customer has applied for the necessary governmental permit or authorization for the construction.
- (2) Project financing status. An Interconnection Customer's Generating Facility must meet at least one of the following criteria:
  - a. The Generating Facility will be balance-sheet financed or has otherwise received a commitment of project financing, and the Interconnection

Customer represents to the ISO that either it has a regulator-approved power purchase agreement or that the Interconnection Customer is proceeding to commercial operation without a power purchase agreement.

- b. The Interconnection Customer has an executed and regulator-approved power purchase agreement.
- c. The Interconnection Customer has an executed power purchase agreement but such agreement has not yet received regulatory approval.
- d. The Interconnection Customer does not have an executed power purchase agreement but the Interconnection Customer is included on an active short list or other commercially recognized method of preferential ranking of power providers by a prospective purchaser Load Serving Entity.

(3) Land acquisition

- a. The Interconnection Customer demonstrates a present legal right to begin construction of the Generation Facility on one hundred percent (100%) of the real property footprint necessary for the entire Generating facility.
- b. The Interconnection Customer demonstrates Site Exclusivity.

In allocating TP Deliverability under this section, in a situation where the available amount of TP Deliverability can accommodate only one out of two or more Generating Facilities requesting TP Deliverability and such Generating Facilities score equally under the criteria above, then the CAISO will allocate the TP Deliverability to such equally scoring Generating Facilities according to lowest LDNU cost estimates.

\* \* \*

[NRG brought the following typos in the ER12-50 Compliance Filing to the CAISO's attention, but they are not included in this list of proposed changes:](#)

### 11.25.3 Allocation of Costs

The CAISO determines the total Flexible Ramping Constraint costs incurred as described in Section 11.25.1, net of the rescission of payments as described and 11.25.2. The CAISO divides the total Flexible Ramping Constraint costs incurred in two portions and allocates each portion as follows:

#### 11.25.3.2 Allocation to Supply Deviations

Twenty-five (25) percent of the total Flexible Ramping Constraint costs netted as described above in this section 11.25.3, are allocated to Scheduling Coordinators based on their gross negative supply deviations as follows, using a two-step process.

#### 11.25.2 Rescission of Payment for Non-Performance

Payment to Scheduling Coordinators are rescinded for the quantity of MWs of undelivered Flexible Ramping Constraint capacity determined as the hourly sum of the Settlement Interval

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