

California Independent System Operator Corporation  
Fifth Replacement Tariff

**Table of Contents**

<u>11.</u>	<u>CAISO Settlements And Billing</u>	<u>5</u>
<u>11.1</u>	<u>Settlement Principles</u>	<u>5</u>
<u>11.1.1</u>	<u>[NOT USED]</u>	<u>6</u>
<u>11.1.2</u>	<u>Settlement Charges And Payments</u>	<u>6</u>
<u>11.1.3</u>	<u>Financial Transaction Conventions And Currency</u>	<u>6</u>
<u>11.1.4</u>	<u>CAISO Estimates for Initial Settlement Statement T+3B</u>	<u>7</u>
<u>11.1.5</u>	<u>SQMD For Recalculation Settlement Statement T+12B</u>	<u>8</u>
<u>11.2</u>	<u>Settlement Of Day-Ahead Market Transactions</u>	<u>8</u>
<u>11.2.1</u>	<u>IFM Settlements</u>	<u>8</u>
<u>11.2.2</u>	<u>Calculation Of Hourly RUC Compensation</u>	<u>11</u>
<u>11.2.3</u>	<u>IFM Energy Charges And Payments For Metered Subsystems</u>	<u>12</u>
<u>11.2.4</u>	<u>CRR Settlements</u>	<u>14</u>
<u>11.2.5</u>	<u>Payment By OBAALSE For CRRs Through CRR Allocation Process</u>	<u>19</u>
<u>11.3</u>	<u>Settlement of Virtual Awards</u>	<u>21</u>
<u>11.3.1</u>	<u>Virtual Supply Awards</u>	<u>21</u>
<u>11.3.2</u>	<u>Virtual Demand Awards</u>	<u>21</u>
<u>11.4</u>	<u>HASP Settlement Of Scheduling Points</u>	<u>21</u>
<u>11.4.1</u>	<u>HASP Settlement For Exports</u>	<u>21</u>
<u>11.4.2</u>	<u>HASP Settlement For Imports</u>	<u>22</u>
<u>11.5</u>	<u>Real-Time Market Settlements</u>	<u>22</u>
<u>11.5.1</u>	<u>Instructed Imbalance Energy Settlements</u>	<u>22</u>
<u>11.5.2</u>	<u>Uninstructed Imbalance Energy</u>	<u>24</u>
<u>11.5.3</u>	<u>Unaccounted For Energy (UFE)</u>	<u>25</u>
<u>11.5.4</u>	<u>Imbalance Energy Pricing; Non-Zero Offset Amount Allocation</u>	<u>26</u>
<u>11.5.5</u>	<u>Settlement Amount For Residual Imbalance Energy</u>	<u>27</u>
<u>11.5.6</u>	<u>Settlement Amounts For IIE From Exceptional Dispatch</u>	<u>28</u>
<u>11.5.7</u>	<u>Congestion Credit And Marginal Cost Of Losses Credit</u>	<u>35</u>
<u>11.5.8</u>	<u>Settlement For Emergency Assistance</u>	<u>36</u>
<u>11.6</u>	<u>Settlement of Transactions Involving Proxy Demand Resources</u>	<u>38</u>
<u>11.6.1</u>	<u>Settlement of Energy Transactions Involving PDR</u>	<u>38</u>
<u>11.7</u>	<u>Additional MSS Settlements Requirements</u>	<u>38</u>
<u>11.7.1</u>	<u>MSS Load Following Deviation Penalty</u>	<u>38</u>
<u>11.7.2</u>	<u>Neutrality Adjustments and Charges Assessed on MSS SC</u>	<u>39</u>
<u>11.7.3</u>	<u>Available MSS Operator Exemption for Certain Program Charges</u>	<u>39</u>
<u>11.7.4</u>	<u>Emission Cost Responsibility Of An SC For An MSS</u>	<u>40</u>
<u>11.8</u>	<u>Bid Cost Recovery</u>	<u>41</u>
<u>11.8.1</u>	<u>CAISO Determination Of Self-Commitment Periods</u>	<u>41</u>
<u>11.8.2</u>	<u>IFM Bid Cost Recovery Amount</u>	<u>46</u>
<u>11.8.3</u>	<u>RUC Bid Cost Recovery Amount</u>	<u>54</u>
<u>11.8.4</u>	<u>RTM Bid Cost Recovery Amount</u>	<u>59</u>
<u>11.8.5</u>	<u>Unrecovered Bid Cost Uplift Payment</u>	<u>67</u>
<u>11.8.6</u>	<u>System-Wide IFM, RUC And RTM Bid Cost Uplift Allocation</u>	<u>68</u>
<u>11.9</u>	<u>Inter-SC Trades</u>	<u>74</u>
<u>11.9.1</u>	<u>Physical Trades</u>	<u>74</u>
<u>11.9.2</u>	<u>Inter-SC Trades At Aggregated Pricing Nodes</u>	<u>75</u>
<u>11.10</u>	<u>Settlements For Ancillary Services</u>	<u>75</u>
<u>11.10.1</u>	<u>Settlements For Contracted Ancillary Services</u>	<u>75</u>
<u>11.10.2</u>	<u>Settlement For User Charges For Ancillary Services</u>	<u>79</u>

California Independent System Operator Corporation  
Fifth Replacement Tariff

11.10.3	<a href="#">Spinning Reserves</a>	83
11.10.4	<a href="#">Non-Spinning Reserves</a>	85
11.10.5	<a href="#">Negative Operating Reserve Obligation Adjustment Factor</a>	86
11.10.6	<a href="#">Upward Ancillary Services Neutrality Adjustment</a>	87
11.10.7	<a href="#">Voltage Support</a>	87
11.10.8	<a href="#">Black Start</a>	88
11.10.9	<a href="#">Settlements Of Rescission Of Payments For AS Capacity</a>	88
11.11	<a href="#">RACs And Wheeling Transactions</a>	90
11.11.1	<a href="#">Regional Access Charges</a>	90
11.11.2	<a href="#">Wheeling Through And Wheeling Out Transactions</a>	90
11.12	<a href="#">Participating Intermittent Resources</a>	90
11.12.1	<a href="#">Uninstructed Energy By Participating Intermittent Resources</a>	90
11.12.2	<a href="#">Allocation Of Participating Intermittent Resources Costs</a>	91
11.12.3	<a href="#">Payment Of Participating Intermittent Resource Fees</a>	91
11.12.4	<a href="#">Price For Uninstructed Deviations</a>	91
11.13	<a href="#">Settlements And Billing Of RMR Charges And Payments</a>	92
11.13.1	<a href="#">Objectives</a>	92
11.13.2	<a href="#">Accounts</a>	92
11.13.3	<a href="#">RMR Payments Calendar</a>	93
11.13.4	<a href="#">Information Provided By RMR Owners To The CAISO</a>	94
11.13.5	<a href="#">Validation Of RMR Charges And RMR Refunds</a>	95
11.13.6	<a href="#">Description Of The Billing Process</a>	95
11.13.7	<a href="#">Payment Procedures</a>	98
11.13.8	<a href="#">Overpayments</a>	100
11.13.9	<a href="#">Communications</a>	100
11.13.10	<a href="#">Confidentiality</a>	101
11.14	<a href="#">Neutrality Adjustments</a>	101
11.15	<a href="#">Payments Under Section 42.1 Contracts</a>	102
11.16	<a href="#">Additional AS And RUC Payment Rescission Requirements</a>	102
11.16.1	<a href="#">Resources With More Than One Capacity Obligation</a>	102
11.16.2	<a href="#">Load-Following MSSs With An AS Or RUC Capacity Obligation</a>	103
11.17	<a href="#">[NOT USED]</a>	103
11.18	<a href="#">Emissions Costs</a>	103
11.18.1	<a href="#">Obligation To Pay Emissions Cost Charges</a>	103
11.18.2	<a href="#">CAISO Emissions Cost Trust Account</a>	104
11.18.3	<a href="#">Rate For The Emissions Cost Charge</a>	104
11.18.4	<a href="#">Adjustment Of The Rate For The Emissions Cost Charge</a>	104
11.18.5	<a href="#">Credits And Debits Of Emissions Cost Charges From SCs</a>	105
11.18.6	<a href="#">Submission Of Emissions Cost Invoices</a>	105
11.18.7	<a href="#">Payment Of Emissions Cost Invoices</a>	105
11.19	<a href="#">FERC Annual Charges</a>	106
11.19.1	<a href="#">FERC Annual Charge Recovery Rate</a>	106
11.19.2	<a href="#">FERC Annual Charge Trust Account</a>	107
11.19.3	<a href="#">Determination Of The FERC Annual Charge Recovery Rate</a>	107
11.19.4	<a href="#">Credits And Debits Of FERC Annual Charges From SCs</a>	109
11.20	<a href="#">NERC/WECC Charges</a>	109
11.20.1	<a href="#">Responsibility For NERC/WECC Charges</a>	109
11.20.2	<a href="#">Process For Invoicing NERC/WECC Charges Assessed For 2007</a>	109
11.20.3	<a href="#">Process For Invoicing NERC/WECC Charges Assessed For 2008</a>	111
11.20.4	<a href="#">Process For Invoicing NERC/WECC Charges For Years After 2008</a>	112
11.20.5	<a href="#">Timely Payments</a>	114

California Independent System Operator Corporation  
Fifth Replacement Tariff

11.20.6	<a href="#">NERC/WECC Charge Trust Account</a>	114
11.20.7	<a href="#">Preliminary And Final NERC/WECC Charge Invoices</a>	114
11.20.8	<a href="#">Provision Of Payments And Information To The WECC</a>	116
11.21	<a href="#">Make Whole Payments for Price Corrections</a>	117
11.21.1	<a href="#">CAISO Demand and Exports</a>	117
11.21.2	<a href="#">Price Correction for Settlement of Virtual Awards</a>	118
11.22	<a href="#">Grid Management Charge</a>	118
11.22.1	<a href="#">CAISO'S Obligations</a>	118
11.22.2	<a href="#">Costs Recovered Through The Grid Management Charge</a>	119
11.22.3	<a href="#">[NOT USED]</a>	121
11.22.4	<a href="#">TOR Charges</a>	121
11.22.5	<a href="#">Bid Segment Fee</a>	121
11.22.6	<a href="#">CRR Transaction Fee</a>	121
11.22.7	<a href="#">Inter-Scheduling Coordinator Trade Transaction Fee</a>	121
11.22.8	<a href="#">Scheduling Coordinator ID Charge</a>	122
11.23	<a href="#">Penalties For Uninstructed Imbalance Energy</a>	122
11.24	<a href="#">[NOT USED]</a>	128
11.24.1	<a href="#">[NOT USED]</a>	128
11.24.2	<a href="#">[NOT USED]</a>	128
11.24.3	<a href="#">[NOT USED]</a>	128
11.24.4	<a href="#">[NOT USED]</a>	128
11.25	<a href="#">Flexible Ramping Constraint Compensation</a>	128
11.25.1	<a href="#">Compensation</a>	128
11.25.2	<a href="#">Rescission of Payment for Non-Performance</a>	129
11.25.3	<a href="#">Allocation of Costs</a>	129
11.26	<a href="#">[NOT USED]</a>	130
11.27	<a href="#">Voltage Support And Black Start Charges</a>	130
11.28	<a href="#">Calculating, Charging And Disbursing Default Interest</a>	130
11.29	<a href="#">CAISO as Counterparty; Billing and Payment;</a>	130
11.29.1	<a href="#">Billing And Payment Process Based On Settlement Statements</a>	133
11.29.2	<a href="#">Time-Frame For Payments Or Charges</a>	133
11.29.3	<a href="#">Prepayments</a>	134
11.29.4	<a href="#">System Failure</a>	134
11.29.5	<a href="#">General Principles For Production Of Settlement Statements</a>	135
11.29.6	<a href="#">Balancing Of Market Accounts In Absence Of Meter Data</a>	136
11.29.7	<a href="#">Settlements Cycle</a>	137
11.29.8	<a href="#">Confirmation And Validation</a>	142
11.29.9	<a href="#">Payment Procedures</a>	151
11.29.10	<a href="#">Billing And Payment</a>	157
11.29.11	<a href="#">Instructions For Payment</a>	160
11.29.12	<a href="#">CAISO'S Responsibilities</a>	160
11.29.13	<a href="#">Non-Payment By A Scheduling Coordinator Or CRR Holder</a>	161
11.29.14	<a href="#">Enforcement Actions for Late Payments</a>	164
11.29.15	<a href="#">[NOT USED]</a>	166
11.29.16	<a href="#">Prohibition On Transfers</a>	166
11.29.17	<a href="#">Alternative Payment Procedures</a>	166
11.29.18	<a href="#">[NOT USED]</a>	176
11.29.19	<a href="#">Payment Errors</a>	176
11.29.20	<a href="#">Defaults</a>	177
11.29.21	<a href="#">[Not Used]</a>	178
11.29.22	<a href="#">Data Gathering And Storage</a>	178
11.29.23	<a href="#">Communications</a>	179

California Independent System Operator Corporation  
Fifth Replacement Tariff

<u>11.29.24</u>	<u>CAISO Payments Calendar .....</u>	<u>179</u>
<u>11.30</u>	<u>Auditing .....</u>	<u>181</u>
<u>11.31</u>	<u>HASP Intertie Schedules Decline Charges .....</u>	<u>181</u>
<u>11.31.1</u>	<u>Decline Monthly Charge – Imports.....</u>	<u>182</u>
<u>11.31.2</u>	<u>Decline Monthly Charge – Exports.....</u>	<u>183</u>
<u>11.31.3</u>	<u>Allocation Of Import/Export Decline Monthly Charges .....</u>	<u>184</u>
<u>11.32</u>	<u>Measures to Address Intertie Scheduling Practices .....</u>	<u>184</u>
<u>11.33</u>	<u>Settling Revenue from Schedule Sourcing/Sinking in Same BAA.....</u>	<u>185</u>

**11. CAISO Settlements And Billing**

**11.1 Settlement Principles**

The CAISO shall calculate, account for and settle payments and charges with Business Associates in accordance with the following principles:

- (a) The CAISO shall be responsible for calculating Settlement balances for any penalty or dispute in accordance with the CAISO Tariff, and any transmission Access Charge to UDCs or MSSs and Participating TOs;
- (b) The CAISO shall create and maintain computer back-up systems, including off-site storage of all necessary computer hardware, software, records and data at an alternative location that, in the event of a Settlement system breakdown at the primary location of the day-to-day operations of the CAISO, could serve as an alternative location for day-to-day Settlement operations within a reasonable period of time;
- (c) The CAISO shall retain all Settlement data records for a period which, at least, allows for the re-run of data as required by this CAISO Tariff and any adjustment rules of the Local Regulatory Authority governing the Scheduling Coordinators and their End-Use Customers and FERC;
- (d) The CAISO shall calculate, account for and settle all charges and payments for Initial Settlement Statement T+3B based on CAISO estimates and for all other settlement statements based on the Settlement Quality Meter Data it has received, or, if Settlement Quality Meter Data is not available, based on the best available information or estimate it has received in accordance with the provisions in Section 10 and the applicable Business Practice Manuals; and
- (e) Day-Ahead Schedules, RUC Awards and AS Awards shall be settled at the relevant LMP, RUC Price, and ASMPs, respectively. HASP Intertie Schedules shall be settled at the relevant HASP Intertie LMP at the relevant Scheduling Point. All Dispatch Instructions shall be deemed delivered and settled at relevant

California Independent System Operator Corporation  
Fifth Replacement Tariff

Real-Time Market prices. Deviations from Dispatch Instructions shall be settled as Uninstructed Deviations.

**11.1.1 [NOT USED]**

**11.1.2 Settlement Charges And Payments**

The CAISO shall settle the following charges in accordance with this CAISO Tariff: (1) Grid Management Charge; (2) Bid Cost Recovery; (3) IFM charges and payments, including Energy and Ancillary Services; (4) RUC charges and payments; (5) Real-Time Market charges and payments, including Energy and Ancillary Services; (6) HASP charges and payments for Energy and Ancillary Services; (7) Regional Access Charges; (8) Wheeling Access Charges; (9) Voltage Support and Black Start charges; (10) Excess Cost Payments; (11) default interest charges; (12) CRR Charges and Payments, (13) Inter-SC Trades charges and payments; (14) neutrality adjustments; (15) FERC Annual Charges; (16) distribution of excess Marginal Losses; (17) Virtual Bid Submission Charges; (18) miscellaneous charges and payments; and (19) Participating Intermittent Resource Fees.

**11.1.3 Financial Transaction Conventions And Currency**

The following conventions have been adopted in this CAISO Tariff in defining sums of money to be received by or remitted by the CAISO:

- (a) The act of receiving a sum of money in accordance with this CAISO Tariff is defined as "receiving" such sum, and each use of the word "receive" or a grammatical variation thereof in the context of receiving such sum shall have the meaning consistent with this definition. The act of providing a sum of money to another entity in accordance with this CAISO Tariff is defined as "providing" or "remitting" such sum, and each use of the word "provide" or "remit" or a grammatical variation thereof in the context of providing or remitting such sum shall have the meaning consistent with this definition.
- (b) Where the CAISO is to receive a sum of money in accordance with this CAISO Tariff, this is defined as a "charge" and shall be received by the CAISO on or before 10:00 a.m. on the relevant Payment Date as prescribed in the CAISO Tariff.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (c) Where the CAISO is required to pay a sum of money in accordance with this CAISO Tariff, this is defined as a "payment" and shall be remitted by the CAISO on the relevant Payment Date as prescribed in the CAISO Tariff.
- (d) All financial transactions are denominated in United States dollars and cents.
- (e) All payments by the CAISO to Business Associates shall be made by Fedwire or, at the option of each Business Associate, by ACH. All payments to the CAISO by Business Associates shall be made by Fedwire or, at the option of each Business Associate, by ACH.

**11.1.4 CAISO Estimates for Initial Settlement Statement T+3B**

Notwithstanding any other provisions of the CAISO Tariff, Initial Settlement Statement T+3B shall be solely based on CAISO Estimated Settlement Quality Meter Data for metered Demand, metered Generation, and Demand Response. CAISO Estimated Settlement Quality Meter Data shall be calculated as follows:

- (a) CAISO Estimated Settlement Quality Meter Data for metered Generation will be based on total Expected Energy and dispatch of the resource as calculated in the Real-Time Market and as modified by any applicable corrections to the Dispatch Operating Point for the resource.
- (b) CAISO Estimated Settlement Quality Meter Data for metered Demand, including Non-Participating TO demand will be based on Scheduled Demand by the appropriate LAP. This value will be increased by fifteen (15) percent if the total actual system Demand in Real Time, as determined by the CAISO each hour, is greater than the total Scheduled Demand by more than fifteen (15) percent. CAISO Estimated Settlement Quality Meter Demand for Participating Load will not be increased by fifteen (15) percent.
- (c) CAISO Estimated Settlement Quality Meter Data for Demand Response will be calculated using the same method as set forth in Section 11.1.4(a) for metered Generation. The Proxy Demand Response Default Load Adjustment will not be estimated or applied for purposes of calculating Initial Settlement Statement T+3B.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (d) To estimate net load for a Metered Subsystem, the CAISO will apply a monthly historical based net/gross ratio to the MSS's estimated gross load. The historical monthly ratio shall be specific to each MSS Operator and shall be calculated as the sum of each entity's monthly actual net load divided by the sum of each entity's monthly actual gross load, of the previous year.
- (e) CAISO will not estimate Unaccounted For Energy under Section 11.5.3, the rescission of payments for Regulation Up and Regulation Down Capacity under Section 8.10.8.6 or MSS deviation payments under 11.7.1 for purposes of calculating Initial Settlement Statement T+3B.

**11.1.5 SQMD For Recalculation Settlement Statement T+12B**

The CAISO's Recalculation Settlement Statement T+12B shall be based on the Settlement Quality Meter Data (actual or Scheduling Coordinator estimated) received in SQMDS. In the event Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data is not received from a Scheduling Coordinator or CAISO Metered Entity, the CAISO will estimate Settlement Quality Meter Data for that outstanding metered Demand or Generation, including Demand Response Resources, for the Recalculation Settlement Statement T+12B calculation. CAISO Estimated Settlement Quality Meter Data for metered Generation, metered Demand, and Demand Response will be calculated using the same method as set forth in Section 11.1.4.

**11.2 Settlement Of Day-Ahead Market Transactions**

All transactions in the IFM and RUC as specified in the Day-Ahead Schedule, AS Awards and RUC Awards, respectively, are financially binding and will be settled based on the Day-Ahead LMP, ASMP or RUC Price for the relevant Location for the specific resource identified in the Bid. The CAISO will settle the costs of Demand, capacity, Energy and Ancillary Services as separate Settlement charges and payments for each Settlement Period of the Day-Ahead Schedule, Day-Ahead AS Award or RUC Award, as appropriate.

**11.2.1 IFM Settlements**

**11.2.1.1 IFM Payments For Supply of Energy**



California Independent System Operator Corporation  
Fifth Replacement Tariff

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

**11.2.1.2 IFM Charges for Demand at LAPS**

For each Settlement Period that the CAISO clears Energy transactions in the IFM, except as specified in Section 30.5.3.2 and except for Participating Loads, which shall be subject to the charges specified in 11.2.1.3, the CAISO shall charge Scheduling Coordinators for the MWh quantity of Demand scheduled at an individual LAP in the Day-Ahead Schedule, in an amount equal to the IFM LMP for the applicable LAP multiplied by the MWh quantity scheduled in the Day-Ahead Schedule at the relevant LAP. The applicable Default LAP IFM LMP is as described in Section 27.2.2. For Scheduling Coordinators whose Demand scheduled at the individual LAP is subject to an upward price correction as specified in Section 11.21, the CAISO will use the Price Correction Derived LMP to settle the MWh quantity of Demand scheduled in the Day-Ahead Schedule at the relevant LAP.

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

For each Settlement Period that the CAISO clears Energy transactions in the IFM for Demand by Participating Loads, the CAISO shall charge the Scheduling Coordinators an amount equal to the MWh quantity of Demand scheduled in the Day-Ahead Schedule for the relevant Participating Load at the PNode (or Custom LAP, in the case of Aggregated Participating Load), multiplied by the IFM LMP at that PNode (or Custom LAP, in the case of Aggregated Participating Load). The Custom LAP Price is determined as described in Section 27.2.2. For Scheduling Coordinators whose Demand scheduled at the individual PNode or Custom LAP is subject to an upward price correction as specified in Section 11.21, the CAISO will use the Price Correction Derived LMP to settle the MWh quantity scheduled in the Day-Ahead Schedule for that Scheduling Coordinator at the relevant PNode or Custom LAP.

**11.2.1.4 IFM Charges for Energy Exports at Scheduling Points**

For each Settlement Period that the CAISO clears Energy transactions in the IFM, the CAISO shall charge Scheduling Coordinators for the Energy export MWh quantity at individual Scheduling Points

California Independent System Operator Corporation  
Fifth Replacement Tariff

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

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

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

**11.2.1.6 Allocation of IFM Marginal Losses Surplus Credit**

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

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

(2) any Measured Demand associated with a TOR Self-Schedule subject to the RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules as provided in Section 11.5.7.2.

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

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

**11.2.2 Calculation Of Hourly RUC Compensation**

For each Settlement Period and resource, Scheduling Coordinators shall receive RUC Compensation, which is the sum of the RUC Availability Payment as determined pursuant to Section 11.2.2.1 and the RUC Bid Cost Recovery amount as determined in Section 11.8.3.

**11.2.2.1 Settlement of RUC Availability Payment**

Scheduling Coordinators shall receive RUC Availability Payments for all eligible capacity awarded in the RUC process. Resource Adequacy Capacity and capacity from RMR Units dispatched under its RMR Contract in the DAM are not eligible for RUC Availability Payments. The RUC Availability Payment shall be calculated for each resource based on the product of the RUC Price and the RUC Availability Quantity

California Independent System Operator Corporation  
Fifth Replacement Tariff

for the relevant Settlement Period. The RUC Availability Payment amounts are allocated through the RUC Compensation Costs allocation in Section 11.8.6.5.

**11.2.2.2 Rescission of RUC Availability Payment**

Rescission of all or a portion of the RUC Availability Payment for a resource as defined in Section 31.5.7 shall be settled in accordance with this Section 11.2.2.2.

**11.2.2.2.1 Undispatchable RUC Capacity**

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

**11.2.2.2.2 Undelivered RUC Capacity**

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

**11.2.2.2.3 Allocation of Rescinded RUC Availability Payments Due to Non-Performance**

RUC Availability Payments rescinded due to non-performance shall be allocated to Scheduling Coordinators in the proportion of their Net Negative Uninstructed Deviations to the total Net Negative CAISO Demand Deviation.

**11.2.3 IFM Energy Charges And Payments For Metered Subsystems**

**11.2.3.1 Gross Energy Settlement for Metered Subsystems**

For Scheduling Coordinators that submit Bids for MSS Operators that have selected gross Energy Settlement, CAISO shall settle Energy, the MSS Demand and MSS Supply, in the Day-Ahead Schedules pursuant to Section 11.2.3.1.1 and 11.2.3.1.2.

**11.2.3.1.1 IFM Charges for MSS Demand under Gross Energy Settlement**

The CAISO shall charge Scheduling Coordinators that submit Bids for MSS Operators that have selected or are subject to gross Energy Settlement an amount equal to the product of the MWh quantity of Demand internal to the MSS in its Day-Ahead Schedule at the price at the Default LAP where the MSS LAP is located.

**11.2.3.1.2 IFM Payments for MSS Supply under Gross Energy Settlement**

The CAISO shall pay Scheduling Coordinators that submit Bids for MSS Operators that have selected or are subject to gross Energy Settlement an amount equal to the product of the MWh quantity of Supply from the MSS in its Day-Ahead Schedule at the corresponding PNode and the applicable Resource-Specific Settlement Interval LMP at that PNode.

**11.2.3.2 Net Energy Settlement for Metered Subsystems**

For Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement, the CAISO shall settle the net MSS Demand and MSS Supply in the Day-Ahead Schedules pursuant to Section 11.2.3.2.1 and 11.2.3.2.2.

**11.2.3.2.1 IFM Charges for MSS Demand under Net Energy Settlement**

The CAISO shall charge Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement an amount equal to the product of the net MSS Demand in the Day-Ahead Schedule and the IFM MSS Price. The net MSS Demand is the quantity of MSS Demand that exceeds MSS Generation for the applicable MSS.

**11.2.3.2.2 IFM Payments for MSS Supply Under Net Energy Settlement**

The CAISO shall pay Scheduling Coordinators that submit Bids for MSS Operators that have selected net Energy Settlement an amount equal to the product of the net MSS Supply in the Day-Ahead Schedule and the weighted average price of all IFM LMPs for all applicable PNodes within the relevant MSS. The net MSS Supply is the quantity of MSS Generation that exceeds the MSS Demand for the applicable MSS. The weights used to compute the weighted average LMPs shall be equal to MSS Generation scheduled in the Day-Ahead Schedule.

#### **11.2.4 CRR Settlements**

CRR Holders shall be paid or charged for Congestion costs depending on the type of CRRs held by the CRR Holder, the direction of Congestion as measured through the IFM, and the LMP as calculated in the IFM. CRRs shall be funded through the revenues associated with the IFM Congestion Charge, CRR Charges, and the CRR Balancing Account. The CRR Payments and CRR Charges shall be settled first on a daily basis for each Settlement Period of the DAM. A daily true up will then be conducted in the clearing of the CRR Balancing Account pursuant to Section 11.2.4.4.1 and 11.2.4.4.2.

##### **11.2.4.1 Calculation of the IFM Congestion Charge**

For each Settlement Period of the IFM, the CAISO shall calculate the IFM Congestion Charge as the IFM MCC amount for all scheduled Demand and Virtual Supply Awards minus the IFM MCC amount for all scheduled Supply and Virtual Supply Awards. The IFM MCC amount for all scheduled Demand and Virtual Demand Awards is the sum of the products of the IFM MCC and the total of the MWh of Demand scheduled in the Day-Ahead Schedule and Virtual Supply Awards at all the applicable PNodes and Aggregated Pricing Nodes for the Settlement Period. The IFM MCC amount for all scheduled Supply and Virtual Supply Awards is the sum of the products of the IFM MCC and the total of the MWh of Supply scheduled in the Day-Ahead Schedule and the Virtual Supply Awards at all the applicable PNodes for the Settlement Period.

##### **11.2.4.1.2 Calculation of IFM Congestion Fund**

For each Settlement Period of the IFM, the CAISO shall determine the IFM Congestion Fund, which shall consist of the funds available to pay CRR Holders in any Settlement Period as follows:

- The CAISO shall add to the IFM Congestion Fund the IFM Congestion Charge computed as described in Section 11.2.4.1, minus any IFM Congestion Credits as specified in Section 11.2.1.5;
- The CAISO shall add to the IFM Congestion Fund any CRR Charges calculated pursuant to Sections 11.2.4.2.2 and 11.2.4.2.3; and
- The CAISO shall add to the IFM Congestion Fund any IFM Congestion Charges associated with Day-Ahead Ancillary Services Awards as provided in Section 11.10.1.1.1.

#### **11.2.4.2 Settlement Calculation for the Different CRR Types**

For the purposes of determining the CRR Payments and CRR Charges based on the various CRR Types, the CAISO shall calculate the Settlement of CRRs as described in this Section 11.2.4.2. When CRR Source or CRR Sink is a LAP, the Load Distribution Factors used in the IFM will be used to produce the LAP Price at which CRR Payments or CRR Charges will be settled. When CRR Source or CRR Sink is a Trading Hub the weighting factors used in the IFM and the CRR Allocation and CRR Auction processes will also be used to produce the Trading Hub prices that will be used to settle CRR Payments and CRR Charges.

##### **11.2.4.2.1 Point-to-Point CRR Options**

For each CRR Holder, the CAISO shall calculate a CRR Payment for each Point-to-Point CRR Option held by the CRR Holder equal to the product of: 1) the MCC at the CRR Sink minus the MCC at the CRR Source; and 2) the MW quantity of the CRR; if that amount is positive. If the resulting amount is negative, the CAISO shall not assess a charge for the relevant CRR Holder for the negative amount.

##### **11.2.4.2.2 Point-to-Point CRR Obligations**

For each CRR Holder, the CAISO shall calculate a CRR Payment for each CRR Obligation for a Point-to-Point CRR held by the CRR Holder, equal to the product of: 1) the MCC at the CRR Sink minus the MCC at the CRR Source; and 2) the MW quantity of the CRR; if that amount is positive. If the resulting amount is negative, the CAISO shall calculate a CRR Charge for the relevant CRR Holder equal to that negative amount.

#### **11.2.4.3 Payments and Charges for Monthly and Annual Auctions**

The CAISO shall charge CRR Holders for the Market Clearing Price for CRRs obtained through the clearing of the CRR Auction as described in Section 36.13.6. To the extent the CRR Holder purchases a CRR through a CRR Auction that has a negative value, the CAISO will retain the CRR Auction proceeds and apply them to credit requirements of the applicable CRR Holder, in accordance with Section 12.6.3 of the CAISO Tariff. The CAISO shall net all revenue received and payments made through this process. CRR Auction net revenue amounts for on-peak and off-peak usage from each CRR auction shall be separated. CRR Auction revenues for each season coming from the annual auction are first allocated uniformly across the three months comprising each season based on time of use. These on-peak and

California Independent System Operator Corporation  
Fifth Replacement Tariff

off-peak monthly amounts from the seasonal auctions are then added to the corresponding monthly on-peak and off-peak amounts from CRR Monthly auction for the same month to form the monthly net CRR Auction on-peak and off-peak revenues, respectively. Furthermore, these monthly net CRR auction revenues shall then be converted into daily values and added to the Daily CRR Balancing Accounts. In particular, the Daily CRRBA contribution will be the sum of (1) the monthly net CRR Auction on-peak amount multiplied by the ratio of daily on-peak hours to monthly on-peak hours, and (2) the monthly net CRR Auction off-peak amount multiplied by the ratio of daily off-peak hours to monthly off-peak hours.

**11.2.4.4 Hourly CRR Settlement**

For each Settlement Period, the IFM Congestion Funds calculated in Section 11.2.4.1.2 will be used to pay CRR Holders that are owed CRR Payments. In the hourly settlement of CRR Payments for the Settlement Period, all CRR Holders shall be paid and charged fully according to their entitlements. Any surplus revenue for the Settlement Period after making all hourly CRR Payments will go to the CRR Balancing Account for use in the end-of-day clearing of the CRR Balancing Account processes pursuant to Section 11.2.4.4.1. Any revenue deficiency for the Settlement Period, will be tracked for further Settlement during the monthly clearing process as described in Section 11.2.4.4.1. The hourly Settlement of CRRs for each CRR Holder will be based on the type of CRR holdings as described in Section 11.2.4.2. The CRR Holder's hourly CRR Settlement amount will be the net of the holder's CRR Payments for CRR Options or CRR Obligations, and the holder's CRR Charges for CRR Obligations out of these holdings.

**11.2.4.4.1 Daily Clearing of the CRR Balancing Account – Full Funding of CRRs**

At the end of each day, all CRR Payment shortfalls for all CRR Holders shall be paid in full and all CRR Charge shortfalls shall be fully charged through the CRR Balancing Account clearing process. The net of these CRR Charges and CRR Payment shortfalls shall be added to the CRR Balancing Account for the applicable day. Any surplus or shortfall revenue amounts in the CRR Balancing Account will be distributed to Scheduling Coordinators in an amount equal to (a) the CRR Balancing Account surplus or shortfall amounts, times (b) the ratio of each Scheduling Coordinator's Measured Demand (net of the Scheduling Coordinator's Measured Demand associated with valid and balanced ETC, TOR or Converted Rights Self-Schedule quantities for which IFM Congestion Credits and/or HASP and RTM Congestion



California Independent System Operator Corporation  
Fifth Replacement Tariff

Credits were provided in the same relevant day) divided by (c) the total Measured Demand for all Scheduling Coordinators for the relevant day (net of the total Measured Demand associated with valid and balanced ETC, TOR or Converted Rights Self-Schedule quantities for which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same relevant day).

**11.2.4.5 CRR Balancing Account**

The CRR Balancing Account shall accumulate: (1) the seasonal and monthly CRR Auction revenue amounts that were converted into daily CRRBA values as described in Section 11.2.4.3, (2) any surplus revenue or shortfall generated from hourly CRR Settlements as described in Section 11.2.4.4, and (3) any adjustments of CRR revenue due to virtual bidding or Intertie scheduling practices as described in Section 11.2.4.6. Interest accruing due to the CRR Balancing Account shall be at the CAISO's received interest rate and shall be credited to each monthly CRRBA Accrued Interest Fund, which is then allocated to monthly Measured Demand excluding Measured Demand associated with valid and balanced ETC, TOR, or Converted Rights Self-Schedule quantities for which IFM Congestion Credits and/or RTM Congestion Credits were provided in the same month.

**11.2.4.6 Adjustment of CRR Revenue Related to Virtual Awards**

Whenever the virtual bidding activity of a Convergence Bidding 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 this Section 11.2.4.6, the CAISO will adjust the revenue from the CRRs of a CRR Holder that is also a Convergence Bidding Entity. The CAISO will also 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 is reduced in the HASP as set forth in Section 11.32.

- (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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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.

**11.2.4.7 Adjustment of CRR Revenue Related to Schedules that Source and Sink in the Same Balancing Authority Area**

The CAISO will adjust the revenue from the CRRs of a CRR Holder where the Scheduling Coordinator representing that CRR Holder has submitted Bids (including Self-Schedules), in violation of Section 30.5.5 and the resulting Schedule(s) impacts the value of the CRRs in the DAM held by that CRR Holder.

Such adjustment will occur if the following circumstances are all met:

- (a) A portion of the E-Tag that uses the CAISO Controlled Grid relates to a Schedule in the Day-Ahead Market;
- (b) The scheduled MW on the portion of the E-Tag using the CAISO Controlled Grid has a positive PTDF on a congested transmission element, where that congestion is measured in the direction of the CRR; and
- (c) The CRR Holder would receive payments from CRRs on the congested transmission element.

If such circumstances occur, the revenue adjustment will be a reduction in payments, or increase in charges, to the CRR Holder equal to the additional net CRR revenue that otherwise would be earned from the congestion created by the Schedule that results from the Bids submitted in violation of Section 30.5.5.

**11.2.5 Payment By OBAALSE For CRRs Through CRR Allocation Process**

**11.2.5.1** Pursuant to Section 36.9, in addition to other requirements specified therein, an OBAALSE will be eligible to participate in the CRR Allocation process if such entity has made a pre-payment to the CAISO and has met the requirements in Section 36.9. The prepayment amount shall equal the MW of

California Independent System Operator Corporation  
Fifth Replacement Tariff

CRR requested times the Wheeling Access Charge associated with the Scheduling Point corresponding to the CRR Sink times the number of hours in the period for each requested CRR MW amount. Except as provided in Section 36.9.2, such prepayment will be made three (3) Business Days in advance of the submission of CRR nominations for Monthly CRRs, Seasonal CRRs and Long Term CRRs to the CRR Allocation. Within thirty (30) days following the completion of the CRR Allocation process for Monthly CRRs, Seasonal CRRs and Long Term CRRs, the CAISO shall reimburse such OBAALSE the amount of money pre-paid for any CRRs that were not allocated to the entity.

**11.2.5.2 Annual Prepayment Option**

For entities that are eligible and elect for the annual prepayment pursuant to Section 36.9.2, the annual prepayment will be due three (3) Business Days in advance of the submission of CRR nominations for Tier LT in the CRR Allocation process. For allocated Long Term CRRs, each of the nine subsequent annual payments must be made at the beginning of the annual CRR Allocation process for the following year.

**11.2.5.3 Monthly Prepayment Option**

If the OBAALSE qualified for the monthly prepayment option as specified in Section 36.9.2, the OBAALSE shall make its payments consistent with the monthly prepayment schedule specified in the applicable Business Practice Manual.

**11.2.5.4 Treatment of Prepaid WAC Amounts**

For the amount of CRRs that were allocated to the entity, the CAISO will exempt the Scheduling Coordinator for such entity from the WAC for any Real-Time Interchange Export Schedules at the Scheduling Point corresponding to the sink of each allocated CRR, on an hourly basis for the period for which the CRR is defined, until the pre-paid funds are exhausted. At the end of the period for which the CRR is defined any remaining balance will be allocated to the Participating TOs in accordance with Section 26.1.4.3. To the extent the pre-paid balance amount is exhausted prior to the end of the duration of the awarded CRR, the Scheduling Coordinator designated by the CRR Holder that has been allocated CRRs pursuant to Section 36.9 will be charged for the WAC in accordance with Section 26.1.4.

### **11.3 Settlement of Virtual Awards**

#### **11.3.1 Virtual Supply Awards**

The CAISO will pay each Scheduling Coordinator with Virtual Supply Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the Day-Ahead LMP at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Supply Awards. Virtual Supply Awards subject to price correction will be settled as specified in Section 11.21. The CAISO will charge each Scheduling Coordinator with Virtual Supply Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the simple hourly average of the Dispatch Interval Real-Time LMPs at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Supply Awards.

#### **11.3.2 Virtual Demand Awards**

The CAISO will charge each Scheduling Coordinator with Virtual Demand Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the Day-Ahead Market LMP at the Eligible PNode or Eligible Aggregated PNode multiplied by the MWhs of Virtual Demand Awards. Virtual Demand Awards subject to price correction will be settled as specified in Section 11.21. The CAISO will pay each Scheduling Coordinator with Virtual Demand Awards at an Eligible PNode or Eligible Aggregated PNode an amount equal to the simple hourly average of the Dispatch Interval Real-Time LMPs at the Eligible PNode or Eligible Aggregated PNode multiplied by the IFM MWhs of Virtual Demand Awards.

### **11.4 HASP Settlement Of Scheduling Points**

The CAISO shall settle both incremental and decremental Energy at the relevant Scheduling Points including Operational Adjustments for all Non-Dynamic System Resources based on the HASP Intertie LMP in accordance with Sections 11.4.1, 11.4.2 and 11.32. Energy dispatched using HASP Intertie Schedules is accounted as Instructed Imbalance Energy and its costs shall be included in the Real-Time Market Settlements in accordance with Section 11.5.

#### **11.4.1 HASP Settlement For Exports**

For each Settlement Period that the CAISO clears Energy transactions at Scheduling Points in HASP, the Settlement for such transactions will be the CAISO HASP Intertie LMP multiplied by the MWh quantity of export scheduled at the individual Scheduling Point in excess of or less than the Day-Ahead Schedule, respectively. For Scheduling Coordinators whose exports scheduled at the individual Scheduling Point is

California Independent System Operator Corporation  
Fifth Replacement Tariff

subject to an upward price correction as specified in Section 11.21, the CAISO will use the Price Correction Derived LMP to settle the MWh quantity of Energy exports scheduled in excess of the Day-Ahead Schedule at the relevant Scheduling Point.

**11.4.2 HASP Settlement For Imports**

For each Settlement Period that the CAISO clears Energy transactions at Scheduling Points for all Non-Dynamic System Resources in HASP, the CAISO shall pay or charge Scheduling Coordinators for each System Resource an amount equal to the HASP Intertie LMP multiplied by the MWh quantity of import scheduled at the individual Scheduling Point in excess of or less than the import at that Scheduling Point scheduled in the Day-Ahead Schedule, respectively.

**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.

**11.5.1 Instructed Imbalance Energy Settlements**

For each Settlement Interval, IIE consists of the following types of Energy: (1) Optimal Energy; (2) HASP Scheduled Energy; (3) Residual Imbalance Energy; (4) Real-Time Minimum Load Energy; (5) Exceptional Dispatch Energy; (6) Regulation Energy; (7) Standard Ramping Energy; (8) Ramping Energy Deviation; (9) Derate Energy; (10) Real-Time Self-Scheduled Energy; (11) MSS Load Following Energy; (12) Real-

California Independent System Operator Corporation  
Fifth Replacement Tariff

Time Pumping Energy; and (13) Operational Adjustments for the Day-Ahead and Real-Time. Payments and charges for IIE attributable to each resource in each Settlement Interval shall be settled by debiting or crediting, as appropriate, the specific Scheduling Coordinator's IIE Settlement Amount. The IIE Settlement Amounts for the Standard Ramping Energy shall be zero. The IIE Settlement Amounts for Optimal Energy, Real-Time Minimum Load Energy, Regulation Energy, Ramping Energy Deviation, Derate Energy, Real-Time Pumping Energy, and Real-Time Self-Scheduled Energy shall be calculated as the product of the sum of all of these types of Energy and the Resource-Specific Settlement Interval LMP. For MSS Operators that have elected net Settlement, the IIE Settlement Amounts for Energy dispatched through the Real-Time Market optimization, Minimum Load Energy from System Units dispatched in Real-Time, Regulation Energy, Ramping Energy Deviation, Derate Energy, MSS Load Following Energy, Real-Time Pumping Energy, and Real-Time Self-Scheduled Energy shall be calculated as the product of the sum of all of these types of Energy and the Real-Time Settlement Interval MSS Price. For MSS Operators that have elected gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the IIE for such entities is settled similarly to non-MSS entities as provided in this Section 11.5.1. The remaining IIE Settlement Amounts are determined as follows: (1) IIE Settlement Amounts for the Energy from the HASP Intertie Schedules is settled per Section 11.4; (2) IIE Settlement Amounts for Residual Imbalance Energy are determined pursuant to Section 11.5.5.; and (3) IIE Settlement Amounts for Exceptional Dispatches are settled pursuant to Section 11.5.6.

**11.5.1.1 Total IIE Settlement Amount**

The total IIE Settlement Amount (\$) per Settlement Interval for each Scheduling Coordinator is the sum of the IIE Settlement Amounts for the Standard Ramping Energy, MSS Load Following Energy, Optimal Energy, Real-Time Minimum Load Energy, HASP Scheduled Energy, Regulation, Ramping Energy Deviation, Derate Energy, Real-Time Self-Scheduled Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, Real-Time Pumping Energy and Operational Adjustments for the Day-Ahead and Real-Time.

**11.5.1.2 Total IIE Quantity**

The total IIE quantity (MWh) per Settlement Interval for each Scheduling Coordinator is the sum of Standard Ramping Energy, MSS Load Following Energy, Optimal Energy, HASP Scheduled Energy,

California Independent System Operator Corporation  
Fifth Replacement Tariff

Real-Time Minimum Load Energy, Regulation Energy, Ramping Energy Deviation, Derate Energy, Real-Time Self-Scheduled Energy, Residual Imbalance Energy, and Exceptional Dispatch Energy, Real-Time Pumping Energy, and Operational Adjustments for the Day-Ahead and Real-Time.

**11.5.2 Uninstructed Imbalance Energy**

Scheduling Coordinators shall be paid or charged a UIE Settlement Amount for each LAP, PNode or Scheduling Point for which the CAISO calculates a UIE quantity. UIE quantities are calculated for each resource that has a Day-Ahead Schedule, Dispatch Instruction, Real-Time Interchange Export Schedule or Metered Quantity. For MSS Operators electing gross Settlement, regardless of whether that entity has elected to follow its Load or to participate in RUC, the UIE for such entities is settled similarly to how UIE for non-MSS entities is settled as provided in this Section 11.5.2. The CAISO shall account for UIE in two categories: (1) Tier 1 UIE is accounted as the quantity deviation from the resource's IIE; and (2) Tier 2 UIE is accounted as the quantity deviation from the resource's Day-Ahead Schedule or as described in Section 11.2.5.4. For Generating Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources and all Participating Load and Proxy Demand Resources, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Resource-Specific Tier 1 UIE Settlement Interval Price as calculated per Section 11.5.2.1, and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 2 UIE quantity and the simple average of the relevant Dispatch Interval LMPs. The Tier 2 UIE Settlement Amount for non-Participating Load and MSS Demand under gross Settlement is settled as described in Section 11.5.2.2. For MSS Operators that have elected net Settlement, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Real-Time Settlement Interval MSS Price and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price.

**11.5.2.1 Resource Specific Tier 1 UIE Settlement Interval Price**

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



#### **11.5.2.2 Hourly Real-Time LAP Price**

The Hourly Real-Time Default LAP Price will apply to Demand and MSS Demand under net Settlement of Imbalance Energy, except for Demand not settled at the Default LAP as provided in Section 30.5.3.2.

The Default or Custom LAP Hourly Real-Time LAP Price is calculated as the simple average of the Dispatch Interval LMPs for the Default or Custom LAP for the applicable Trading Hour. The Dispatch Interval LMP for CAISO Demand settled a given Default LAP is determined as specified in in Section 27.2.2.2.1. The Dispatch Interval LMP for CAISO Demand settled at a Custom LAP is determined as specified in Section 27.2.2.2.2.

#### **11.5.2.3 Revenue Neutrality Resulting from Changes in LAP Load Distribution Factors**

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

#### **11.5.2.4 Adjustment to Metered Load to Settle UIE**

For the purpose of settling Uninstructed Imbalance Energy of a Scheduling Coordinator representing a Load Serving Entity, the amount of PDR Energy Measurement delivered by a Proxy Demand Resource that is also served by that Load Serving Entity and that is paid a Market Clearing Price below the threshold Market Clearing Price set forth in Section 30.6.3.1 will be added to the metered load quantity of the Load Serving Entity's Scheduling Coordinator's Load Resource ID with which the Proxy Demand Resource is associated.

#### **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 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.

**11.5.4 Imbalance Energy Pricing; Non-Zero Offset Amount Allocation**

**11.5.4.1 Application and Calculation of Dispatch Interval LMPs**

Payments to Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected gross Settlement, that supply Imbalance Energy will be based on Resource-Specific Settlement Interval LMPs. The Resource-Specific Settlement Interval LMPs are established using Dispatch Interval LMPs. Dispatch Interval LMPs will apply to Generating Units, System Units for MSS Operators that have elected gross Settlement, Physical Scheduling Plants, Dynamic System Resources, the Demand response portion of a Participating Load, and Proxy Demand Resources for Settlement of Imbalance Energy. The Dispatch Interval LMP will be calculated at each PNode associated with such resource irrespective of whether the resource at that PNode has received Dispatch Instructions. The Dispatch Interval LMPs are then used to calculate a Resource-Specific Settlement Interval LMP and a Resource Specific Tier 1 UIE Settlement Interval Price for each Generating Unit, System Unit or MSS Operator that has elected gross Settlement, Physical Scheduling Plant, Dynamic System Resource, Participating Load, and Proxy Demand Resource within the CAISO Controlled Grid. Payments to Scheduling Coordinators for MSS Operators that have elected net Settlement that supply Imbalance Energy will be based on the Real-Time Settlement Interval MSS Price.

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

The CAISO will first compute (1) the Real-Time Congestion Offset and allocate it to all Scheduling Coordinators, based on Measured Demand, excluding Demand associated with ETC or TOR Self-Schedules for which a HASP and RTM Congestion Credit was provided as specified in Section 11.5.7, and excluding Demand associated with ETC, Converted Right, or TOR Self-Schedules for which an IFM Congestion Credit was provided as specified in Section 11.2.1.5; and (2) the Real-Time Marginal Cost of Losses Offset and allocate it to all Scheduling Coordinators based on Measured Demand, excluding Demand associated with TOR Self-Schedules for which a RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules was provided as specified in Section 11.5.7.2 , and excluding Demand associated with TOR Self-Schedules for which an IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules was provided as specified in Section 11.2.1.7. For Scheduling Coordinators for MSS

California Independent System Operator Corporation  
Fifth Replacement Tariff

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

**11.5.5 Settlement Amount For Residual Imbalance Energy**

For each Settlement Interval, Residual Imbalance Energy settlement amounts shall be the sum of the two applicable five-minute Dispatch Interval Residual Imbalance Energy settlement amounts. The Residual

California Independent System Operator Corporation  
Fifth Replacement Tariff

Imbalance Energy settlement amount for each five-minute Dispatch Interval is calculated as the product of the MWhs of Residual Imbalance Energy for that Dispatch Interval and the RIE Settlement Price. The RIE Settlement Price will be determined as follows: in Dispatch Intervals in which there is incremental Residual Imbalance Energy, i.e., the Residual Imbalance Energy is incremental to the Day-Ahead Schedule Energy for the resource, the RIE Settlement Price is the greater of: 1) the Dispatch Interval LMP; or 2) the lesser of a) the resource's Default Energy Bid, or b) the Bid that led to the Residual Imbalance Energy from the relevant Dispatch Interval in which the resource was dispatched. In Dispatch Intervals in which there is decremental Residual Imbalance Energy, i.e., the Residual Imbalance Energy is below the Day-Ahead Schedule Energy for the resource, the RIE Settlement Price RIE Settlement Price is the lesser of: 1) the Dispatch Interval LMP; or 2) the greater of: a) the resource's Default Energy Bid, or b) the Bid that led to the Residual Imbalance Energy from the relevant Dispatch Interval in which the resource was dispatched. For MSS Operators the Settlement for Residual Imbalance Energy is conducted in the same manner, regardless of any MSS elections (net/gross Settlement, Load following or opt-in/opt-out of RUC).

**11.5.6 Settlement Amounts For IIE From Exceptional Dispatch**

For each Settlement Interval, the IIE Settlement Amount from each type of Exceptional Dispatch described in Section 34.9 is calculated as the sum of the products of the relevant IIE quantity for the Dispatch Interval and the relevant Settlement price for the Dispatch Interval for each type of Exceptional Dispatch as further described in this Section 11.5.6. For MSS Operators the Settlement for IIE from Exceptional Dispatches is conducted in the same manner, regardless of any MSS elections (net/gross Settlement, Load following or opt-in/opt-out of RUC). Except for the Settlement price, Exceptional Dispatches to perform Ancillary Services testing, to perform PMax testing, and to perform pre-commercial operation testing for Generating Units are otherwise settled in the same manner as provided in Section 11.5.6.1. Notwithstanding any other provisions of this Section 11.5.6, the Exceptional Dispatch Settlement price that is applicable in circumstances in which the CAISO applies Mitigation Measures to Exceptional Dispatch of resources pursuant to Section 39.10 shall be calculated as set forth in Section 11.5.6.7.

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

The Exceptional Dispatch Settlement price for incremental IIE that is delivered as a result of an Exceptional Dispatch for System Emergency conditions, for a Market Interruption, to mitigate Overgeneration conditions, or to prevent or relieve an imminent System Emergency, including forced Start-Ups and Shut-Downs, is the higher of the (a) Resource-Specific Settlement Interval LMP, (b) the Energy Bid price, (c) the Default Energy Bid price if the resource has been mitigated through the MPM in the Real-Time Market and for the Energy that does not have an Energy Bid price, or (d) the negotiated price as applicable to System Resources. Costs for incremental Energy for this type of Exceptional Dispatch are settled in two payments: (1) incremental Energy is first settled at the Resource-Specific Settlement Interval LMP and included in the total IIE Settlement Amount described in Section 11.5.1.1; and (2) the incremental Energy Bid Cost in excess of the applicable LMP at the relevant Location is settled pursuant to Section 11.5.6.1.1. The Exceptional Dispatch Settlement price for decremental IIE that is delivered as a result of an Exceptional Dispatch Instruction for a Market Interruption, or to prevent or relieve a System Emergency is the minimum of (a) the Resource-Specific Settlement Interval LMP, (b) the Energy Bid price subject to Section 39.6.1.4, (c) the Default Energy Bid price if the resource has been mitigated through the MPM in the Real-Time Market and for the Energy that does not have an Energy Bid price, or (d) the negotiated price as applicable to System Resources. All Energy costs for decremental IIE associated with this type of Exceptional Dispatch are included in the total IIE Settlement Amount described in Section 11.5.1.1.

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

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

California Independent System Operator Corporation  
Fifth Replacement Tariff

Cost, (2) the Default Energy Bid cost, or (3) the Energy cost at the negotiated price, as applicable for System Resources, for the relevant Exceptional Dispatch.

**11.5.6.2 Settlement of IIE from Exceptional Dispatches Caused by Modeling Limitations**

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

**11.5.6.2.2 [NOT USED]**

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

The Excess Cost Payment for Exceptional Dispatches used for transmission-related modeling limitations as described in Section 34.9.3 is calculated for each resource for each Settlement Interval as the cost difference between the Settlement amount calculated pursuant to Section 11.5.6.2.1 or 11.5.6.2.2 for the applicable delivered Exceptional Dispatch quantity at the Resource-Specific Settlement Interval LMP and one of the following three costs: (1) the resource's Energy Bid Cost, (2) the Default Energy Bid cost, or (3)

the Energy cost at the negotiated price, as applicable for System Resources, for the relevant Exceptional Dispatch.

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

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

**11.5.6.2.5 Allocation of Exceptional Dispatch Excess Cost Payments**

**11.5.6.2.5.1 Allocation of Exceptional Dispatch Excess Cost Payments to PTOs**

The total Excess Cost Payments calculated pursuant to Section 11.5.6.2.3 for the IIE from Exceptional Dispatches instructed as a result of a transmission-related modeling limitation in the FNM as described in Section 34.9.3 in that Settlement Interval shall be charged to the Participating Transmission Owner in whose PTO Service Territory the transmission-related modeling limitation as described in Section 34.9.3 is located. If the modeling limitation affects more than one Participating TO, the Excess Cost Payments shall be allocated in proportion to the Transmission Revenue Requirements of the affected Participating TOs with PTO Service Territories. Costs allocated to Participating TOs under this section shall constitute Reliability Services Costs.

**11.5.6.2.5.2 Allocation of Exceptional Dispatch Costs to Scheduling Coordinators**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Excess Cost Payments for the Exceptional Dispatches used for emergency conditions and to avoid Market Interruption and System Emergencies as determined pursuant to Section 11.5.6.1.1 shall be charged to Scheduling Coordinators as follows in a two-step process. First, each Scheduling Coordinator's charge shall be the lesser of:

- (i) the pro rata share of total Excess Cost Payment based upon the ratio of each Scheduling Coordinator's Net Negative Uninstructed Deviations to the total system Net Negative Uninstructed Deviations; or
- (iv) the amount obtained by multiplying the Scheduling Coordinator's Net Negative Uninstructed Deviation for each Settlement Interval and a weighted average price. The weighted average price is equal to the total Excess Cost Payments to be allocated divided by the MWh of Exceptional Dispatch Energy associated with the Excess Cost Payment.

Second, any remaining unallocated costs shall be allocated to all Scheduling Coordinators pro-rata based on their Measured Demand. For a Scheduling Coordinator of an MSS Operator that has elected to follow Load, allocation of this second category of Excess Cost Payments will be based on net metered MSS Demand. In addition, to the extent the Exceptional Dispatches are made to resolve congestion internal to the MSS, the Scheduling Coordinator for such an MSS will also be subject to these two categories of Excess Cost Payments.

A Scheduling Coordinator shall be exempt from the first category of the Excess Cost Payment allocation for a Settlement Interval if the Scheduling Coordinator has sufficient incremental Energy Bids from physically available resources in the Real-Time Market for Energy to cover its Net Negative Uninstructed Deviation in the given Settlement Interval and the prices of such Energy Bids do not exceed the applicable maximum Bid level as set forth in Section 39.

**11.5.6.3 Settlement for IIE from Exceptional Dispatches for RMR Units**

**11.5.6.3.1 Pricing for Exceptional Dispatch of RMR Units**

If the CAISO dispatches an RMR Unit that has selected Condition 2 of its RMR Contract to Start-Up or provide Energy other than a Start-Up or Energy pursuant to the RMR Contract, the CAISO shall pay as follows:



California Independent System Operator Corporation  
Fifth Replacement Tariff

- (a) if the Owner has elected Option A of Schedule G, two times the Start-Up Cost specified in Schedule D to the applicable RMR Contract for any Start-Up incurred, and 1.5 times the rate specified in Equation 1a or 1b below times the amount of Energy delivered in response to the Dispatch Instructions;
- (b) if the Owner has elected Option B of Schedule G, three times the Start-Up Cost specified in Schedule D to the applicable RMR Contract for any Start-Up incurred, and the rate specified in Equation 1a or 1b below times the amount of Energy delivered in response to the Dispatch Instruction.

Equation 1a

$$\text{Energy Price (\$/MWh)} = \frac{(AX^3 + BX^2 + CX + D) * P * E}{X} + \text{Variable O\&M Rate}$$

Equation 1b

$$\text{Energy Price (\$/MWh)} = \frac{A * (B + CX + De^{FX}) * P * E}{X} + \text{Variable O\&M Rate}$$

Where:

- for Equation 1a, A, B, C, D and E are the coefficients given in Table C1-7a of the applicable RMR Contract;
- for Equation 1b, A, B, C, D, E and F are the coefficients given in Table C1-7b of the applicable RMR Contract;
- X is the Unit output level during the applicable settlement period, MWh;
- P is the Hourly Fuel Price as calculated by Equation C1-8 in Schedule C using the Commodity Prices in accordance with the applicable RMR Contract;

Variable O&M Rate (\\$/MWh): as shown on Table C1-18 of the applicable RMR Contract.

**11.5.6.3.2 Allocation of Costs from Exceptional Dispatch Calls to Condition 2 RMR Units**

- (a) All costs associated with Energy provided by a Condition 2 RMR Unit operating other than according to a RMR Dispatch shall be allocated like other Instructed Imbalance Energy in accordance with Section 11.5.4.2.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (b) Start-Up Costs for Condition 2 RMR Units providing service outside the RMR Contract shall be treated similar to costs under Section 11.5.6.2.5.2.

**11.5.6.4 Settlement of IIE from Exceptional Dispatches for Testing**

The Exceptional Dispatch Settlement price for incremental IIE that is consumed or delivered as a result of an Exceptional Dispatch for purposes of Ancillary Services testing, periodic testing, including PMax testing, or pre-commercial operation testing for Generating Units is the maximum of the Resource-Specific Settlement Interval LMP or the Default Energy Bid price. All Energy costs for these types of Exceptional Dispatch will be included in the IIE Settlement Amount described in Section 11.5.1.1.

**11.5.6.5 Settlement of IIE from Black Start**

All IIE Settlement Amounts associated with Black Start receive the Exceptional Dispatch Settlement price as provided in Section 11.5.6.1, but the costs are allocated pursuant to Section 11.10.8.

**11.5.6.6 Settlement of IIE from Exceptional Dispatches for HASP and Real-Time ETC and TOR Self-Schedules**

The Exceptional Dispatch Settlement price for IIE from HASP and Real-Time ETC and TOR Self-Schedules shall be the Resource-Specific Settlement Interval LMP. The IIE Settlement Amount for this type of Exceptional Dispatch shall be calculated as the product of the sum of all of these types of Energy and the Resource-Specific Settlement Interval LMP. All Energy costs for these types of Exceptional Dispatches will be included in the IIE Settlement Amount described in Section 11.5.1.1.

**11.5.6.7 [NOT USED]**

**11.5.6.7.1 Settlement of Exceptional Dispatch Energy from Exceptional Dispatches of Resources Eligible for Supplemental Revenues**

Except as specified in Section 11.5.6.7.3, the Exceptional Dispatch Settlement price for the Exceptional Dispatch Energy delivered by a resource that satisfies all of the criteria set forth in Section 39.10.1 shall be the higher of (a) the resource's Energy Bid price or (b) the Resource-Specific Settlement Interval LMP.

**11.5.6.7.2 Settlement of Exceptional Dispatch Energy from Exceptional Dispatches of Resources Not Eligible for Supplemental Revenues**

Except as specified in Section 11.5.6.7.3, the Exceptional Dispatch Settlement price for the Exceptional Dispatch Energy delivered by a resource that satisfies all of the criteria set forth in Section 39.10.2 shall be the higher of (a) the Default Energy Bid price or (b) the Resource-Specific Settlement Interval LMP.

**11.5.6.7.3 Exception to the Other Provisions of Section 11.5.6.7**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Notwithstanding any other provisions of this Section 11.5.6.7, if the Energy Bid price for a resource that satisfies all of the criteria set forth in Sections 39.10.1 or 39.10.2 is lower than the Default Energy Bid price for the resource, and the Resource-Specific Settlement Interval LMP is lower than both the Energy Bid price for the resource and the Default Energy Bid price for the resource, the Exceptional Dispatch Settlement price for the Exceptional Dispatch Energy delivered by the resource shall be the Energy Bid price for the resource.

**11.5.7 Congestion Credit And Marginal Cost Of Losses Credit**

**11.5.7.1 HASP and RTM Congestion Credit for ETCs and TORs**

The CAISO shall not apply charges or payments to Scheduling Coordinators related to the MCC associated with all Points of Receipt and Points of Delivery pairs associated with valid and balanced ETC Self-Schedules or TOR Self-Schedules. The balanced portion will be based on the difference between: (1) the minimum of the metered CAISO Demand, ETC or TOR Self-Schedule submitted in the HASP, or the Existing Contract maximum capacity as specified in the TRTC Instructions; and (2) the valid and balanced portion of the Day-Ahead Schedule. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable HASP and RTM Congestion Credit for Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the MCC at each Point of Receipt and Point of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's ETC or TOR Self-Schedules. For all exports and imports settled in the HASP, the CAISO shall use the MWh quantity specified in the CAISO's Interchange transactional scheduling system schedule. For all Demand settled in the Real-Time Market the CAISO shall use the metered CAISO Demand associated with the applicable ETC or TOR. For all Supply settled in the Real-Time Market the CAISO shall use the quantity specified in the Dispatch Instructions.

**11.5.7.2 RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules**

For all Points of Receipt and Points of Delivery pairs associated with a valid and balanced TOR Self-Schedule submitted to the HASP or RTM pursuant to an existing agreement between the TOR holder and either the CAISO or a Participating TO as specified in Section 17.3.3, the CAISO shall not impose any charge or make any payment to the Scheduling Coordinator related to the MCL associated with such TOR Self-Schedules and will instead impose any applicable charges for losses as specified in the existing

California Independent System Operator Corporation  
Fifth Replacement Tariff

agreement between the TOR holder and either the CAISO or a Participating TO applicable to the relevant TOR. In any case in which the TOR holder has an existing agreement regarding its TORs with either the CAISO or a Participating TO, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.7.2. Where the provisions of this Section 11.5.7.2 do not conflict with the provisions of the agreement, the provisions of this Section 11.5.7.2 shall apply to the subject TORs. The balanced portion of the TOR Self-Schedule will be based on the difference between: (1) minimum of the metered CAISO Demand or TOR Self-Schedule submitted in the HASP, or the TOR maximum capacity as specified in the TRTC Instructions; and (2) the Day-Ahead Schedule. For each Scheduling Coordinator, the CAISO shall determine for each Settlement Interval the applicable RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for Imbalance Energy, which can be positive or negative, as the sum of the product of the relevant MWh quantity and the MCL at each eligible Points of Receipt and Points of Delivery associated with the valid and balanced portions of that Scheduling Coordinator's TOR Self-Schedules. For all exports and imports settled in the HASP, the CAISO shall use the MWh quantity specified in the HASP Intertie Schedule. For all Demand settled in the Real-Time Market the CAISO shall use the metered CAISO Demand associated with the applicable TOR. For all Supply settled in the Real-Time Market the CAISO shall use the quantity specified in the Dispatch Instructions.

**11.5.8 Settlement For Emergency Assistance**

This Section 11.5.8 shall apply to Settlement for emergency assistance provided to or by the CAISO. In any case in which the CAISO has entered into an agreement regarding emergency assistance, which agreement has been accepted by FERC, the provisions of the agreement shall prevail over any conflicting provisions of this Section 11.5.8. Where the provisions of this Section 11.5.8 do not conflict with the provisions of the FERC-accepted agreement, the provisions of this Section 11.5.8 shall apply to the subject emergency assistance.

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

The Settlement price for Energy that is delivered to the CAISO from a utility in another Balancing Authority Area as a result of a CAISO request pursuant to Section 42.1.5 or any other provision for assistance in System Emergency conditions, to avoid a Market Interruption, or to prevent or relieve an

California Independent System Operator Corporation  
Fifth Replacement Tariff

imminent System Emergency, other than Energy from an Exceptional Dispatch, shall be either (i) a negotiated price agreed upon by the CAISO and the seller or (ii) a price established by the seller for such emergency assistance in advance, as may be applicable. In the event no Settlement price is established prior to the delivery of the emergency Energy, the default Settlement price shall be the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point, plus all other charges applicable to imports to the CAISO Balancing Authority Area, as specified in the CAISO Tariff. If the default Settlement price is determined by the seller not to compensate the seller for the value of the emergency Energy delivered to the CAISO, then the seller shall have the opportunity to provide the CAISO with cost support information demonstrating that a higher price is justified. The cost support information must be provided in writing to the CAISO within thirty (30) days following the date of the provision of emergency assistance. The CAISO shall have the discretion to pay that higher price based on the seller's justification of this higher price. The CAISO will provide notice of its determination whether to pay such a higher price within thirty (30) days after receipt of the cost support information. Any dispute regarding the CAISO's determination whether to pay a higher price for emergency assistance based on cost support information shall be subject to the CAISO ADR Procedures. Payment by the CAISO for such emergency assistance will be made in accordance with the Settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff. The costs for such emergency assistance, including the payment of a price based on cost support information, will be settled in two payments: (1) the costs will first be settled at the simple average of the relevant Dispatch Interval LMPs and included in the total IIE Settlement Amount as described in Section 11.5.1.1; and (2) costs in excess of the simple average of the relevant Dispatch Interval LMPs plus other applicable charges will be settled in accordance with Section 11.5.8.1.1. The allocation of the amounts settled in accordance with Section 11.5.1.1 will be settled according to Section 11.5.4.2.

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

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

California Independent System Operator Corporation  
Fifth Replacement Tariff

Cost Payments for emergency Energy purchased in the circumstances specified in Section 11.5.8.1 shall be allocated in the same manner as specified in Section 11.5.6.2.5.2 for the allocation of the Excess Cost Payments portion of payments for Exceptional Dispatches for emergency conditions.

**11.5.8.2 Settlement for Energy Supplied by the CAISO in Response to a Request for Emergency Assistance**

The Settlement price for emergency Energy that is delivered by the CAISO to a utility in another Balancing Authority Area in response to a request for emergency assistance shall be the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point, which shall serve as the effective market price for that Energy, plus all other charges applicable to exports from the CAISO Balancing Authority Area, as specified in the CAISO Tariff and will be included in the total IIE Settlement Amount as described in Section 11.5.1.1 and will be allocated according to Section 11.5.4.2. Such price may be estimated prior to delivery and finalized in the Settlement process. The CAISO will establish a Scheduling Coordinator account, if necessary, for the purchaser for the sole purpose of facilitating the Settlement of such emergency assistance. Payment to the CAISO for such emergency assistance shall be made in accordance with the Settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff.

**11.6 Settlement of Transactions Involving Proxy Demand Resources**

**11.6.1 Settlement of Energy Transactions Involving PDR**

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

**11.7 Additional MSS Settlements Requirements**

**11.7.1 MSS Load Following Deviation Penalty**

For MSS Operators that have elected to follow their Load as described in Section 4.9.13.2, the Scheduling Coordinator for a Load following MSS Operator shall pay amounts for: (i) excess MSS Generation supplied to the CAISO Markets and (ii) excess MSS Load relying on CAISO Markets and not

California Independent System Operator Corporation  
Fifth Replacement Tariff

served by MSS generating resources. The revenue received from these payments will be used as an offset to the CAISO's Grid Management Charge. The payments due from a Scheduling Coordinator will be calculated as follows:

**11.7.1.1** If the metered Generation resources and imports into the MSS exceed: (i) the metered Demand and exports from the MSS, and (ii) Energy expected to be delivered by the Scheduling Coordinator for the MSS in response to the CAISO's Dispatch Instructions and/or Regulation Set Point signals issued by the CAISO's AGC by more than the MSS Deviation Band, then the payment for excess Energy outside of the MSS Deviation Band shall be rescinded and Scheduling Coordinator for the MSS Operator will pay the CAISO an amount equal to one hundred percent (100%) of the product of the highest LMP paid to the MSS Operator for its Generation in the Settlement Interval and the amount of the Imbalance Energy that is supplied in excess of the MSS Deviation Band.

**11.7.1.2** If metered Generation resources and imports into the MSS are insufficient to meet: (i) the metered Demand and exports from the MSS, and (ii) Energy expected to be delivered by the Scheduling Coordinator for the MSS in response to the CAISO's Dispatch Instructions and/or Regulation Set Point signals issued by the CAISO's AGC by more than the MSS Deviation Band, then the Scheduling Coordinator for the MSS Operator shall pay the CAISO an amount equal to the product of the Default LAP price for the Settlement Interval and two hundred percent (200%) of the shortfall that is outside of the MSS Deviation Band. The payment in the previous sentence is in addition to the charges for the Imbalance Energy that serves the excess MSS Demand that may be applicable under Section 11.5.

**11.7.2           Neutrality Adjustments and Charges Assessed on MSS SC**

The CAISO will assess the Scheduling Coordinator for the MSS the neutrality adjustments and Existing Contracts cash neutrality charges pursuant to Section 11.14 (or collect refunds therefrom) based on the net Measured Demand of the MSS.

**11.7.3           Available MSS Operator Exemption for Certain Program Charges**

If the CAISO is charging Scheduling Coordinators for summer reliability or Demand reduction programs, the MSS Operator may petition the CAISO for an exemption of these charges. If the MSS Operator provides documentation to the CAISO by November 1 of any year demonstrating that the MSS Operator has secured capacity reserves for the following calendar year at least equal to one hundred and fifteen

California Independent System Operator Corporation  
Fifth Replacement Tariff

percent (115%), on an annual basis, of the peak Demand responsibility of the MSS Operator, the CAISO shall grant the exemption. Eligible capacity reserves for such a demonstration may include on-demand rights to Energy, peaking resources, and Demand reduction programs. The peak Demand responsibility of the MSS Operator shall be equal to the annual peak Demand Forecast of the MSS Load plus any firm power sales by the MSS Operator, less interruptible Loads, and less any firm power purchases. Firm power for the purposes of this Section 11.7.3 shall be Energy that is intended to be available to the purchaser without being subject to interruption or curtailment by the supplier except for Uncontrollable Forces or emergency. To the extent that the MSS Operator demonstrates that it has secured capacity reserves in accordance with this Section 11.7.3, the Scheduling Coordinator for the MSS Operator shall not be obligated to bear any share of the CAISO's costs for any summer Demand reduction program or for any summer reliability Generation procurement program pursuant to Section 42.1.8 for the calendar year for which the demonstration is made.

**11.7.4 Emission Cost Responsibility Of An SC For An MSS**

Unless specified otherwise in the MSS agreement(s), if the CAISO is compensating Generating Units for Emissions Costs, and if an MSS Operator charges the CAISO for the Emissions Costs of the Generating Units serving the Load of the MSS, then the Scheduling Coordinator for the MSS shall bear its proportionate share of the total amount of those costs incurred by the CAISO based on the MSS gross Measured Demand excluding out of state exports and the Generating Units shall be made available to the CAISO through the submittal of Energy Bids. If the MSS Operator chooses not to charge the CAISO for the Emissions Costs of the Generating Units serving the Load of the MSS, then the Scheduling Coordinator for the MSS shall bear its proportionate share of the total amount of those costs incurred by the CAISO based on the MSS's net Measured Demand excluding out-of-state exports. For MSS Operators that have elected to follow their Load, and if an MSS Operator chooses not to charge the CAISO for the Emissions Costs of the Generating Units serving that MSS Operator's Load, then that MSS's Scheduling Coordinator for that Load shall bear its proportionate share of the total amount of those costs incurred by the CAISO based on that MSS's Net Negative Uninstructed Deviations with Load Following Energy included in the netting. The MSS Operator shall make the election whether to charge the CAISO for these costs on an annual basis on November 1 for the following calendar year.



## **11.8 Bid Cost Recovery**

For purposes of determining the Unrecovered Bid Cost Uplift Payments for each Bid Cost Recovery Eligible Resource as determined in Section 11.8.5 and the allocation of Unrecovered Bid Cost Uplift Payments for each Settlement Interval, the CAISO shall sequentially calculate the Bid Costs, which can be positive (IFM, RUC or RTM Bid Cost Shortfall) or negative (IFM, RUC or RTM Bid Cost Surplus) in the IFM, RUC and the Real-Time Market, as the algebraic difference between the respective IFM, RUC or RTM Bid Cost and the IFM, RUC or RTM Market Revenues, which is netted across the CAISO Markets. In any Settlement Interval a resource is eligible for Bid Cost Recovery payments only if it is On, or in the case of a Participating Load or a Proxy Demand Resource, only if the resource has actually stopped or started consuming pursuant to the Dispatch Instruction. BCR Eligible Resources for different MSS Operators are supply resources listed in the applicable MSS Agreement. All Bid Costs shall be based on mitigated Bids as specified in Section 39.7. Virtual Awards are not eligible for Bid Cost Recovery. Virtual Awards are eligible for make-whole payments due to price corrections pursuant to Section 11.21.2. In order to be eligible for Bid Cost Recovery, Non-Dynamic Resource-Specific System Resources must provide to the CAISO SCADA data by telemetry to the CAISO's EMS in accordance with Section 4.12.3 demonstrating that they have performed in accordance with their CAISO commitments. Scheduling Coordinators for Non-Generator Resources are not eligible to recover Start-Up Costs, Minimum Load Costs, Pumping Costs, Pump Shut-Down Costs, or Transition Costs but are eligible to recover Energy Bid Costs, RUC Availability Payments and Ancillary Service Bid Costs.

### **11.8.1 CAISO Determination Of Self-Commitment Periods**

For the purposes of identifying the periods during which a Bid Cost Recovery Eligible Resource is deemed self-committed and thus ineligible for Start-Up Costs, Transition Costs, Minimum Load Costs, IFM Pump Shut-Down Costs and IFM Pumping Costs, the CAISO derives the Self-Commitment Periods as described below. The CAISO will determine the Self-Commitment Periods for Multi-Stage Generating Resources based on the applicable MSG Configuration. MSS resources designated for Load following are considered to be self-committed if they have been scheduled with non-zero Load following capacity, or are otherwise used to follow Load in the Real-Time. The IFM and RUC Self-Commitment Periods will be available as part of the Day-Ahead Market results provided to the applicable Scheduling Coordinator.

California Independent System Operator Corporation  
Fifth Replacement Tariff

The interim RTM Self-Commitment Periods as reflected in the HASP will be available as part of the HASP results for the relevant Trading Hour as provided to the applicable Scheduling Coordinator. The final RTM Self-Commitment Period is determined ex-post for Settlements purposes. ELS Resources committed through the ELC Process described in Section 31.7 are considered to have been committed in the IFM Commitment Period for the applicable Trading Day for the purposes of determining BCR settlement in this section 11.8.

**11.8.1.1 IFM Self-Commitment Period**

An IFM Self-Commitment Period for a Bid Cost Recovery Eligible Resource shall consist of one or more sets of consecutive Trading Hours during which the relevant Bid Cost Recovery Eligible Resource has either a Self-Schedule or, except for Self-Provided Ancillary Services for Non-Spinning Reserve by a Fast Start Unit, has a non-zero amount of Self-Provided Ancillary Services. An IFM Self-Commitment Period for a Bid Cost Recovery Eligible Resource may not be less than the relevant Minimum Run Time (MRT), rounded up to the next hour. Consequently, if a Bid Cost Recovery Eligible Resource first self-commits in hour  $h$  of the Trading Day, the self-commitment will be extended to hour  $h + \text{MRT}$ . Two IFM Self-Commitment Periods for a Bid Cost Recovery Eligible Resource may not be apart by less than the relevant Minimum Down Time (MDT) (rounded up to the next hour). Consequently, if a Bid Cost Recovery Eligible Resource has submitted a Self-Schedule or Submission to Self-Provide an Ancillary Service in hours  $h$  and  $h + n$ , and  $n$  is less than the MDT, the IFM Self-Commitment Period will be extended to the hours in between  $h$  and  $h + n$  inclusive. The number of IFM Self-Commitment Periods for a Bid Cost Recovery Eligible Resource within a Trading Day cannot exceed the relevant Maximum Daily Start-Ups (MDS), or  $\text{MDS} + 1$  if the first IFM Self-Commitment Period is the continuation of an IFM or RUC Commitment Period from the previous Trading Day. Consequently, if a Bid Cost Recovery Eligible Resource has submitted a Self-Schedule or Submission to Self-Provide an Ancillary Service, such that after applying the preceding two rules, the number of disjoint Self Commitment Periods for the Operating Day exceeds the Maximum Daily Start-Ups (MDS), or  $\text{MDS} + 1$  if the first IFM Self-Commitment Period is the continuation of an IFM or RUC Commitment Period from the previous Trading Day, the disjoint Self Commitment Periods with smallest time gap in between will be joined together to bring down the number of disjoint Self Commitment Periods to MDS or  $\text{MDS} + 1$  as relevant. To determine whether an extension

California Independent System Operator Corporation  
Fifth Replacement Tariff

of the IFM Self-Commitment Period applies for Multi-Stage Generating Resources, the CAISO will ensure that the respective Minimum Run Time and Minimum Down Time for both the Generating Unit or Dynamic Resource-Specific System Resource and MSG Configuration levels are simultaneously respected.

**11.8.1.2 Real-Time Self-Commitment Period**

A Real-Time Market Self-Commitment Period for a Bid Cost Recovery Eligible Resource shall consist of all consecutive Dispatch Intervals not in an IFM Commitment Period or a RUC Commitment Period where the Bid Cost Recovery Eligible Resource has a Self-Schedule or, except for Self-Provided Ancillary Services for Non-Spinning Reserve by a Fast Start Unit, has a non-zero amount of Self-Provided Ancillary Services. A Real-Time Market Self-Commitment Period for a Bid Cost Recovery Eligible Resource may not be less than the relevant MUT (rounded up to the next 15-minute Commitment Interval) when considered jointly with any adjacent IFM Self-Commitment Period. For example, if a Bid Cost Recovery Eligible Resource self-commits at time  $h$ , the self-commitment will be extended to Commitment Interval  $h + MUT$ , unless an IFM or RUC Commitment Period exists starting after hour  $h$ , in which case the self-commitment will be extended to Commitment Interval  $h + \min(MUT, t)$ , where  $t$  represents the time interval between the Real-Time Market Self-Commitment Period and the IFM or RUC Commitment Period. A Real-Time Market Self-Commitment Period for a Bid Cost Recovery Eligible Resource may not be apart from an IFM or RUC Commitment Period by less than the relevant MDT (rounded up to the next 15-minute Commitment Interval). For example, if a Bid Cost Recovery Eligible Resource self-commits at time  $T1$  and has a RUC Schedule at time  $T2 < T1$ , the Real-Time Market Self-Commitment Period will be extended to the interim Commitment Intervals if  $T1 - T2 < MDT$ . The number of Real-Time Market Self-Commitment Periods for a Bid Cost Recovery Eligible Resource within a Trading Day, when considered jointly with any adjacent IFM Self-Commitment Period, may not exceed the relevant MDS (or  $MDS + 1$  if the first Real-Time Market Self-Commitment Period is the continuation of a Real-Time Market Commitment Period from the previous Trading Day). For example, if a Bid Cost Recovery Eligible Resource self-commits at time  $T1$  and has a RUC Schedule at time  $T2 > T1$ , the Real-Time Market Self-Commitment Period will be extended to the interim Commitment Intervals if an additional Real-Time Market Start-Up at  $T1$  would violate the MDS constraint. To determine whether an extension of the RTM Self-Commitment Period applies for Multi-Stage Generating Resources, the CAISO will ensure that the

California Independent System Operator Corporation  
Fifth Replacement Tariff

respective Minimum Run Time and Minimum Down Time for both the Generating Unit or Dynamic Resource-Specific System Resource and MSG Configuration levels are simultaneously respected.

**11.8.1.3 Multi-Stage Generating Resource Start-Up, Minimum Load, or Transition Costs**

For the settlement of the Multi-Stage Generating Resource Start-Up Cost, Minimum Load Cost, and Transition Cost in the IFM, RUC, and RTM, the CAISO will determine the applicable Commitment Period and select the applicable Start-Up Cost, Minimum Load Cost, and Transition Cost based on the following rules.

- (1) In any given Settlement Interval, the CAISO will first apply the following rules to determine the applicable Start-Up Cost, Minimum Load Cost, and Transition Cost for the Multi-Stage Generating Resources. For a Commitment Period in which the:
  - (a) IFM Commitment Period and/or RUC Commitment Period MSG Configuration(s) are different than the RTM CAISO Commitment Period MSG Configuration, the Multi-Stage Generating Resource's Start-Up Cost, Minimum Load Cost, and Transition Cost will be settled based on the RTM CAISO Commitment Period MSG Configuration Start-Up Cost, Minimum Load Cost, and Transition Cost, as described in Section 11.8.4.1.
  - (b) IFM CAISO Commitment Period and/or RUC CAISO Commitment Period MSG Configuration(s) and there is a RTM Self-Commitment Period in any MSG Configuration, the Multi-Stage Generating Resource's Start-Up Cost, Minimum Load Cost, and Transition Cost will be settled based on the IFM CAISO Commitment Period and/or RUC CAISO Commitment Period MSG Configuration(s) Start-Up Cost, Minimum Load Cost, and Transition Cost, as described in Sections 11.8.2.1 and 11.8.3.1, and further determined pursuant to part (2) of this Section below.
  - (c) IFM CAISO Commitment Period and/or RUC CAISO Commitment Period MSG Configuration is the same as the RTM CAISO Commitment Period

California Independent System Operator Corporation  
Fifth Replacement Tariff

MSG Configuration, the Multi-Stage Generating Resource's Start-Up Cost, Minimum Load Cost, and Transition Cost will be settled based on the IFM CAISO Commitment Period and/or RUC CAISO Commitment Period MSG Configuration(s) Start-Up Cost, Minimum Load Cost, and Transition Cost described in Sections 11.8.2.1 and 11.8.3.1, and further determined pursuant to part (2) of this Section below.

(d) IFM and RUC Self-Commitment Period MSG Configuration(s) are the same as the RTM CAISO Commitment Period MSG Configuration, then the Multi-Stage Generating Resource's Start-Up Cost, Minimum Load Cost, and Transition Cost will be settled based on the RTM CAISO Commitment Period MSG Configuration Start-Up Cost, Minimum Load Cost, and Transition Cost as described in Section 11.8.4.1.

(2) In any given Settlement Interval, after the rules specified in part (1) above of this Section have been executed, the ISO will apply the following rules to determine whether the IFM or RUC Start-Up Cost, Minimum Load Cost, and Transition Cost apply for Multi-Stage Generating Resources. For a Commitment Period in which the:

(a) IFM Commitment Period MSG Configuration is different than the RUC CAISO Commitment Period MSG Configuration the Multi-Stage Generating Resource's Start-Up Cost, Minimum Load Cost, and Transition Cost will be settled based on the RUC CAISO Commitment Period MSG Configuration Start-Up Cost, Minimum Load Cost, and Transition Cost as described in Section 11.8.3.1.

(b) IFM CAISO Commitment Period MSG Configuration is the same as the RUC Commitment Period MSG Configuration, the Multi-Stage Generating Resource's Start-Up Cost, Minimum Load Cost, and Transition Cost will be based on the IFM CAISO Commitment Period

California Independent System Operator Corporation  
Fifth Replacement Tariff

MSG Configuration Start-Up Cost, Minimum Load Cost, and Transition  
Cost as described in Section 11.8.2.1.

**11.8.2 IFM Bid Cost Recovery Amount**

For purposes of determining the IFM Unrecovered Bid Cost Uplift Payments as determined in Section 11.8.5, and the purposes of allocating Net IFM Bid Cost Uplift as described in Section 11.8.6.4 the CAISO shall calculate the IFM Bid Cost Shortfall or the IFM Bid Cost Surplus as the algebraic difference between the IFM Bid Cost and the IFM Market Revenues for each Settlement Interval. The IFM Bid Costs shall be calculated pursuant to Section 11.8.2.1 and the IFM Market Revenues shall be calculated pursuant to Section 11.8.2.2. The Energy subject to IFM Bid Cost Recovery is the actual Energy delivered in the Real-Time that is within the Day-Ahead Schedule for each eligible resource.

**11.8.2.1 IFM Bid Cost Calculation**

For each Settlement Interval, the CAISO shall calculate IFM Bid Cost for each Bid Cost Recovery Eligible Resource as the algebraic sum of the IFM Start-Up Cost, IFM Transition Cost, IFM Minimum Load Cost, IFM Pump Shut-Down Cost, IFM Energy Bid Cost, IFM Pumping Cost, and IFM AS Bid Cost. For Multi-Stage Generating Resources, in addition to the specific IFM Bid Cost rules described in Section 11.8.2.1, the CAISO will apply the rules described in Section 11.8.1.3 to further determine the applicable MSG Configuration-based CAISO Market Start-Up Cost, Transition Cost and Minimum Load Cost in any given Settlement Interval. For Multi-Stage Generating Resources, the incremental IFM Start-Up, Minimum Load, and Transition Costs to provide Energy Scheduled in the Day-Ahead Schedule or awarded RUC or Ancillary Service capacity for an MSG Configuration other than the self-scheduled MSG Configuration are determined by the IFM rules specified in Section 31.3.

**11.8.2.1.1 IFM Start-Up Cost**

The IFM Start-Up Cost for any IFM Commitment Period shall equal to the Start-Up Costs submitted by the Scheduling Coordinator to the CAISO for the IFM divided by the number of Settlement Intervals within the applicable IFM Commitment Period. For each Settlement Interval, only the IFM Start-Up Cost in a CAISO IFM Commitment Period is eligible for Bid Cost Recovery. The CAISO will determine the IFM Start-Up Costs for Multi-Stage Generating Resources based on the CAISO-committed MSG Configuration. The following rules shall apply sequentially to qualify the IFM Start-Up Cost in an IFM Commitment Period:

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (a) The IFM Start-Up Cost for an IFM Commitment Period shall be zero if there is an IFM Self-Commitment Period within or overlapping with that IFM Commitment Period.
- (b) The IFM Start-Up Cost for an IFM Commitment Period shall be zero if the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract prior to the Day-Ahead Market or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule in the Day-Ahead Market anywhere within the applicable IFM Commitment Period.
- (c) The IFM Start-Up Cost for an IFM Commitment Period shall be zero if there is no actual Start-Up at the start of the applicable IFM Commitment Period because the IFM Commitment Period is the continuation of an IFM, RUC, or RTM Commitment Period from the previous Trading Day.
- (d) The IFM Start-Up Cost for an IFM Commitment Period shall be zero if the Start-Up is delayed by the Real-Time Market past the IFM Commitment Period in question or cancelled by the Real-Time Market before the start-up process has started.
- (e) If an IFM Start-Up is terminated in the Real-Time within the applicable IFM Commitment Period through an Exceptional Dispatch Shut-Down Instruction issued while the Bid Cost Recovery Eligible Resource was starting up, the IFM Start-Up Cost for that IFM Commitment Period shall be prorated by the ratio of the Start-Up Time before termination over the total IFM Start-Up Time.
- (f) The IFM Start-Up Cost is qualified if an actual Start-Up occurs within the applicable IFM Commitment Period. An actual Start-Up is detected between two consecutive Settlement Intervals when the relevant metered Energy in the applicable Settlement Intervals increases from below the Minimum Load Energy and reaches or exceeds the relevant Minimum Load Energy. The Minimum Load Energy is the product of the relevant Minimum Load and the duration of the Settlement Interval. The CAISO will determine the Minimum Load Energy for

California Independent System Operator Corporation  
Fifth Replacement Tariff

Multi-Stage Generating Resources based on the CAISO Commitment Period applicable MSG Configuration.

- (g) The IFM Start-Up Cost will be qualified if an actual Start-Up occurs earlier than the start of the IFM Commitment Period if the advance Start-Up is as a result of a Start-Up instruction issued in a RUC or Real-Time Market process subsequent to the IFM, or the advance Start-Up is uninstructed but is still within the same Trading Day and the Bid Cost Recovery Eligible Resource actually stays on until the targeted IFM Start-Up.

**11.8.2.1.2 IFM Minimum Load Cost**

The Minimum Load Cost for the applicable Settlement Interval shall be the Minimum Load Cost submitted to the CAISO in the IFM divided by the number of Settlement Intervals in a Trading Hour. For each Settlement Interval, only the IFM Minimum Load Cost in a CAISO IFM Commitment Period is eligible for Bid Cost Recovery. The IFM Minimum Load Cost for any Settlement Interval is zero if: (1) the Settlement Interval is in an IFM Self Commitment Period for the Bid Cost Recovery Eligible Resource; (2) the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract prior to the Day-Ahead Market or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule for the applicable Settlement Interval; or (3) the Bid Cost Recovery Eligible Resource is determined not actually On during the applicable Settlement Interval. For the purposes of determining IFM Minimum Load Cost, a Bid Cost Recovery Eligible Resource, except for a Multi-Stage Generating Resource, is assumed to be On if its metered Energy in a Settlement Interval is equal to or greater than the difference between its Minimum Load Energy and the Tolerance Band. Otherwise, such non-Multi-Stage Generating Resources are determined to be Off. For Multi-Stage Generating Resources, the commitment period is determined based on application of section 11.8.1.3. If application of section 11.8.1.3 dictates that the IFM is the commitment period, then the calculation of the IFM Minimum Load Costs will depend on whether the metered MSG Configuration is equal to or different from the IFM committed MSG Configuration. If the metered MSG Configuration is equal to the IFM committed MSG Configuration, then the IFM Minimum Load Costs will be based on the Minimum Load Costs of the IFM committed MSG Configuration. If the metered MSG Configuration is different from the IFM committed MSG Configuration, then the IFM



California Independent System Operator Corporation  
Fifth Replacement Tariff

Minimum Load Costs will be based on the lower of the Minimum Load Costs of the metered MSG Configuration and the Minimum Load Costs of the IFM committed MSG Configuration. The metered MSG Configuration is determined based on the highest MSG Configuration submitted to the IFM for which the Metered Data is within or above the three (3) percent (or 5 MW) Tolerance Band of the PMin of that highest MSG Configuration submitted to the IFM. Between two (2) (or more) MSG Configurations, the highest MSG Configuration is the MSG Configuration with the PMin value that is the greatest MW value.

**11.8.2.1.3 IFM Pump Shut-Down Cost**

For Pumped-Storage Hydro Units and Participating Load only, the IFM Pump Shut-Down Costs for each Settlement Interval shall be equal to the relevant Pump Shut-Down Cost submitted to CAISO in the IFM divided by the number of Settlement Intervals in a Trading Hour that is preceded by a previous commitment by the IFM to pump, in which actual shut down occurs if the unit is committed by the IFM not to pump and actually does not operate in pumping mode in that Settlement Interval (as detected through Meter Data). The IFM Pump Shut-Down Cost for an IFM Shut-Down period shall be zero if: (1) it is followed by an IFM or RFM Self-Commitment Period in generation mode; (2) the Shut-Down is due to an Outage reported through SLIC; or (3) the Shut-Down is delayed by the RTM past the IFM Shut-Down period in question or cancelled by the RTM before the Shut-Down process has started.

**11.8.2.1.4 IFM Pumping Bid Cost**

For Pumped-Storage Hydro Units and Participating Load only, the IFM Pumping Bid Cost for the applicable Settlement Interval shall be the Pumping Cost submitted to the CAISO in the IFM divided by the number of Settlement Intervals in a Trading Hour. The Pumping Cost is negative. The Pumping Cost is included in IFM Bid Cost computation for a Pumped-Storage Hydro Unit and Participating Load committed by the IFM to pump or serve Load if it actually operates in pumping mode or serves Load in that Settlement Interval. The IFM Energy Bid Cost for a Participating Load for any Settlement Interval is set to zero for actual Energy consumed in excess of the Day-Ahead Schedule for Demand. The IFM Pumping Cost for any Settlement Interval is zero if: (1) the Settlement Interval is in an IFM Self-Commitment Period for the Bid Cost Recovery Eligible Resource; or (2) the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract prior to the Day-Ahead Market or the

California Independent System Operator Corporation  
Fifth Replacement Tariff

resource is flagged as an RMR Dispatch in the Day-Ahead Schedule for the applicable Settlement Interval.

**11.8.2.1.5 IFM Energy Bid Cost**

For any Settlement Interval, the IFM Energy Bid Cost for Bid Cost Recovery Eligible Resources, except Participating Loads, shall be the integral of the relevant Energy Bid submitted to the IFM, if any, from the higher of the registered Bid Cost Recovery Eligible Resource's Minimum Load and the Day-Ahead Total Self-Schedule up to the relevant MWh scheduled in the Day-Ahead Schedule, divided by the number of Settlement Intervals in a Trading Hour. The IFM Energy Bid Cost for Bid Cost Recovery Eligible Resources, except Participating Loads, and except for any portion of the Day-Ahead Schedule associated with an Energy Bid less than zero, for any Settlement Interval is set to zero for any portion of the Day-Ahead Schedule that is not delivered from the otherwise Bid Cost Recovery Eligible Resource that has metered Generation below its Day-Ahead Schedule; any portion of the Day-Ahead Schedule that is actually delivered remains eligible for IFM Energy Bid Cost Recovery. The delivered portions of the Day-Ahead Schedule for this calculation are determined using the Day-Ahead Metered Energy Adjustment Factor. The Day-Ahead Metered Energy Adjustment Factor is not applied to IFM Energy Bid Costs that associate with Energy Bids that are less than zero. The CAISO will determine the IFM Energy Bid Cost for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level. The CAISO will determine the applicable net IFM Energy Bid Cost surplus or net IFM Energy Bid Cost shortfalls as described in Section 11.8.2.4.

**11.8.2.1.6 IFM AS Bid Cost**

For any Settlement Interval, the IFM AS Bid Cost shall be the product of the IFM AS Award from each accepted IFM AS Bid and the relevant AS Bid Price, divided by the number of Settlement Intervals in a Trading Hour. The CAISO will determine and calculate IFM AS Bid Cost for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level. The IFM AS Bid Cost shall also include Mileage Bid Costs. For any Settlement Interval, the IFM Mileage Bid Cost shall be the product of Instructed Mileage associated with a Day Ahead Regulation capacity award, as adjusted for accuracy consistent with Section 11.10.1.7, and the relevant Mileage Bid price, divided by the number of Settlement Intervals in a Trading Hour. The CAISO will determine and calculate IFM Mileage Bid Cost

California Independent System Operator Corporation  
Fifth Replacement Tariff

for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level.

**11.8.2.1.7 IFM Transition Cost**

For each Settlement Interval, the IFM Transition Costs shall be based on the MSG Configuration to which the Multi-Stage Generating Resource is transitioning and is allocated to the CAISO Commitment Period of that MSG Configuration.

**11.8.2.1.7.1 IFM Transition Costs Applicability**

Within any eligible IFM CAISO Commitment Period determined pursuant to the rules specified in Section 11.8.1.3, the CAISO shall apply the IFM Transition Costs for the Settlement Intervals in which the Multi-Stage Generating Resources reaches the Minimum Load of the MSG Configuration to which the Multi-Stage Generating Resource is transitioning, subject to the Tolerance Band.

**11.8.2.2 IFM Market Revenue**

In the case of a Multi-Stage Generating Resource, the CAISO will calculate the market revenue at the Generating Unit or Dynamic Resource-Specific System Resource level.

**11.8.2.2.1 Instructed Imbalance Energy Greater Than Zero**

**11.8.2.2.1.1 CAISO IFM Commitment**

For any Settlement Interval in a CAISO IFM Commitment Period in which the resource's Instructed Imbalance Energy is greater than zero (*i.e.*, the resource is dispatched by CAISO in real-time higher than the Day-Ahead Schedule) the IFM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the following three products.

- (1) The product of the delivered MWh in the relevant Day-Ahead Schedule above the higher of the total day-ahead self-schedules and the Minimum Load submitted to the IFM in that Trading Hour (where for Pumped-Storage Hydro Units and Participating Load operating in the pumping mode or serving Load the MWh is negative), and the relevant IFM LMP, divided by the number of Settlement Intervals in a Trading Hour. The delivered portions of the Day-Ahead Schedule in this case are determined based on the Day-Ahead Metered Energy Adjustment Factor.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (2) The product of delivered MWh in the relevant Day-Ahead Schedule for portions at or below the Minimum Load submitted to the IFM and the relevant LMP divided by the number of Settlement Intervals in a Trading Hour. The delivered portions of the Day-Ahead Schedule in this case are determined based on the CAISO's determination that the resource was "On" for the applicable Trading Hour as described in Section 11.8.2.1.2;
- (3) The product of the IFM AS Award from each accepted IFM AS Bid and the relevant Resource-Specific ASMP, divided by the number of Settlement Intervals in a Trading Hour.

**11.8.2.2.1.2** For any Settlement Interval in a IFM Self-Commitment Period the IFM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of: (1) the product of the delivered MWh above the greater of Minimum Load and Self-Scheduled Energy, in the relevant Day-Ahead Schedule in that Trading Hour and the relevant IFM LMP, divided by the number of Settlement Intervals in a Trading Hour; and (2) the product of the IFM AS Award from each accepted IFM AS Bid and the relevant Resource-Specific ASMP, divided by the number of Settlement Intervals in a Trading Hour. The delivered portions of the Day-Ahead Schedule in this case are determined based on the Day-Ahead Metered Energy Adjustment Factor.

**11.8.2.2.2 Instructed Imbalance Energy Equal to or Below Zero**

**11.8.2.2.2.1 CAISO IFM Commitment Period**

For any Settlement Interval in a CAISO IFM Commitment Period in which the resource's Instructed Imbalance Energy is equal to or less than zero (*i.e.*, the resource is dispatched by CAISO in real-time at or lower than the Day-Ahead Schedule) the IFM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the following three products.

- (1) The product of the scheduled MWh in the relevant Day-Ahead Schedule above the higher of the total day-ahead self-schedules and the Minimum Load submitted to the IFM in that Trading Hour (where for Pumped-Storage Hydro Units and Participating Load operating in the pumping mode or serving Load the MWh is negative), and the relevant IFM LMP, divided by the number of Settlement Intervals in a Trading Hour.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (2) The product of delivered MWh in the relevant Day-Ahead Schedule for portions at or below the Minimum Load submitted to the IFM and the relevant LMP divided by the number of Settlement Intervals in a Trading Hour. The delivered portions of the Day-Ahead Schedule in this case are determined based on the CAISO's determination that the resource was "On" for the applicable Trading Hour as described in Section 11.8.2.1.2;
- (3) The product of the IFM AS Award from each accepted IFM AS Bid and the relevant Resource-Specific ASMP, divided by the number of Settlement Intervals in a Trading Hour.

**11.8.2.2.1 Resource Self-Committed**

For any Settlement Interval in a IFM Self-Commitment Period the IFM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of: (1) the product of the MWh above the greater of Minimum Load and Self-Scheduled Energy, in the relevant Day-Ahead Schedule in that Trading Hour and the relevant IFM LMP, divided by the number of Settlement Intervals in a Trading Hour; and (2) the product of the IFM AS Award from each accepted IFM AS Bid and the relevant Resource-Specific ASMP, divided by the number of Settlement Intervals in a Trading Hour.

**11.8.2.3 IFM Bid Cost Recovery Amounts for Metered Subsystems**

The IFM Bid Cost Recovery for MSS Operators differs based on whether the MSS Operator has elected gross or net Settlement.

**11.8.2.3.1 MSS Elected Gross Settlement**

For an MSS Operator that has elected gross Settlement, regardless of other MSS optional elections (Load following or RUC opt-in or out), the IFM Bid Cost and the IFM Market Revenue are calculated similarly to non-MSS resources on an individual resource basis as described in Sections 11.8.2.1 and 11.8.2.2, respectively.

**11.8.2.3.2 MSS Elected Net Settlement**

For an MSS Operator that has elected net Settlement, regardless of other MSS optional elections (Load following or RUC opt-in or out), the Energy affected by IFM Bid Cost Recovery is the MSS level net Energy where the MSS Supply exceeds the MSS Demand within the MSS. The IFM Bid Cost Shortfall or Surplus is also settled at the MSS level as opposed to the individual resource level. The IFM Bid Cost as

California Independent System Operator Corporation  
Fifth Replacement Tariff

described in Section 11.8.2.1 above and IFM Market Revenue as provided in Section 11.8.2.2 above, of each MSS will be, respectively, the total of the IFM Bid Costs and IFM Market Revenues of all BCR Eligible Resources within the MSS. The IFM Bid Cost Shortfalls and Surpluses for Energy and AS are first calculated separately for the MSS for each Trading Hour of the Trading Day with qualified Start-Up Cost and qualified Minimum Load Cost included in the IFM Bid Cost Shortfalls and Surpluses for Energy calculation. The IFM Bid Cost Shortfall or Surplus of Energy in each Trading Hour is then pro-rated by the MSS's ratio of the net positive MSS Generation Schedule to the gross MSS Generation Schedule of that Trading Hour. If the MSS CAISO Demand is in excess of the MSS Generation in a given Trading Hour in the Day-Ahead Schedule, the CAISO will set the pro-rating ratio for that Trading Hour to zero. The MSS's overall IFM Bid Cost Shortfall or Surplus is then calculated as the algebraic sum of the pro-rated IFM Bid Cost Shortfall or Surplus for Energy and the IFM Bid Cost Shortfall or Surplus for AS for each Trading Hour.

**11.8.2.4 Ramping for IFM Initial Conditions or Self-Schedules**

The CAISO shall determine the net IFM Bid Cost surplus or net IFM Bid Cost shortage across all full ramp down periods that start with an initial condition at the start of the IFM or a full ramp period within a 24 hour day-ahead market associated with a Self-Schedule any time within the full ramp period. For such full ramp periods associated with an initial condition or Self-Schedule with a net IFM Bid Cost shortfall, the net IFM Energy Bid Cost shortfall will not be included in IFM Bid Cost calculations. For the full ramp periods with a net IFM Bid Cost surplus, the surplus will be included in IFM Bid Cost calculations. For full other ramp periods not associated with an initial condition or Self-Schedule with IFM Energy Bid Cost shortfall, the shortfall will be included in IFM Bid Cost calculations. The CAISO will identify the Trading Hours scheduled as full ramp up periods as of the first hour where the resource is ramping up at full ramp until the last hour where the resource is ramping up at full ramp. Likewise, a full ramp down period will be identified as of first hour where the resource is ramping down at full ramp until the last hour that the resource is ramping down at full ramp.

**11.8.3 RUC Bid Cost Recovery Amount**

For purposes of determining the RUC Unrecovered Bid Cost Uplift Payments as determined in Section 11.8.5 and for the purposes of allocating Net RUC Bid Cost Uplift as described in Section 11.8.6.5, the

California Independent System Operator Corporation  
Fifth Replacement Tariff

CAISO shall calculate the RUC Bid Cost Shortfall or the RUC Bid Cost Surplus as the algebraic difference between the RUC Bid Cost and the RUC Market Revenues for each Bid Cost Recovery Eligible Resource for each Settlement Interval. The RUC Bid Costs shall be calculated pursuant to Section 11.8.3.1 and the RUC Market Revenues shall be calculated pursuant to Section 11.8.3.2. Bid Cost Recovery costs related to Short Start Units committed in Real-Time as a result of awarded RUC Capacity will be included in RUC Compensation Costs.

**11.8.3.1 RUC Bid Cost Calculation**

For each Settlement Interval, the CAISO shall determine the RUC Bid Cost for a Bid Cost Recovery Eligible Resource as the algebraic sum of the RUC Start-Up Cost, RUC Transition Cost, RUC Minimum Load Cost and RUC Availability Bid Cost. For Multi-Stage Generating Resources, in addition to the specific RUC Bid Cost rules described in Section 11.8.3.1, the rules described in Section 11.8.1.3 will be applied to further determine the applicable MSG Configuration-based CAISO Market Start-Up Cost, Transition Cost, and Minimum Load Cost in any given Settlement Interval. For Multi-Stage Generating Resources, the incremental RUC Start-Up, Minimum Load, and Transition Costs to provide RUC awarded capacity for an MSG Configuration other than the self-scheduled MSG Configuration are determined by the RUC optimization rules in specified in Section 31.5.

**11.8.3.1.1 RUC Start-Up Cost**

The RUC Start-Up Cost for any Settlement Interval in a RUC Commitment Period shall consist of Start-Up Cost of the Bid Cost Recovery Eligible Resource submitted to the CAISO for the applicable RUC Commitment Period divided by the number of Settlement Intervals in the applicable RUC Commitment Period. For each Settlement Interval, only the RUC Start-Up Cost in a CAISO RUC Commitment Period is eligible for Bid Cost Recovery. The CAISO will determine the RUC Start-Up Cost for a Multi-Stage Generating Resource based on the MSG Configuration committed by the CAISO in RUC.

The following rules shall be applied in sequence and shall qualify the RUC Start-Up Cost in a RUC Commitment Period:

- (a) The RUC Start-Up Cost for a RUC Commitment Period is zero if there is an IFM Commitment Period within that RUC Commitment Period.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (b) The RUC Start-Up Cost for a RUC Commitment Period is zero if the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract prior to the Day-Ahead Market or is flagged as an RMR Dispatch in the Day-Ahead Schedule anywhere within that RUC Commitment Period.
- (c) The RUC Start-Up Cost for a RUC Commitment Period is zero if there is no RUC Start-Up at the start of that RUC Commitment Period because the RUC Commitment Period is the continuation of an IFM, RUC, or RTM Commitment Period from the previous Trading Day.
- (d) The RUC Start-Up Cost for a RUC Commitment Period is zero if the Start-Up is delayed beyond the RUC Commitment Period in question or cancelled by the Real-Time Market prior to the Bid Cost Recovery Eligible Resource starting its start-up process.
- (e) If a RUC Start-Up is terminated in the Real-Time within the applicable RUC Commitment Period through an Exceptional Dispatch Shut-Down Instruction issued while the Bid Cost Recovery Eligible Resource is starting up the, RUC Start-Up Cost is prorated by the ratio of the Start-Up Time before termination over the RUC Start-Up Time.
- (f) The RUC Start-Up Cost for a RUC Commitment Period is qualified if an actual Start-Up occurs within that RUC Commitment Period. An actual Start-Up is detected between two consecutive Settlement Intervals when the relevant metered Energy in the applicable Settlement Intervals increases from below the Minimum Load Energy and reaches or exceeds the relevant Minimum Load Energy. The Minimum Load Energy is the product of the relevant Minimum Load and the duration of the Settlement Interval. The CAISO will determine the Minimum Load Energy for Multi-Stage Generating Resources based on the CAISO-committed MSG Configuration.
- (g) The RUC Start-Up Cost shall be qualified if an actual Start-Up occurs earlier than the start of the RUC Start-Up, if the relevant Start-Up is still within the same



California Independent System Operator Corporation  
Fifth Replacement Tariff

Trading Day and the Bid Cost Recovery Eligible Resource actually stays on until the RUC Start-Up, otherwise the Start-Up Cost is zero for the RUC Commitment Period.

**11.8.3.1.2 RUC Minimum Load Cost**

The Minimum Load Cost for the applicable Settlement Interval shall be the Minimum Load Cost of the Bid Cost Recovery Eligible Resource divided by the number of Settlement Intervals in a Trading Hour. For each Settlement Interval, only the RUC Minimum Load Cost in a CAISO RUC Commitment Period is eligible for Bid Cost Recovery. The RUC Minimum Load Cost for any Settlement Interval is zero if: (1) the Bid Cost Recovery Eligible Resource is manually pre-dispatched under an RMR Contract or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule in that Settlement Interval; (2) the Bid Cost Recovery Eligible Resource is not actually On in the applicable Settlement Interval; or (3) the applicable Settlement Interval is included in an IFM Commitment Period. For the purposes of determining RUC Minimum Load Cost, a Bid Cost Recovery Eligible Resource, except for a Multi-Stage Generating Resource, is assumed to be On if its metered Energy in a Settlement Interval is equal to or greater than the difference between its Minimum Load Energy and the Tolerance Band. Otherwise, such non-Multi-Stage Generating Resources are determined to be Off. For Multi-Stage Generating Resources, the commitment period is determined based on application of section 11.8.1.3. If application of section 11.8.1.3 dictates that RUC is the commitment period, then the calculation of the RUC Minimum Load Costs will depend on whether the metered MSG Configuration is equal to or different from the RUC committed MSG Configuration. If the metered MSG Configuration is equal to the RUC committed MSG Configuration, then the RUC Minimum Load Costs will be based on the Minimum Load Costs of the RUC committed MSG Configuration. If the metered MSG Configuration is different from the RUC committed MSG Configuration, then the RUC Minimum Load Costs will be based on the lower of the Minimum Load Costs of the metered MSG Configuration and the Minimum Load Costs of the RUC committed MSG Configuration. The metered MSG Configuration is determined based on the highest MSG Configuration submitted to the RUC for which the Metered Data is within or above the three (3) percent (or 5 MW) Tolerance Band of the PMin of that highest MSG Configuration submitted to the RUC. Between two (2)

California Independent System Operator Corporation  
Fifth Replacement Tariff

(or more) MSG Configurations, the highest MSG Configuration is the MSG Configuration with the PMin value that is the greatest MW value.

**11.8.3.1.3 RUC Availability Bid Cost**

The RUC Availability Bid Cost is calculated as the product of the RUC Award with the relevant RUC Availability Bid price, divided by the number of Settlement Intervals in a Trading Hour. The RUC Availability Bid Cost for a Bid Cost Recovery Eligible Resource for a Settlement Interval is zero if the Bid Cost Recovery Eligible Resource is operating below its RUC Schedule, and also has a negative Uninstructed Imbalance Energy (UIE) magnitude in that Settlement Interval in excess of: (1) five (5) MWh divided by the number of Settlement Intervals in the Trading Hour; or (2) three percent (3%) of its maximum capacity divided by the number of Settlement Intervals in a Trading Hour. The CAISO will determine the RUC Availability Bid Cost based on the Multi-Stage Generating Resource Generating Unit level.

**11.8.3.1.4 RUC Transition Cost**

For each Settlement Interval, the RUC Transition Costs shall be based on the MSG Configuration to which the Multi-Stage Generating Resource is transitioning and is allocated to the CAISO commitment period of that MSG Configuration.

**11.8.3.1.4.1 RUC Transition Costs Applicability**

Within any eligible RUC CAISO Commitment Period determined pursuant to the rules specified in Section 11.8.1.3, the CAISO shall apply the RUC Transition Costs for the Settlement Intervals in which the Multi-Stage Generating Resources reaches the Minimum Load of the MSG Configuration to which the Multi-Stage Generating Resource is transitioning, subject to the Tolerance Band.

**11.8.3.2 RUC Market Revenues**

For any Settlement Interval, the RUC Market Revenue for a Bid Cost Recovery Eligible Resource is the RUC Availability Payment as specified in Section 11.2.2.1 divided by the number of Settlement Intervals in a Trading Hour. If the RUC Availability Bid Cost of a BCR Eligible Resource is reduced to zero (0) in a Settlement Interval because of Uninstructed Deviation as stated in Section 11.8.3.1.3, then the RUC Market Revenue for that resource for that Settlement Interval shall also be set to zero (0) since the resource is subject to rescission of RUC Availability Payments as specified in Section 31.5.7. The CAISO

California Independent System Operator Corporation  
Fifth Replacement Tariff

will determine the RUC Market Revenues for Multi-Stage Generating Resources based on the Generating Unit or Dynamic Resource-Specific System Resource level.

**11.8.3.3 RUC Bid Cost Recovery for Metered Subsystem**

**11.8.3.3.1 MSS Elected Gross Settlement**

For an MSS Operator that has elected gross Settlement, regardless of other MSS optional elections (Load following or RUC opt-in or out), the RUC Bid Cost and the RUC Market Revenue are calculated similarly to non-MSS resources on an individual resource basis as described in Sections 11.8.3.1 and 11.8.3.2, respectively.

**11.8.3.3.2 MSS Elected Net Settlement**

For an MSS Operator that has elected net Settlement, regardless of other MSS optional elections (Load following or RUC opt-in or out), the RUC Bid Costs and RUC Market Revenue are calculated on an MSS level, consistent with the Energy Settlement. The RUC Bid Cost Shortfall or Surplus is also settled at the MSS level as opposed to the individual resource level as is done for MSS Operators that have elected gross Settlement.

**11.8.4 RTM Bid Cost Recovery Amount**

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

**11.8.4.1 RTM Bid Cost Calculation**

For each Settlement Interval, the CAISO shall calculate RTM Bid Cost for each Bid Cost Recovery Eligible Resource, as the algebraic sum of the RTM Start-Up Cost, RTM Minimum Load Cost, RTM Transition Cost, RTM Pump Shut-Down Cost, RTM Energy Bid Cost, RTM Pumping Cost and RTM AS

California Independent System Operator Corporation  
Fifth Replacement Tariff

Bid Cost. For Multi-Stage Generating Resources, in addition to the specific RTM Bid Cost rules described in Section 11.8.4.1, the rules described in Section 11.8.1.3 will be applied to further determine the applicable MSG Configuration-based CAISO Market Start-Up Cost, Transition Cost, and Minimum Load Cost in given Settlement Interval. For Multi-Stage Generating Resources, the incremental RTM Start-Up Cost, Minimum Load Cost, and Transition Cost to provide RTM committed Energy or awarded Ancillary Services capacity for an MSG Configuration other than the self-scheduled MSG Configuration are determined by the RTM optimization rules in specified in Section 34.

**11.8.4.1.1 RTM Start-Up Cost**

For each Settlement Interval of the applicable Real-Time Market Commitment Period, the Real-Time Market Start-Up Cost shall consist of the Start-Up Cost of the Bid Cost Recovery Eligible Resource submitted to the CAISO for the Real-Time Market divided by the number of Settlement Intervals in the applicable Real-Time Market Commitment Period. For each Settlement Interval, only the Real-Time Market Start-Up Cost in a CAISO Real-Time Market Commitment Period is eligible for Bid Cost Recovery. The CAISO will determine the RTM Start-Up Cost for a Multi-Stage Generating Resource based on the MSG Configuration committed by the CAISO in RTM. The following rules shall be applied in sequence and shall qualify the Real-Time Market Start-Up Cost in a Real-Time Market Commitment Period:

- (a) The Real-Time Market Start-Up Cost is zero if there is a Real-Time Market Self-Commitment Period within the Real-Time Market Commitment Period.
- (b) The Real-Time Market Start-Up Cost is zero if the Bid Cost Recovery Eligible Resource has been manually pre-dispatched under an RMR Contract or the resource is flagged as an RMR Dispatch in the Day-Ahead Schedule or Real-Time Market anywhere within that Real-Time Market Commitment Period.
- (c) The Real-Time Market Start-Up Cost is zero if the Bid Cost Recovery Eligible Resource is started within the Real-Time Market Commitment Period pursuant to an Exceptional Dispatch issued in accordance with Section 34.9.2 to (1) perform Ancillary Services testing; (2) perform pre-commercial operation testing for Generating Units; or (3) perform PMax testing.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (d) The Real-Time Market Start-Up Cost is zero if there is no Real-Time Market Start-Up at the start of that Real-Time Market Commitment Period because the Real-Time Market Commitment Period is the continuation of an IFM or RUC Commitment Period from the previous Trading Day.
- (e) If a Real-Time Market Start-Up is terminated in the Real-Time within the applicable Real-Time Market Commitment Period through an Exceptional Dispatch Shut-Down Instruction issued while the Bid Cost Recovery Eligible Resource is starting up the Real-Time Market Start-Up Cost is prorated by the ratio of the Start-Up Time before termination over the Real-Time Market Start-Up Time.
- (f) The Real-Time Market Start-Up Cost shall be qualified if an actual Start-Up occurs within that Real-Time Market Commitment Period. An actual Start-Up is detected between two consecutive Settlement Intervals when the relevant metered Energy in the applicable Settlement Intervals increases from below the Minimum Load Energy and reaches or exceeds the relevant Minimum Load Energy. The Minimum Load Energy is the product of the relevant Minimum Load and the duration of the Settlement Interval. The CAISO will determine the Minimum Load Energy for Multi-Stage Generating Resources based on the CAISO-committed MSG Configuration.
- (g) The Real-Time Market Start-Up Cost for a Real-Time Market Commitment Period shall be qualified if an actual Start-Up occurs earlier than the start of the Real-Time Market Start-Up, if the relevant Start-Up is still within the same Trading Day and the Bid Cost Recovery Eligible Resource actually stays on until the Real-Time Market Start-Up, otherwise the Start-Up Cost is zero for the RUC Commitment Period.

**11.8.4.1.2 RTM Minimum Load Cost**

The RTM Minimum Load Cost is the Minimum Load Cost of the Bid Cost Recovery Eligible Resource submitted to the CAISO for the Real-Time Market divided by the number of Settlement Intervals in a

California Independent System Operator Corporation  
Fifth Replacement Tariff

Trading Hour. For each Settlement Interval, only the RTM Minimum Load Cost in a CAISO RTM Commitment Period is eligible for Bid Cost Recovery. The RTM Minimum Load Cost for any Settlement Interval is zero if: (1) the Settlement Interval is included in a RTM Self-Commitment Period for the Bid Cost Recovery Eligible Resource; (2) the Bid Cost Recovery Eligible Resource has been manually dispatched under an RMR Contract or the resource has been flagged as an RMR Dispatch in the Day-Ahead Schedule or the Real-Time Market in that Settlement Interval; (3) the Bid Cost Recovery Eligible Resource is not actually On in that Settlement Interval; (4) for all resources that are not Multi-Stage Generating Resources, that Settlement Interval is included in an IFM or RUC Commitment Period; or (5) the Bid Cost Recovery Eligible Resource is committed pursuant to Section 34.9.2 for the purpose of performing Ancillary Services testing, pre-commercial operation testing for Generating Units, or PMax testing. For the purposes of RTM Minimum Load Cost, a Bid Cost Recovery Eligible Resource, other than a Multi-Stage Generating Resource, is determined to not actually be On if the metered Energy in that Settlement Interval is less than the Tolerance Band referenced by the Minimum Load Energy. . For Multi-Stage Generating Resources, the commitment period is determined based on application of section 11.8.1.3. If application of section 11.8.1.3 dictates that the RTM is the commitment period, then the calculation of the RTM Minimum Load Costs will depend on whether the metered MSG Configuration is equal to or different from the RTM committed MSG Configuration. If the metered MSG Configuration is equal to the RTM committed MSG Configuration, then the RTM Minimum Load Costs will be based on the Minimum Load Costs of the RTM committed MSG Configuration. If the metered MSG Configuration is different from the RTM committed MSG Configuration, then the RTM Minimum Load Costs will be based on the lower of the Minimum Load Costs of the metered MSG Configuration and the Minimum Load Costs of the RTM Committed configuration. The metered MSG Configuration is determined based on the highest MSG Configuration submitted to the Real-Time Market for which the Metered Data is within or above the three (3) percent (or 5 MW) Tolerance Band of the PMin of that highest MSG Configuration submitted to the Real-Time Market. Between two (2) (or more) MSG Configurations, the highest MSG Configuration is the MSG Configuration with the PMin value that is the greatest MW value. For Settlement Intervals that contain two (2) Dispatch Intervals with two (2) different MSG Configurations, the

California Independent System Operator Corporation  
Fifth Replacement Tariff

CAISO will determine the Transition Costs, and Minimum Load Costs based on the sum of the two (2) applicable Dispatch Intervals.

**11.8.4.1.3 RTM Pump Shut-Down Cost**

The RTM Pump Shut-Down Cost for each Settlement Interval is the relevant Pump Shut-Down Cost submitted by the Scheduling Coordinator only for Pumped-Storage Hydro Units and Participating Load, divided by the number of Settlement Intervals in which such resource was committed by the Real-Time Market in a Trading Hour with scheduled pumping operation and in which an actual Shut-Down occurs and the resource does not actually operate in pumping mode or serve Load in that Settlement Interval (as detected through Meter Data). The RTM Pump Shut-Down Cost for a Real-Time Market Shut-Down event shall be zero if: (1) it is followed by a RTM Self-Commitment Period in generation mode or offline mode; or (2) the Shut-Down is due to an Outage reported through SLIC.

**11.8.4.1.4 RTM Pumping Bid Cost**

For Pumped-Storage Hydro Units and Participating Load only, the RTM Pumping Bid Cost for the applicable Settlement Interval shall be the Pumping Cost submitted to the CAISO in the HASP or RTM divided by the number of Settlement Intervals in a Trading Hour. The Pumping Cost is negative since it represents the amount the entity is willing to pay to pump or serve Load. The Pumping Cost is included in RTM Bid Cost computation for a Pumped-Storage Hydro Unit and Participating Load committed by the Real-Time Market to pump or serve Load, if it actually operates in pumping mode or serves Load in that Settlement Interval. The RTM Energy Bid Cost for a Participating Load for any Settlement Interval is set to zero for any Energy consumed in excess of instructed Energy. The RTM Pumping Bid Cost for any Settlement Interval is zero if: (1) the Settlement Interval is included in a RTM Self-Commitment Period for the Bid Cost Recovery Eligible Resource; (2) the Bid Cost Recovery Eligible Resource has been manually dispatched under an RMR Contract or the resource has been flagged as an RMR Dispatch in the Day-Ahead Schedule or the Real-Time Market in that Settlement Interval; (3) the Bid Cost Recovery Eligible Resource is not actually in pumping mode in that Settlement Interval; (4) that Settlement Interval is included in an IFM or RUC Commitment Period; or (5) the Bid Cost Recovery Eligible Resource is committed pursuant to Section 34.9.2 for the purpose of performing Ancillary Services testing or pre-commercial operation testing.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.8.4.1.5 RTM Energy Bid Cost**

For any Settlement Interval, the RTM Energy Bid Cost for the Bid Cost Recovery Eligible Resource except Participating Loads shall be computed as the sum of the products of each Instructed Imbalance Energy (IIE) portion, except Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, Derate Energy, MSS Load Following Energy, Ramping Energy Deviation and Regulating Energy, with the relevant Energy Bid prices, if any, for each Dispatch Interval in the Settlement Interval. The RTM Energy Bid Cost for a Bid Cost Recovery Eligible Resource except Participating Loads for a Settlement Interval is set to zero for any undelivered Real-Time Instructed Imbalance Energy by the Bid Cost Recovery Eligible Resource. Any Uninstructed Imbalance Energy in excess of Instructed Imbalance Energy is also not eligible for Bid Cost Recovery. The delivered Real-Time Instructed Imbalance Energy for this calculation are determined using the Real-Time Metered Energy Adjustment Factor. For a Multi-Stage Generating Resource the CAISO will determine the RTM Energy Bid Cost based on the Generating Unit or Dynamic Resource-Specific System Resource level.

**11.8.4.1.6 RTM AS Bid Cost**

For each Settlement Interval, the Real-Time Market AS Bid Cost shall be the product of the average Real-Time Market AS Award from each accepted AS Bid submitted in the Settlement Interval for the Real-Time Market, reduced by any relevant tier-1 No Pay capacity in that Settlement Interval (but not below zero), with the relevant AS Bid price. The average Real-Time Market AS Award for a given AS in a Settlement Interval is the sum of the 15-minute Real-Time Market AS Awards in that Settlement Interval, each divided by the number of 15-minute Commitment Intervals in a Trading Hour and prorated to the duration of the Settlement Interval (10/15 if the Real-Time Market AS Award spans the entire Settlement Interval, or 5/15 if the Real-Time Market AS Award spans half the Settlement Interval). For a Multi-Stage Generating Resource the CAISO will determine the RTM AS Bid Cost based on the Generating Unit or Dynamic Resource-Specific System Resource level. The Real-Time Market AS Bid Cost shall also include Mileage Bid Costs. For each Settlement Interval, the Real-Time Mileage Bid Cost shall be the product of Instructed Mileage associated with a Real-Time Regulation capacity award, as adjusted for accuracy consistent with Section 11.10.1.7, and the relevant Mileage Bid price divided by the number of Settlement Intervals for the Real-Time Market in a Trading Hour. The CAISO will determine and calculate



California Independent System Operator Corporation  
Fifth Replacement Tariff

the Real Time Market Mileage Bid Cost for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level.

**11.8.4.1.7 RTM Transition Cost**

For each Settlement Interval, the RTM Transition Costs shall be based on the MSG Configuration to which the Multi-Stage Generating Resource is transitioning and is allocated to the CAISO commitment period of that MSG Configuration.

**11.8.4.2 RTM Market Revenue Calculations**

**11.8.4.2.1** For each Settlement Interval in a CAISO Real-Time Market Commitment Period, the RTM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of the elements listed below in this Section. For Multi-Stage Generating Resources the RTM Market Revenue calculations will be made at the Generating Unit or Dynamic Resource-Specific System Resource level.

- (a) The sum of the products of the Instructed Imbalance Energy (where for Pumped-Storage Hydro Units and Participating Load operating in the pumping mode or serving Load, the MWh is negative), except Standard Ramping Energy, Residual Imbalance Energy, Exceptional Dispatch Energy, Derate Energy, MSS Load following Energy, Ramping Energy Deviation and Regulation Energy, with the relevant Real-Time Market LMP, for each Dispatch Interval in the Settlement Interval. The Instructed Imbalance Energy for this calculation is subject to the Real-Time Metered Energy Adjustment Factor to capture metered energy.
- (b) The product of the delivered MWh at or below the resource's Minimum Load submitted to the Real-Time Market (including Energy from Minimum Load of Bid Cost Recovery Eligible Resources committed in RUC) and the relevant Real-Time Market LMP, for each Dispatch Interval in the Settlement Interval, The delivered portions of the resource's Minimum Load in this case is determined based on the CAISO's determination that the resource was "On" for the applicable Trading Hour as described in Section 11.8.4.1.2; and
- (c) The product of the Real-Time Market AS Award from each accepted Real-Time Market AS Bid in the Settlement Interval with the relevant ASMP, divided by the number of fifteen

California Independent System Operator Corporation  
Fifth Replacement Tariff

(15)-minute Commitment Intervals in a Trading Hour (4), and prorated to the duration of the Settlement Interval.

- (d) The relevant tier-1 No Pay charges for that Bid Cost Recovery Eligible Resource in that Settlement Interval.

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

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

**11.8.4.3 RTM Bid Cost Recovery for Metered Subsystems**

In addition to the exclusions to actual Energy delivered as provided in Section 11.8.4, for MSS resources, the Energy subject to RTM Bid Cost Recovery also excludes Minimum Load Energy if the resource is not committed by the CAISO in the Real-Time. As provided below, the RTM Bid Cost Recovery for MSS Operators differs based on whether the MSS Operator has elected gross or net Settlement; except that the calculation of the RTM Bid Costs and RTM Market Revenues for Ancillary Services will be as provided in Sections 11.8.4.1.6 and 11.8.4.2 and does not vary on the basis of the MSS's election of gross or net Settlement.

**11.8.4.3.1 MSS Elected Gross Settlement**

California Independent System Operator Corporation  
Fifth Replacement Tariff

For an MSS Operator that has elected gross Settlement, regardless of other MSS optional elections (Load following or RUC opt-in or out), the RTM Bid Cost and RTM Market Revenue of the Real-Time delivered Instructed Imbalance Energy subject to Bid Cost Recovery is determined for each resource identically to the non-MSS resource following the general principles in Section 11.8.4. The RTM Bid Cost Shortfall or Surplus for Energy and Ancillary Services in total is determined for each Trading Hour of the RTM over the Trading Day by taking the algebraic difference between the RTM Bid Cost and RTM Market Revenue.

**11.8.4.3.2 MSS Elected Net Settlement**

For MSS entities that have elected net Settlement regardless of other MSS optional elections (i.e., Load following or not, or RUC opt-in or out), unlike non-MSS resources, the RTM Bid Cost Shortfall or Surplus is treated at the MSS level and not at the resource specific level, and is calculated as the RTM Bid Cost Shortfall or Surplus of all BCR Eligible Resources within the MSS. In calculating the Energy RTM Market Revenue for all the resources within the MSS as provided in Section 11.8.4.2, the CAISO will use the Real-Time Settlement Interval MSS Price. The RTM Bid Cost Shortfall and Surplus for Energy and Ancillary Services are first calculated separately for the MSS for each Settlement Interval of the Trading Day, with qualified Start-Up Cost and qualified Minimum Load Cost included into the RTM Bid Cost Shortfalls and Surpluses of Energy calculation. The RTM Bid Cost Shortfall or Surplus for Energy for each Settlement Interval is pro-rated by the ratio of the net positive metered Generation to the gross metered Generation of the MSS for that interval. If the MSS metered CAISO Demand is in excess of the MSS Generation in a given Settlement Interval, the CAISO will set the pro-rating ratio for that Settlement Interval to zero. The MSS's overall IFM Bid Cost Shortfall or Surplus is then calculated as the algebraic sum of the pro-rated RTM Bid Cost Shortfalls and Surpluses for Energy and the RTM Bid Cost Shortfalls and Surpluses for AS for each Settlement Interval.

**11.8.5 Unrecovered Bid Cost Uplift Payment**

Scheduling Coordinators shall receive an Unrecovered Bid Cost Uplift Payment for a Bid Cost Recovery Eligible Resource, including resources for MSS Operators that have elected gross Settlement, if the net of all IFM Bid Cost Shortfalls and IFM Bid Cost Surpluses calculated pursuant to Section 11.8.2, RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses calculated pursuant to Section 11.8.3, and the RTM Bid

California Independent System Operator Corporation  
Fifth Replacement Tariff

Cost Shortfalls and RTM Bid Cost Surpluses calculated pursuant to Section 11.8.4 for that Bid Cost Recovery Eligible Resource over a Trading Day is positive. For Multi-Stage Generating Resources, Unrecovered Bid Cost Uplift Payments will be calculated and made at the Generating Unit level or Dynamic Resource-Specific System Resource and not the MSG Configuration level. For MSS Operators that have elected net Settlement, the Unrecovered Bid Cost Uplift Payment is at the MSS level. The MSS IFM, RUC, and RTM Bid Cost Shortfall or IFM, RUC, and RTM Bid Cost Surplus for each market for each Trading Hour is the sum of the IFM, RUC, and RTM Bid Cost Shortfalls and IFM, RUC, and RTM Bid Cost Surpluses for all resources in the MSS. Scheduling Coordinators for MSS Operators that have elected net Settlement will receive an Unrecovered Bid Cost Uplift Payment if the net of all IFM, RUC, and RTM Bid Cost Shortfalls and IFM, RUC, and RTM Bid Cost Surpluses for that MSS over a Trading Day is positive.

**11.8.6 System-Wide IFM, RUC And RTM Bid Cost Uplift Allocation**

**11.8.6.1 Determination of IFM, RUC and RTM Bid Cost Uplift**

For each Settlement Interval, the CAISO shall determine the IFM, RUC and RTM Bid Cost Uplift for purposes of allocating the IFM, RUC and RTM Bid Cost Uplift as described below. In determining the IFM, RUC and RTM Bid Cost Uplifts below, the Unrecovered Bid Cost Uplift Payments for MSS BCR Eligible Resources in Metered Subsystems where the MSS Operator has elected net Settlement will be included on an MSS basis and not on an individual resource basis.

- (i) The IFM Bid Cost Uplift shall be the net of the IFM Bid Cost Shortfalls and IFM Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources with Unrecovered Bid Cost Uplift Payments.
- (ii) The RUC Bid Cost Uplift shall be the net of the RUC Bid Cost Shortfalls and RUC Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources in the CAISO Balancing Authority Area with Unrecovered Bid Cost Uplift Payments.
- (iii) The RTM Bid Cost Uplift shall be the net of the RTM Bid Cost Shortfalls and RTM Bid Cost Surpluses for a Settlement Interval of all Bid Cost Recovery Eligible Resources with Unrecovered Bid Cost Uplift Payments.

**11.8.6.2 Sequential Netting of IFM, RUC and RTM Bid Cost Uplift**

For each Settlement Interval, the Net IFM, RUC or Real-Time Market Bid Cost Uplift is determined for the purposes of allocating Net IFM, RUC or Real-Time Market Bid Cost Uplift by the following netting rules applied sequentially:

- (i) The Net IFM Bid Cost Uplift, if positive, is reduced to the greater of zero or any positive IFM Bid Cost Uplift offset by negative Real-Time Market Bid Cost Uplift first and offset by any negative RUC Bid Cost Uplift.
- (ii) The Net RUC Bid Cost Uplift is equal to the greater of zero or any positive RUC Bid Cost Uplift offset by any remaining negative Real-Time Market Bid Cost Uplift after netting negative Real-Time Market Bid Cost Uplift in (i) and offset by any negative IFM Bid Cost Uplift.
- (iii) The Net Real-Time Market Bid Cost Uplift is equal to the greater of zero or any positive Real-Time Market Bid Cost Uplift offset by any remaining negative RUC Bid Cost Uplift after netting negative RUC Bid Cost Uplift in (i) above and any remaining negative IFM Bid Cost Uplift after netting negative IFM Bid Cost Uplift in (ii).

**11.8.6.3 Determination of Total Positive CAISO Markets Uplifts**

Any negative IFM, RUC or Real-Time Market Bid Cost Uplifts are set to \$0 and any positive Net IFM Bid Cost Uplifts, RUC Bid Cost Uplifts, or Real-Time Market Bid Cost Uplifts are further reduced by the uplift ratio in Section 11.8.6.3(iii) to determine the Total CAISO Markets Uplift as follows;

- (i) The Total CAISO Markets Uplift is determined as the sum of the Net IFM Bid Cost Uplift, the Net RUC Bid Cost Uplift, and the Net Real-Time Market Bid Cost Uplift, for all Settlement Intervals in the IFM, RUC and Real-Time Market.
- (ii) The Total Positive CAISO Market Uplift, is determined as the sum of the positive IFM Bid Cost Uplift, positive RUC Bid Cost Uplift and positive Real-Time Market Bid Cost Uplift, for all Settlement Intervals in the IFM, RUC and Real-Time Market.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (iii) The uplift ratio is equal to the Total CAISO Markets Uplift divided by the Total Positive CAISO Market Uplift.

**11.8.6.4 Allocation of Net IFM Bid Cost Uplift**

For each Trading Hour of the IFM the hourly Net IFM Bid Cost Uplift is determined as the sum over the Settlement Intervals in that Trading Hour of the product of any positive Net IFM Bid Cost Uplift remaining in the Settlement Interval after the sequential netting in Section 11.8.6.2 and the application of the uplift ratio as determined in Section 11.8.6.3.

**11.8.6.4.1 Allocation in the First Tier**

The hourly Net IFM Bid Cost Uplift is allocated in the first tier as follows:

- (i) The hourly amount of Net IFM Bid Cost Uplift allocated to each Scheduling Coordinator is equal to the product of the IFM Bid Cost Uplift rate and the IFM uplift obligation for the Scheduling Coordinator.
- (ii) The IFM Bid Cost Uplift rate is equal to the Net IFM Bid Cost Uplift divided by the sum of the positive IFM Load Uplift Obligations for all Scheduling Coordinators and the IFM system-wide Virtual Demand Award uplift obligation, subject to the condition that the IFM Bid Cost Uplift rate cannot exceed the ratio of the hourly Net IFM Bid Cost Uplift for the Trading Hour divided by the maximum of (a) the sum of all hourly IFM Load Uplift Obligations for all Scheduling Coordinators in that Trading Hour or (b) the sum of all hourly Generation scheduled in the Day-Ahead Schedule and IFM upward AS Awards for all Scheduling Coordinators from CAISO-committed Bid Cost Recovery Eligible Resources in that Trading Hour.
- (iii) The IFM uplift obligation for each Scheduling Coordinator is equal to the sum of the IFM Load Uplift Obligation for the Scheduling Coordinator and any IFM Virtual Demand Award uplift obligation for the Scheduling Coordinator.
- (iv) The IFM Load Uplift Obligation for each Scheduling Coordinator, including Scheduling Coordinators for Metered Subsystems regardless of their MSS optional elections (net/gross Settlement, Load following, RUC opt-in/out), is equal

California Independent System Operator Corporation  
Fifth Replacement Tariff

to the positive difference between the total Demand scheduled in the Day-Ahead Schedule of that Scheduling Coordinator and the sum of scheduled Generation and scheduled imports from the Self-Schedules in the Day-Ahead Schedule of that Scheduling Coordinator, adjusted by any applicable Inter-SC Trades of IFM Load Uplift Obligations.

- (v) The IFM system-wide Virtual Demand Award uplift obligation is calculated for each hour in the IFM and is equal to maximum of zero (0) or the following quantity: the total system-wide Virtual Demand Awards from the IFM minus the total system-wide Virtual Supply Awards from the IFM, plus the minimum of zero (0) or the following quantity: the total amount of Scheduled Demand (which excludes Virtual Demand Awards), minus Measured Demand.
- (vi) For each Scheduling Coordinator with positive net Virtual Demand Awards, the IFM Virtual Demand Award uplift obligation is equal to the product of (a) the positive net Virtual Demand Awards for the Scheduling Coordinator divided by the sum of each Scheduling Coordinator's positive net Virtual Demand Award and (b) the IFM system-wide Virtual Demand Award uplift obligation. For each Scheduling Coordinator with negative net Virtual Demand Awards, the IFM Virtual Demand Award uplift obligation is zero (0).

**11.8.6.4.2 Allocation in the Second Tier**

In the second tier, Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected both to not follow their Load and gross Settlement, will be charged for an amount equal to any remaining hourly Net IFM Bid Cost Uplift for the Trading Hour in proportion to the Scheduling Coordinator's Measured Demand. Scheduling Coordinators for MSS Operators that have elected to either follow their Load or net Settlement, or both, will be charged for an amount equal to any remaining hourly Net IFM Bid Cost Uplift for the Trading Hour in proportion to their MSS Aggregation Net Measured Demand.

**11.8.6.5 Allocation of RUC Compensation Costs**

**11.8.6.5.1 Calculation of RUC Compensation Costs**

California Independent System Operator Corporation  
Fifth Replacement Tariff

For each Trading Hour of the RUC, the CAISO shall calculate the RUC Compensation Costs as the sum of the RUC Availability Payment and the hourly Net RUC Bid Cost Uplift.

**11.8.6.5.2 Calculation of the Hourly Net RUC Bid Cost Uplift**

For each Trading Hour of the RUC, the hourly Net RUC Bid Cost Uplift is determined as the sum over the Settlement Intervals in that Trading Hour of the product of any positive Net RUC Bid Cost Uplift remaining in the Settlement Interval after the sequential netting in Section 11.8.6.2 and the application of the uplift ratio as determined in Section 11.8.6.3. Consistent with Section 31.5.2.2, Scheduling Coordinators for MSS Operators that have opted out of RUC participation, or opt-out of RUC by default as a result of having elected to Load follow, will not be subject to any RUC Bid Cost Uplift allocation. Scheduling Coordinators for MSS Operators that have opted-into RUC, and consequently also are non-Load following and under gross Settlement, will receive the allocation of hourly Net RUC Bid Cost Uplift like all other Scheduling Coordinators.

**11.8.6.5.3 Allocation of the RUC Compensation Costs**

**11.8.6.5.3.1 Allocation in the First Tier**

Hourly RUC Compensation Costs are allocated in the first tier as follows:

- (i) The amount of RUC Compensation Costs allocated to each Scheduling Coordinator is equal to the product of the RUC Bid Cost Uplift rate and the RUC obligation for the Scheduling Coordinator. Participating Load will not be subject to the first-tier allocation of RUC Compensation Costs to the extent that the Participating Load's Net Negative CAISO Demand Deviation in that Trading Hour is incurred pursuant to a CAISO directive to consume in a Dispatch Instruction.
- (ii) The RUC Bid Cost Uplift rate is equal to the lower of (a) the RUC Compensation Costs to meet Measured Demand divided by the sum of each Scheduling Coordinator's Net Negative CAISO Demand Deviation and any positive net system-wide Virtual Supply Awards in that Trading Hour, or (b) the RUC Compensation Cost divided by the total RUC Award, for all Scheduling Coordinators in that Trading Hour.
- (iii) The RUC obligation for each Scheduling Coordinator is equal to the sum of the Net Negative CAISO Demand Deviation for the Scheduling Coordinator in that Trading Hour



California Independent System Operator Corporation  
Fifth Replacement Tariff

and any RUC Bid Cost obligation for Virtual Supply Awards for the Scheduling Coordinator.

- (iv) The portion of the RUC Compensation Costs to meet Measured Demand are equal to the RUC Compensation Cost minus the excess load share, where the excess load share is equal to the product of (a) the RUC Compensation Cost divided by total RUC Capacity and (b) the maximum of zero (0) or the amount by which the CAISO Forecast of CAISO Demand exceeds Measured Demand.
- (v) For each Scheduling Coordinator with positive net Virtual Supply Awards, the RUC Bid Cost obligation for Virtual Supply Awards is equal to the product of (a) the positive net Virtual Supply Awards for the Scheduling Coordinator divided by the sum of each Scheduling Coordinator's positive net Virtual Supply Awards and (b) any positive net system-wide Virtual Supply Awards. For each Scheduling Coordinator with non-positive net Virtual Supply Awards, the RUC Bid Cost obligation for Virtual Supply Awards is zero (0).

**11.8.6.5.3.2 Allocation in the Second Tier**

In the second tier, the Scheduling Coordinator shall be charged an amount equal to any remaining RUC Compensation Costs in proportion to the Scheduling Coordinator's metered CAISO Demand in any Trading Hour, including any RUC Compensation Costs that were not recovered in the first tier pursuant to Section 11.8.6.5.3.1.

**11.8.6.6 Allocation of Net RTM Bid Cost Uplift**

The hourly Net RTM Bid Cost Uplift is computed for the Trading Hour as the product of the uplift ratio in Section 11.8.6.3 and the sum over all Settlement Intervals of the Trading Hour of any positive Net RTM Bid Cost Uplift after the sequential netting in Section 11.8.6.2. The hourly RTM Bid Cost Uplift is allocated to Scheduling Coordinators, including Scheduling Coordinators for MSS Operators that have elected (a) not to follow their Load, and (b) gross Settlement, in proportion to their Measured Demand plus any HASP reductions not associated with valid and balanced ETCs, TORs or Converted Rights Self-Schedules in the Day-Ahead Market for the Trading Hour. For Scheduling Coordinators for MSS Operators that have elected (a) not to follow their Load, and (b) net Settlement, the hourly RTM Bid Cost Uplift is allocated in

California Independent System Operator Corporation  
Fifth Replacement Tariff

proportion to their MSS Aggregation Net Measured Demand plus any HASP reductions not associated with valid and balanced ETCs, TORs or Converted Rights Self-Schedules in the Day-Ahead Market. For Scheduling Coordinators of MSS Operators that have elected to follow their Load, the RTM Bid Cost Uplift shall be allocated in proportion to their MSS Net Negative Uninstructed Deviation plus any HASP reductions not associated with valid and balanced ETCs, TORs or Converted Rights Self-Schedules in the Day-Ahead Market. Accordingly, each Scheduling Coordinator shall be charged an amount equal to its Measured Demand plus any HASP reductions not associated with valid and balanced ETCs, TORs or Converted Rights Self-Schedules in the Day-Ahead Market times the RTM Bid Cost Uplift rate, where the RTM Bid Cost Uplift rate is computed as the Net RTM Bid Cost Uplift amount divided by the sum of Measured Demand plus any HASP reductions not associated with valid and balanced ETCs, TORs or Converted Rights Self-Schedules in the Day-Ahead Market across all Scheduling Coordinators for the Trading Hour. Any real-time reductions after HASP results are published to HASP Intertie Schedules in response to Dispatch Instructions or real-time scheduling curtailments are not allocated any Net RTM Bid Cost Uplift.

**11.9 Inter-SC Trades**

**11.9.1 Physical Trades**

Inter-SC Trades of Energy in the Day-Ahead Market will be settled separately from Inter-SC Trades of Energy in the HASP. Both the Day-Ahead and HASP Inter-SC Trades of Energy will be settled on an hourly basis and the two respective Settlement amounts between the two parties for each market shall net to zero. All MWh quantities of Physical Trades submitted to the CAISO for Settlement in the Day-Ahead Market that are confirmed through the Physical Trade post market confirmation as provided in Section 28.1.6.3 shall be settled at the Day-Ahead LMP at the relevant PNode. All MWh quantities of Physical Trades that are reduced during the Physical Trade post market confirmation shall be settled at the relevant Existing Zone (EZ) Generation Trading Hub price. All MWh quantities of Physical Trades submitted to the CAISO for Settlement in the HASP that are confirmed through the Physical Trade post market confirmation pursuant to Section 28.6.1.3 shall be settled at the simple average of Dispatch Interval LMP at the relevant Pricing Node. All MWh quantities of Physical Trades submitted for

California Independent System Operator Corporation  
Fifth Replacement Tariff

Settlement in HASP that are reduced during the Physical Trade post market confirmation shall be settled at the relevant Real-Time price for the EZ Generation Trading Hub.

**11.9.2 Inter-SC Trades At Aggregated Pricing Nodes**

Inter-SC Trades of Energy at Aggregated Pricing Nodes in the Day-Ahead Market will be settled separately from Inter-SC Trades at Aggregated Pricing Nodes in the HASP. Both the Day-Ahead and HASP Inter-SC Trades at Aggregated Pricing Nodes will be settled on an hourly basis and the two respective Settlement amounts between the two parties for each market shall net to zero. All MWh quantities of Inter-SC Trades at Aggregated Pricing Nodes submitted to the CAISO for Settlement in the Day-Ahead Market shall be settled at the relevant Day-Ahead Aggregated Pricing Node price such as the Existing Zone (EZ) Generation Trading Hub price or LAP price. All MWh quantities of Inter-SC Trades at Aggregated Pricing Nodes submitted to the CAISO for Settlement in the HASP shall be settled at the relevant Real-Time Aggregated Pricing Node price.

**11.10 Settlements For Ancillary Services**

**11.10.1 Settlements For Contracted Ancillary Services**

The CAISO shall operate a daily Settlement function for Ancillary Services it contracts for with Scheduling Coordinators. The Scheduling Coordinators supplying Ancillary Services will be paid based on the prices and quantities determined in accordance with this Section 11.10.

**11.10.1.1 Ancillary Services in DAM**

Payments to Scheduling Coordinators with AS Awards shall be equal to the ASMP calculated as provided in Section 27.1.2 for each Ancillary Service for the applicable trading hour in which the capacity is procured multiplied by the quantity of the capacity awarded for the Ancillary Service in each of the Ancillary Service Regions for the applicable trading hour in which the capacity is procured. Suppliers with Self-Provided Ancillary Services are not eligible to receive payment for Ancillary Service Awards based on ASMPs; Self-Provided Ancillary Services are compensated at the user rate for the service being self-provided as described in Sections 11.10.2, 11.10.3 and 11.10.4.

**11.10.1.1.1 Congestion Charges for Day-Ahead Intertie Ancillary Service Awards**

Suppliers of Day-Ahead Ancillary Services Awards and qualified Self-Provided Ancillary Services over the Interties, including Pseudo-Ties of Generating Units to the CAISO Balancing Authority Area, also are

California Independent System Operator Corporation  
Fifth Replacement Tariff

charged for Congestion if the Ancillary Service Award or the qualified Self-Provided Ancillary Service is at a congested Scheduling Point. The charge shall be equal to the Shadow Price of the applicable congested Scheduling Point multiplied by the quantity of the Ancillary Service Award or the capacity of the qualified Self-Provided Ancillary Service for the Settlement Period; provided, however, that no such charge for Congestion will apply to any qualified Self-Provided Ancillary Service that is within the entitlement of an Existing Right, Converted Right or Transmission Ownership Right.

**11.10.1.2 Ancillary Services Provided in HASP**

The HASP optimization establishes Ancillary Services Awards and prices for Ancillary Services provided from Non-Dynamic System Resources in the HASP. The CAISO pays Scheduling Coordinators that supply Ancillary Services from Non-Dynamic System Resources an amount equal to the product of the simple average of the ASMPs computed for four (4) fifteen (15) minute intervals of HASP for each Ancillary Service as described in Section 27.1.2, and the quantity of the capacity awarded for the Ancillary Service in the Settlement Period. The CAISO charges Scheduling Coordinators that receive an Ancillary Service Award or have qualified Self-Provided Ancillary Services at a Scheduling Point in HASP the simple average of the fifteen (15) minute Marginal Cost of Congestion over the applicable Trading Hour as described in Section 11.10.1.2.1.

**11.10.1.2.1 Congestion Charges**

If a Scheduling Coordinator, including a Scheduling Coordinator for a Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area, receives an Ancillary Services Award or provides a qualified Self-Provided Ancillary Service at a congested Scheduling Point, the CAISO will charge the Scheduling Coordinator for Congestion. The charge for Congestion at such locations is equal to the simple average of the fifteen (15) minute applicable intertie constraint Shadow Price over the applicable Trading Hour at the location of the Ancillary Service Award, multiplied by the quantity of Ancillary Services Award or the capacity of the qualified Self-Provided Ancillary Service for the Settlement Period. No such charge for Congestion will apply when Scheduling Coordinator's HASP Ancillary Services Awards and qualified Self-Provided Ancillary Services at Scheduling Points are provided pursuant to the CAISO Tariff rules that apply to Existing Rights and Transmission Ownership Rights.

**11.10.1.3 Ancillary Services Provided in Real-Time**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Suppliers of Ancillary Services from resources awarded in RTUC are paid a price equal to one-quarter of the fifteen (15) minute ASMP (in \$/MW/h) in each fifteen (15) minute interval of the applicable Trading Hour in which the capacity is procured for each Ancillary Service times the amount of the capacity awarded (MW) for the Ancillary Service in the relevant Ancillary Services Region for the applicable trading hour in which the capacity is procured. For each Ancillary Service, the ASMP is calculated as set forth in Section 27.1.2. Suppliers of Self-Provided Ancillary Services in the Real-Time Market are not eligible to receive payment using the ASMP; rather to the extent the self-provision is qualified it will be valued at the user rate for the relevant service (i.e., will either reduce the Ancillary Services Obligation or receive the user rate if it exceeds the Scheduling Coordinator's Ancillary Service Obligation) as described in Sections 11.10.2, 11.10.3 and 11.10.4.

**11.10.1.3.1 Congestion Charges for Real-Time Intertie Ancillary Service Awards from Dynamic System Resources and Pseudo-Ties**

For each Settlement Period, the suppliers of Real-Time Ancillary Services Awards, Ancillary Services from Pseudo-Ties of Generating Units to the CAISO Balancing Authority Area, or qualified Self-Provided Ancillary Services at Scheduling Points for Dynamic System Resources shall be charged for Congestion and such charge shall be equal to the simple average of the fifteen (15) minute Shadow Prices at the applicable Scheduling Point for the applicable Trading Hour for the awarded or Self-Provided Ancillary Service multiplied by the quantity of the Ancillary Service Award for the capacity of the qualified Self-Provided Ancillary Service for the Settlement Period; provided, however, that no such charge for Congestion will apply to any qualified Self-Provided Ancillary Service that is within the entitlements of an Existing Right or Transmission Ownership Right.

**11.10.1.4 Voltage Support**

The total payments for each Scheduling Coordinator for Voltage Support in any Settlement Period shall be the sum of the opportunity costs of limiting Energy output to enable reactive energy production in response to a CAISO instruction. The opportunity cost shall be calculated based on the product of the Energy amount that would have cleared the market at the price of the Resource-Specific Settlement Interval LMP minus the higher of the Energy Bid price or the Default Energy Bid price.

If applicable, Scheduling Coordinators shall also receive any payments under any long-term contracts due for the Settlement Period. Exceptional Dispatches for incremental or decremental Energy needed for

California Independent System Operator Corporation  
Fifth Replacement Tariff

Voltage Support procured through Exceptional Dispatch pursuant to Section 34.9.2 will be paid and settled in accordance with Sections 11.5.6.1. RMR Units providing Voltage Support are compensated in accordance with the RMR Contract rather than this Section 11.10.1.4.

**11.10.1.5 Black Start**

The total payments for each Scheduling Coordinator for Black Start shall consist of any payments under any long-term contracts due for the Settlement Period. If the Energy price and Start-Up Costs are not specified in the long-term contract, the Black Start Energy will be paid as an Exceptional Dispatch in accordance with Section 11.5.6.1 and the resource will be entitled to Bid Cost Recovery. RMR Units providing Black Start are compensated in accordance with the RMR Contract rather than this Section 11.10.1.5.

**11.10.1.6 Inadvertent Interchange between Balancing Authority Areas**

The CAISO shall calculate imbalances between scheduled, instructed and actual quantities of Energy provided based upon Meter Data obtained pursuant to Section 10. Schedules between Balancing Authority Areas shall be deemed as being delivered in accordance with Good Utility Practice. Dynamic Schedules shall be integrated over time through the Operating Hour and the MWh quantity obtained by such integration shall be deemed to be the associated scheduled Interchange for that Operating Hour. The difference between actual and scheduled Interchange shall then be addressed in accordance with the WECC and NERC inadvertent Interchange practices and procedures. Following this practice, all Dynamic Schedules for Ancillary Services provided to the CAISO from Dynamic System Resources in other Balancing Authority Areas shall be deemed delivered to the CAISO. The difference between the Energy requested by the CAISO and that actually delivered by the other Balancing Authority Area shall then be accounted for and addressed through the WECC and NERC inadvertent Interchange practices and procedures.

**11.10.1.7 Regulation Performance Payments and Accuracy Adjustment**

Resources supplying Mileage from contracted or self-provided Regulation in the Day-Ahead Market are paid a Mileage clearing price for each MW of Instructed Mileage during the Settlement Period. If a resource is awarded incremental Regulation in the Real-Time Market, the Instructed Mileage shall be divided between the Day Ahead Market and Real Time Market, in proportion to the Day-Ahead and Real-

California Independent System Operator Corporation  
Fifth Replacement Tariff

Time Regulation Capacity awards. Instructed Mileage associated with a Day-Ahead Market award will be paid the Day-Ahead Mileage clearing price. Instructed Mileage associated with a Real-Time Market award will be paid the Real-Time Mileage clearing price. The CAISO will adjust a resource's Mileage payments based on the accuracy of the resource's response to CAISO EMS signals. To determine this accuracy adjustment, the CAISO will sum a resource's Automatic Generation Control set points for each four (4) second Regulation interval every fifteen (15) minutes and then sum the absolute value of the deviations from the Automatic Generation Control set point for each four (4) second regulation interval during that fifteen (15) minute period. The CAISO will divide the sum of the resource's Automatic Generation Control set points less the sum of the resource's total deviations by the sum of the resource's Automatic Generation Control set points. The CAISO will apply the resulting accuracy percentage to the resource's Regulation performance payments. In the event of lost accuracy data, the CAISO will use the simple average of the resource's previous ten (10) accuracy percentages for the periods of missing data for settlement purposes.

**11.10.2 Settlement For User Charges For Ancillary Services**

The CAISO shall determine a separate hourly user rate for Regulation Down Reserve, Regulation Up Reserve, Spinning Reserve, and Non-Spinning Reserve purchased for each Settlement Period. The hourly user rates for Regulation Down, Regulation Up, Spinning Reserve, and Non-Spinning Reserve include the cost incurred by the CAISO across the Day-Ahead Market, HASP, and the Real-Time Market to procure this service. In computing the user rate for each service the quantity (MW) and costs of any substituting Ancillary Service will be treated as if they are costs and MW associated with the Ancillary Service need they are being used to fulfill. Each rate will be charged to Scheduling Coordinators on a volumetric basis applied to each Scheduling Coordinator's obligation for the specific Ancillary Service concerned which it has not self-provided, as adjusted by any Inter-SC Trades of Ancillary Services. Each Scheduling Coordinator's obligation for Regulation Down Reserve, Regulation Up Reserve, Spinning Reserve, and Non-Spinning Reserve shall be calculated in accordance with this Section 11.10.2, notwithstanding any adjustment to the quantities of each Ancillary Service purchased by the CAISO in accordance with Section 8.2.3.5. The cost of Voltage Support and Black Start shall be allocated to Scheduling Coordinators as described in Sections 11.10.7 and 11.10.8.

California Independent System Operator Corporation  
Fifth Replacement Tariff

Ancillary Services Obligations for an individual Scheduling Coordinator (before taking into account Self-Provided Ancillary Services) or Inter-SC Trades of Ancillary Services may be negative. Credits for such negative obligations will be in accordance with the rates calculated in this Section 11.10.2, except that a Scheduling Coordinator's credit shall be reduced pro rata to the extent the sum of the negative obligations of all Scheduling Coordinators with the negative Ancillary Services Obligation (before self-provision or Inter-SC Trade) exceeds the obligation of all Scheduling Coordinators with positive obligation net of Self-Provided Ancillary Services, as specified in Section 11.10.5 in any Settlement Period, the net procurement quantity of Regulation Up, Regulation Down, Spinning Reserve, or Non-Spinning Reserve purchased by the CAISO in the Day-Ahead Market, HASP, and the Real-Time Market due to the operation of Section 8.2.3.5 is zero (0), then the user rate for that Ancillary Service type will be zero (0).

With respect to each Settlement Period, in addition to the user rates determined in accordance with this Section 11.10.2, each Scheduling Coordinator shall be charged an additional amount equal to its proportionate share, based on total purchases by Scheduling Coordinators of Regulation Down, Regulation Up, Spinning Reserve, and Non-Spinning Reserve of the amount, if any, by which (i) the total payments to Scheduling Coordinators pursuant to this Section 11.10.2 for the Day-Ahead Market, HASP, and the Real-Time Market, exceed (ii) the total amounts charged to Scheduling Coordinators pursuant to this Section 11.10.2, for the Day-Ahead Market, HASP, and the Real-Time Market. If total amounts charged to Scheduling Coordinators exceed the total payments to Scheduling Coordinators, each Scheduling Coordinator will be refunded its proportionate share, based on total purchases by Scheduling Coordinators of Regulation Down, Regulation Up, Spinning Reserve, and Non-Spinning Reserve.

With respect to each Settlement Period, in addition to Ancillary Service charges at the applicable user rates determined in accordance with this Section 11.10.2, each Scheduling Coordinator shall be charged additional neutrality adjustment amounts for each Ancillary Service type pursuant to Sections 11.10.2.4, 11.10.2.2.3, 11.10.3.3, and 11.10.4.3 and a neutrality adjustment amount for upward Ancillary Service types pursuant to Section 11.14.

**11.10.2.1 Regulation Service**

Regulation Up Reserve and Regulation Down Reserve charges shall be calculated separately.

**11.10.2.1.1 Regulation Down Reserve**



California Independent System Operator Corporation  
Fifth Replacement Tariff

The charges a Scheduling Coordinator must pay for Regulation Down Reserve for each Settlement Period of the Trading Day are based upon the product of Scheduling Coordinator's hourly obligation for Regulation Down Reserve (MW) and the hourly user rate for Regulation Down Reserve (\$/MW).

**11.10.2.1.2 Hourly User Rate for Regulation Down Reserve**

The hourly user rate for Regulation Down is the total Regulation Down Reserve Cost (\$) for each Settlement Period divided by the total Net Procurement of Regulation Down by the CAISO (MW) for each Settlement Period. The CAISO's Regulation Down Reserve Cost is equal to: (i) the revenues paid to the suppliers of the total awarded Regulation Down Reserve capacity in the Day-Ahead Market and Real-Time Market for the Settlement Period, minus, (ii) the payments rescinded in the Settlement Period due to the unavailability of the Regulation Down under any of the provisions of Section 8.10.8. The Net Procurement of Regulation Down Reserves is equal to: (i) the amount (MW) of total awarded Regulation Down Reserve capacity in the Day-Ahead Market and Real-Time Market for the Settlement Period, minus, (ii) the Regulation Down Reserve capacity associated with payments rescinded for the Settlement Period pursuant to any of the provisions of Section 8.10.8.

**11.10.2.1.3 Hourly Net Obligation for Regulation Down Reserve**

Each Scheduling Coordinator's hourly net obligation for Regulation Down is determined as follows: (a) the Scheduling Coordinator's metered CAISO Demand multiplied by the Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Down, reduced by accepted Self-Provided Ancillary Services specified as Regulation Down, plus or minus any Regulation Down Reserve obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. Each Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Down in that hour is equal to the total requirement for Regulation Down in that hour divided by the hourly metered CAISO Demand for that hour.

**11.10.2.1.4 Regulation Down Neutrality Adjustment**

For each Settlement Period, the difference between the Regulation Down Reserve Cost determined in Section 11.10.2.1.2 and the total revenue collected from all Scheduling Coordinators in the Regulation Down charge pursuant to Section 11.10.2.1.3 shall be allocated to all Scheduling Coordinators in proportion to their Regulation Down obligation quantity.

**11.10.2.1.5 Regulation Down Mileage Costs**

California Independent System Operator Corporation  
Fifth Replacement Tariff

The charges a Scheduling Coordinator must pay for Regulation Down Mileage in any Settlement Period of the Trading Day are the product of the Scheduling Coordinator's Ancillary Services Obligation percentage in that Settlement Period and the user rate for Regulation Down Mileage (\$/MW) for that Settlement Period. The user rate for Regulation Down Mileage is the total cost for Regulation Down Mileage (\$) for each Settlement Period divided by the total Regulation Down Ancillary Service Obligation (MW) for each Settlement Period.

**11.10.2.2 Regulation Up**

The charges a Scheduling Coordinator must pay for Regulation Up for each Settlement Period of the Trading Day are based upon the product of the Scheduling Coordinator's hourly obligation for Regulation Up (MW) and the hourly user rate for Regulation Up (\$/MW).

**11.10.2.2.1 Hourly User Rate for Regulation Up**

The hourly user rate for Regulation Up is the total Regulation Up cost (\$) for each Settlement Period divided by the total Net Procurement of Regulation Up by the CAISO (MW) for each Settlement Period.

The CAISO's Regulation Up cost is equal to: (i) the revenues paid to the suppliers of the total awarded Regulation Up capacity in the Day-Ahead Market and Real-Time Market for the Settlement Period, minus, (ii) the payments rescinded in the Settlement Period due to the unavailability of the Regulation Up under any of the provisions of Section 8.10.8. The Net Procurement of Regulation Up is equal to: (i) the amount (MWs) of total awarded Regulation Up capacity in the Day-Ahead Market and Real-Time Market for the Settlement Period, minus, (ii) the Regulation Up capacity associated with payments rescinded for the Settlement Period, pursuant to any of the provisions of Section 8.10.8.

**11.10.2.2.2 Hourly Net Obligation for Regulation Up**

Each Scheduling Coordinator's hourly net obligation for Regulation Up is determined as follows: (a) the Scheduling Coordinator's metered CAISO Demand multiplied by the Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up, reduced by accepted Self-Provided Ancillary Services specified as Regulation Up, plus or minus any Regulation Up Reserve obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. Each Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up in that hour is equal to the total requirement for Regulation Down in that hour divided by the hourly metered CAISO Demand for that hour.

#### **11.10.2.2.3 Regulation Up Neutrality Adjustment**

For each Settlement Period, the difference between the Regulation Up net requirement at the hourly Regulation Up user rate determined in Section 11.10.2.2.2 and the total revenue collected from all Scheduling Coordinators in the Regulation Up charge pursuant to Section 11.10.2.2.1 shall be allocated to all Scheduling Coordinators in proportion to their Regulation Up Reserve Obligation quantity. The Regulation Up net requirement is the Real-Time Regulation Up requirement net of the sum of effective qualified Regulation Up self-provision over all resources.

#### **11.10.2.2.4 Regulation Up Mileage Costs**

The charges a Scheduling Coordinator must pay for Regulation Up Mileage in any Settlement Period of the Trading Day are the product of the Scheduling Coordinator's Ancillary Services Obligation percentage in that Settlement Period and the user rate for Regulation Up Mileage (\$/MW) in that Settlement Period. The user rate for Regulation Up Mileage is the total cost for Regulation Up Mileage (\$) for each Settlement Period divided by the total Regulation Up Ancillary Service Obligation (MW) for each Settlement Period.

#### **11.10.3 Spinning Reserves**

The charges a Scheduling Coordinator must pay for Spinning Reserves for each Settlement Period of the Trading Day are based upon the product of the Scheduling Coordinator's hourly obligation for Spinning Reserves (MW) and the hourly user rate for Spinning Reserves (\$/MW).

If the Scheduling Coordinator's Operating Reserve Obligation (before self provision or Inter-SC Trade of Spinning Reserve or Non-Spinning Reserve) is negative, the SC may be entitled to a credit rather than a charge. In that case, the quantity of the SC's negative Operating Reserve Obligation (before self provision and Inter-SC Trade) shall be multiplied by the Negative Operating Reserve Obligation Credit Adjustment Factor (NOROCAF) computed for the Trading Hour as specified in Section 11.10.5.

#### **11.10.3.1 Hourly User Rate for Spinning Reserves**

The hourly user rate for Spinning Reserves is the ratio of: (1) the sum of the portion of Spinning Reserve Cost used to meet the spin requirement and the portion of Regulation Up cost that can substitute for Spinning Reserve and (2) the Net Procurement quantity of Spinning Reserves by the CAISO (\$/MW).

California Independent System Operator Corporation  
Fifth Replacement Tariff

The cost of Regulation Up substituting for Spinning Reserve is the user rate for Regulation Up multiplied by the quantity of Regulation Up used to satisfy the Spinning Reserve requirement.

The CAISO's Spinning Reserve Cost is equal to: (i) the revenues paid to the suppliers of the total awarded Spinning Reserve capacity in the Day-Ahead Market, HASP, and Real-Time Market, minus, (ii) the payments rescinded due to either the failure to conform to Dispatch Instructions or the unavailability of the Spinning Reserves under Section 8.10.8. The Net Procurement of Spinning Reserves is equal to: (i) the amount (MWs) of total awarded Spinning Reserve capacity in the Day-Ahead Market, HASP, and Real-Time Market, minus, (ii) the Spinning Reserve capacity associated with payments rescinded pursuant to any of the provisions of Section 8.10.8. The amount (MW) of awarded Spinning Reserve capacity includes the amounts (MW) associated with any Regulation Up Reserve capacity used as Spinning Reserve under Section 8.2.3.5.

**11.10.3.2 Hourly Net Obligation for Spinning Reserves**

Each Scheduling Coordinator's hourly net obligation for Spinning Reserves is determined as follows: the Scheduling Coordinator's total Ancillary Services Obligation for Operating Reserve for the hour multiplied by the ratio of the CAISO's total Ancillary Services Obligation for Spinning Reserves in the hour to the CAISO's total Operating Reserve Obligations in the hour (and if negative, multiplied by NOROCAP), reduced by the accepted Self-Provided Ancillary Services for Spinning Reserves, plus or minus any Spinning Reserve Obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services.

The Scheduling Coordinator's total Operating Reserve Obligation for the hour is the sum of five (5) percent of its Real-Time Demand (except the Demand covered by firm purchases from outside the CAISO Balancing Authority Area) met by Generation from hydroelectric resources plus seven (7) percent of its Demand (except the Demand covered by firm purchases from outside the CAISO Balancing Authority Area) met by Generation from non-hydroelectric resources, plus one hundred (100) percent of any Interruptible Imports, which can only be submitted as a Self-Schedule in the Day-Ahead Market, plus its scheduled on-demand obligations.

**11.10.3.3 Spinning Reserve Neutrality Adjustment**

For each Settlement Period, the difference between the Spinning Reserve net requirement at the hourly Spinning Reserve user rate determined in Section 11.10.3.1 and the total revenue collected from all

California Independent System Operator Corporation  
Fifth Replacement Tariff

Scheduling Coordinators in the Spinning Reserve charge pursuant to Section 11.10.3.2 shall be allocated to all Scheduling Coordinators in proportion to their Spinning Reserve obligation quantity. The Spinning Reserve net requirement is the Real-Time Spinning Reserve requirement net of the sum of effective qualified Spinning Reserve self-provision over all resources.

**11.10.4 Non-Spinning Reserves**

The charges an SC must pay for Non-Spinning Reserves for each Settlement Period of the Trading Day are based upon the product of SC's hourly obligation for Non-Spinning Reserves (MWs) and the hourly user rate for Non-Spinning Reserves (\$/MW).

If the Scheduling Coordinator's Operating Reserve Obligation (before self provision or Inter-SC Trade of Spinning Reserve or Non-Spinning Reserve) is negative, the Scheduling Coordinator may be entitled to a credit rather than a charge. In that case, the quantity of the Scheduling Coordinator's negative Non-Spinning Reserve Obligation (before self provision and Inter-SC Trade) shall be multiplied by the Negative Operating Reserve Obligation Credit Adjustment Factor (NOROCAF) computed for the Trading Hour as specified in Section 11.10.5.

**11.10.4.1 Hourly User Rate Non-Spinning Reserves**

The hourly user rate for Non-Spinning Reserves is calculated as the ratio of: i) the sum of the portion of the Non-Spinning Reserve Cost used to meet the Non-Spinning requirement and a portion of the Regulation Up and Spinning Reserve costs that can substitute for Non-Spinning Reserve and ii) the Net Procurement quantity of Non-Spinning Reserves by the CAISO (\$/MW). The CAISO's Non-Spinning Reserve Cost includes the costs associated with any Regulation Up Reserve or Spinning Reserve capacity used as Non-Spinning Reserve under Section 8.2.3.5.

The CAISO's Non-Spinning Reserve Cost is equal to: (i) the revenues paid to the suppliers of the total awarded Non-Spinning Reserve capacity in the Day-Ahead Market, HASP, and Real-Time Market, minus, (ii) the payments rescinded due to either the failure to conform to CAISO Dispatch Instructions or the unavailability of the Non-Spinning Reserves under Section 8.10.8. The Net Procurement of Non-Spinning Reserves is equal to: (i) the amount (MWs) of total awarded Non-Spinning Reserve capacity in the Day-Ahead Market, HASP, and Real-Time Market, minus, (ii) the Non-Spinning Reserve capacity associated with payments rescinded pursuant to any of the provisions of Section 8.10.8. The amount (MW) of

California Independent System Operator Corporation  
Fifth Replacement Tariff

awarded Non-Spinning Reserve capacity includes the amounts (MW) associated with any Regulation Up Reserve or Spinning Reserve capacity used as Non-Spinning Reserve under Section 8.2.3.5.

**11.10.4.2 Hourly Net Obligation for Non-Spinning Reserves**

Each Scheduling Coordinator's hourly net obligation for Non-Spinning Reserves is determined as follows: the product of the Scheduling Coordinator's total Ancillary Services Obligation for Operating Reserve for the hour (and if negative, multiplied by NOROCAP) multiplied by the ratio of the CAISO's total Ancillary Services Obligation for Non-Spinning Reserves in the hour to the CAISO's total Operating Reserve obligations in the hour, reduced by the accepted Self-Provided Ancillary Services for Non-Spinning Reserves, plus or minus any Non-Spinning Reserve Obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services. The Scheduling Coordinator's total Operating Reserve Obligation for the hour is the sum of five percent (5%) of its Real-Time Demand (except the Demand covered by firm purchases from outside the CAISO Balancing Authority Area) met by Generation from hydroelectric resources plus seven percent (7%) of its Demand (except the Demand covered by firm purchases from outside the CAISO Balancing Authority Area) met by Generation from non-hydroelectric resources, plus one hundred percent (100%) of any Interruptible Imports, which can only be submitted as a Self-Schedule in the Day-Ahead Market, plus five percent (5%) (if hydro) or seven percent (7%) (if thermal) of any unit-contingent or dynamic imports which it schedules.

**11.10.4.3 Non-Spinning Reserve Neutrality Adjustment**

For each Settlement Period, the difference between the Non-Spinning Reserve net requirement at the hourly Non-Spinning Reserve user rate determined in Section 11.10.4.1 and the total revenue collected from all Scheduling Coordinators in the Non-Spinning Reserve charge pursuant to Section 11.10.4.2 shall be allocated to all Scheduling Coordinators in proportion to their Non-Spinning Reserve Obligation quantity. The Non-Spinning Reserve net requirement is the Real-Time Non-Spinning Reserve requirement net of the sum of effective qualified Non-Spinning Reserve self-provision over all resources.

**11.10.5 Negative Operating Reserve Obligation Adjustment Factor**

In exceptional cases, it may happen that the net total quantity of Operating Reserve Obligations of all Scheduling Coordinators in a Trading Hour after accounting for qualified self provision is negative. In this case the net negative Operating Reserve Obligation is not usable by the CAISO, since Self-Provided

California Independent System Operator Corporation  
Fifth Replacement Tariff

Ancillary Service is qualified before IFM based on CAISO's estimate of firm imports. In such a case, the negative Operating Reserve Obligations of all Scheduling Coordinators with negative Operating Reserve Obligation is reduced pro rata. This is done by computing the Negative Operating Reserve Obligation Credit Adjustment Factor (NOROCFAF) as the lower of one (1) or the ratio of (a) net total quantity of Operating Reserve Obligations of all Scheduling Coordinators with positive Operating Reserve Obligation net of qualified self provision of Operating Reserves, but before any Inter-SC Trades of Ancillary Services, and (b) the sum of negative Operating Reserve Obligations of all Scheduling Coordinators with negative Operating Reserve Obligation before considering any Self-Provided Ancillary Services or Inter-SC Trade of AS.

**11.10.6 Upward Ancillary Services Neutrality Adjustment**

For each Settlement Period the difference between the upwards Ancillary Service cost and the product of the total Ancillary Service net requirements at the relevant Ancillary Service user rate will be allocated to all Scheduling Coordinators in proportion to their upward Ancillary Service Obligation (before taking into consideration the Inter-SC Trades of Ancillary Services). The upwards Ancillary Service cost is the sum of the Regulation Up, Spinning Reserve and Non-Spinning Reserve cost described in Sections 11.10.2.2.1, 11.10.3.1 and 11.10.4.1. The Ancillary Service net requirement is the sum of the Real-Time Regulation Up net requirement in Section 11.10.2.2.3, Spinning Reserve net requirement in Section 11.10.3.3 and Non-Spinning Reserve net requirement in Section 11.10.4.3.

**11.10.7 Voltage Support**

The Voltage Support user rate for any Settlement Period shall be calculated based on the sum of Voltage Support payments made to Scheduling Coordinators in accordance with Section 11.10.1.4, divided by Measured Demand, excluding metered Demand inside an MSS except as provided by Section 4.9.4.4.

The Voltage Support charge for any Settlement Period payable by a Scheduling Coordinator is the Voltage Support user rate multiplied by the quantity of Measured Demand, excluding Demand within an MSS except as provided by Section 4.9.4.4, for which that Scheduling Coordinator is responsible in that Settlement Period.

**11.10.8 Black Start**

The Black Start Energy payment user rate for any Settlement Period will be calculated based on the sum of Black Start Energy payments to Scheduling Coordinators paid in accordance with Section 11.10.1.5, including any Exceptional Dispatch Instructed Imbalance Energy payments for Black Start, in the applicable Settlement Period divided by Measured Demand, excluding exports to neighboring Balancing Authority Areas and excluding Demand within an MSS except as provided by Section 4.9.4.5.

The Black Start Energy user charge for any Settlement Period for a Scheduling Coordinator will be the Black Start Energy payment user rate multiplied by the quantity of Measured Demand, excluding exports to neighboring Balancing Authority Areas and excluding Demand within an MSS except as provided by Section 4.9.4.4, for which that Scheduling Coordinator is responsible in that Settlement Period.

**11.10.9 Settlements Of Rescission Of Payments For AS Capacity**

The rescission of payments for Ancillary Services for Undispatchable, Unavailable, and Undelivered Capacity applies to Ancillary Services that are awarded in the Day-Ahead Market, HASP, or Real-Time Market and the rescission will be the weighted average of the Ancillary Service Marginal Prices (ASMPs) and Ancillary Services Award amounts for a resource across the Day-Ahead Market, HASP, and Real-Time Market. For Self-Provided Ancillary Service capacity that becomes Undispatchable Capacity, Unavailable Capacity, or Undelivered Capacity, the rescission of Ancillary Services self-provision in the Day-Ahead Market, HASP, and Real-Time Market reduces the relevant Scheduling Coordinator's effective Ancillary Services self-provision in the Ancillary Services cost allocation, effectively resulting in a charge back at the relevant Ancillary Services rate. The rescission of payments in this Section 11.10.9 shall not apply to a capacity payment for any particular Ancillary Service if the weighted average Ancillary Service Marginal Price (ASMP) is less than or equal to zero (0).

**11.10.9.1 Rescission Undispatchable AS**

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



California Independent System Operator Corporation  
Fifth Replacement Tariff

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

**11.10.9.2 Rescission of Payments for Unavailable Ancillary Service Capacity**

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

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

**11.10.9.3 Rescission of Payments for Undelivered Ancillary Service Capacity.**

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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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

**11.10.9.4 Allocation of Rescinded Ancillary Services Capacity Payments**

Payments rescinded pursuant to Sections 8.10.8 and 11.10.9 shall be allocated to Scheduling Coordinators in proportion to their Ancillary Services Obligation for the same Trading Day.

**11.11 RACs And Wheeling Transactions**

**11.11.1 Regional Access Charges**

Regional Access Charges will be levied in accordance with Section 26.1 and Appendix F, Schedule 3.

**11.11.2 Wheeling Through And Wheeling Out Transactions**

The CAISO shall calculate, account for and settle charges and payments for Wheeling Through and Wheeling Out transactions in accordance with Section 26.1.4 and Appendix F, Schedule 3, Section 14.

**11.12 Participating Intermittent Resources**

**11.12.1 Uninstructed Energy By Participating Intermittent Resources**

Uninstructed Imbalance Energy associated with deviations by a Participating Intermittent Resource shall be settled as provided in this Section 11.12.1 for every Settlement Period in which such Participating Intermittent Resource meets the scheduling requirements established in the Eligible Intermittent Resources Protocol in Appendix Q. Initially, the Uninstructed Imbalance Energy associated with deviations by a Participating Intermittent Resource shall be settled in accordance to Section 11.5.2. However, if the above-referenced scheduling requirements for Participating Intermittent Resources are met, then charges (payments) for Uninstructed Imbalance Energy during such Settlement Periods shall be reversed at the end of the Trade Month and settled as specified in Section 11.12.1. The net Uninstructed Imbalance Energy in each Settlement Interval shall be assigned to a deviation account

California Independent System Operator Corporation  
Fifth Replacement Tariff

specific to each Participating Intermittent Resource. The net balance in each deviation account at the end of each calendar month shall be paid (or charged) to the Scheduling Coordinator for the associated Participating Intermittent Resource at the average price specified in Section 34.19.2.5.

**11.12.2 Allocation Of Participating Intermittent Resources Costs**

The charges (payments) for Uninstructed Imbalance Energy that would have been calculated if the Settlement Interval deviations by each Participating Intermittent Resource were priced at the appropriate Resource-Specific Settlement Interval LMP shall be assigned to a monthly balancing account for all Participating Intermittent Resources in the CAISO Balancing Authority Area. The balance in such account at the end of each month shall be netted against the aggregate payments (charges) by Scheduling Coordinators on behalf of Participating Intermittent Resources. The resulting balance shall be assigned to each Scheduling Coordinator in the same proportion that such Scheduling Coordinator's aggregate Net Negative Uninstructed Deviations in that month bears to the aggregate Net Negative Uninstructed Deviations for all Scheduling Coordinators in the CAISO Balancing Authority Area in that month.

**11.12.3 Payment Of Participating Intermittent Resource Fees**

**11.12.3.1 Forecasting Fee**

A fee to defray the costs of the implementation of the forecasting service for Eligible Intermittent Resources shall be assessed to Scheduling Coordinators for Eligible Intermittent Resources as specified in Schedule 4 of Appendix F.

**11.12.3.2 [Not Used]**

**11.12.3.3 Participating Intermittent Resource Export Fee**

A Participating Intermittent Resource Export Fee will be levied in accordance with Section 5.3 of Appendix Q and Schedule 4 of Appendix F.

**11.12.4 Price For Uninstructed Deviations**

Uninstructed Deviations associated with each Participating Intermittent Resource in a Scheduling Coordinator's portfolio shall be settled as provided in Section 34.19.2.5 at the monthly weighted average Dispatch Interval LMP, where the weights are the metered Generation quantities associated with each Dispatch Interval LMP.

**11.13 Settlements And Billing Of RMR Charges And Payments**

**11.13.1 Objectives**

The objective of this Section 11.13 is to inform RMR Owners which are responsible for preparation of Invoices, and Responsible Utilities, which are responsible for payment of Reliability Must-Run Charges pursuant to Section 41.7, of the manner in which the RMR Charges referred to in Section 41.6 shall be verified and settled and of the procedures regarding the billing, invoicing and payment of these RMR Charges.

**11.13.2 Accounts**

**11.13.2.1 Facility Trust Account**

The CAISO shall establish a Facility Trust Account for each RMR Contract. Each Facility Trust Account shall consist of two segregated commercial bank accounts: (1) an RMR Owner Facility Trust Account, which will be held in trust for the RMR Owner, and (2) a Responsible Utility Facility Trust Account, which will be held in trust for the Responsible Utility. RMR Charges paid by the Responsible Utility to the CAISO in connection with the RMR Contract will be deposited into the RMR Owner Facility Trust Account and RMR Payments from the CAISO to the RMR Owner will be withdrawn from such account, all in accordance with this Section 11.13, Section 41.6, and the RMR Contract. RMR Refunds received by the CAISO from the RMR Owner in accordance with the RMR Contract will be deposited into the Responsible Utility Facility Trust Account and such RMR Refunds will be withdrawn from such account and paid to the Responsible Utility in accordance with this Section 11.13, Section 41.6, and the RMR Contract. The RMR Owner Facility Trust Account and the Responsible Utility Facility Trust Account shall have no other funds commingled in them at any time.

**11.13.2.2 RMR Owner's Settlement Accounts**

Each RMR Owner shall establish and maintain at all times a Settlement Account at a commercial bank located in the United States and reasonably acceptable to the CAISO which can effect money transfers via Fedwire, and, at its option, may also establish and maintain a Settlement Account for transfers via ACH, where payments to and from the Facility Trust Accounts shall be made in accordance with this Section 11.13. Each RMR Owner shall notify the CAISO of its Settlement Account details upon entering

California Independent System Operator Corporation  
Fifth Replacement Tariff

into its RMR Contract with the CAISO and may notify the CAISO from time to time of any changes by giving at least fifteen (15) days notice before the new account becomes operational.

**11.13.3 RMR Payments Calendar**

The CAISO shall issue an RMR Payments Calendar for the purposes of this Section 11.13 which shall contain those dates set forth in Section 9.1 (b) of the RMR Contract and the following information:

- (a) the date on which RMR Owners are required to issue to the CAISO, with a copy to the Responsible Utility, their Estimated RMR Invoice pursuant to their RMR Contract;
- (b) the date on which the CAISO is required to initiate proposed adjustments to the Estimated RMR Invoice to the Responsible Utility and to the RMR Owner;
- (c) the date by which the RMR Owners are required to issue their Revised Estimated RMR Invoice reflecting appropriate revisions to the original Estimated RMR Invoice agreed upon by the Responsible Utility and the RMR Owner (In the event no revisions are required, the RMR Owner shall submit an e-mail to the CAISO and Responsible Utility stating there are no revisions and the Estimated RMR Invoice should be deemed as the Revised Estimated RMR Invoice.);
- (d) the date on which the CAISO is required to issue to the Responsible Utility or RMR Owner the CAISO Invoice based on the Revised Estimated RMR Invoice;
- (e) the date on which RMR Owners are required to issue to the CAISO, with a copy to the Responsible Utility, their Adjusted RMR Invoice pursuant to their RMR Contract;
- (f) the date on which the CAISO is required to initiate proposed adjustments to the Adjusted RMR Invoice to the Responsible Utility and the RMR Owner;
- (g) the date by which the RMR Owners are required to issue their Revised Adjusted RMR Invoice reflecting appropriate revisions to the original Adjusted RMR Invoice agreed upon by the Responsible Utility and the RMR Owner. (In the event no revisions are required, the RMR Owner shall submit an e-mail to the

California Independent System Operator Corporation  
Fifth Replacement Tariff

CAISO and Responsible Utility stating there are no revisions and the Adjusted RMR Invoice should be deemed as the Revised Adjusted RMR Invoice.);

- (h) the date on which the CAISO is required to issue to the Responsible Utility or the RMR Owner the CAISO Invoice based on the Revised Adjusted RMR Invoice;
- (i) the dates by which the Responsible Utility and RMR Owner must have notified the CAISO of any dispute in relation to the CAISO Invoice, Estimated RMR Invoice or Adjusted RMR Invoice (including the Revised Estimated RMR Invoice and Revised Adjusted RMR Invoice) or the CAISO's proposed adjustments;
- (j) the date and time by which Responsible Utilities or RMR Owners are required to have made payments into the RMR Owner Facility Trust Account or Responsible Utility Facility Trust Account in payment of the CAISO Invoices relating to each Revised Estimated RMR Invoice and each Revised Adjusted RMR Invoice; and
- (k) the date and time by which the CAISO is required to have made payments into the RMR Owners' Facility Trust Accounts or Responsible Utilities' Facility Trust Accounts in payment of the Revised Estimated RMR Invoice and the Revised Adjusted RMR Invoice pursuant to their RMR Contract.

If the day on which any CAISO Invoice, any RMR Invoice, or any payment is due is not a Business Day, such statement or invoice shall be issued or payment shall be due on the next succeeding Business Day.

Information relating to charges for Energy or Ancillary Services which are payable by the CAISO pursuant to Sections 8 and 11 to the Scheduling Coordinators representing the RMR Owners will be contained in the RMR Payments Calendar.

**11.13.4 Information Provided By RMR Owners To The CAISO**

Each RMR Invoice and any Prior Period Change Worksheet shall include, or be accompanied by, information about RMR Payments and RMR Refunds in sufficient detail to enable the CAISO to verify all RMR Charges and all RMR Refunds, and such information shall be copied to the Responsible Utility.

Each RMR Invoice shall separately show the amounts due for services from each Reliability Must-Run Unit.

California Independent System Operator Corporation  
Fifth Replacement Tariff

This information shall be provided in an electronic form in accordance with the RMR Invoice template developed jointly and agreed to by the CAISO, Responsible Utilities and RMR Owners in accordance with the RMR Contracts and the principles in Schedule O to those RMR Contracts, and maintained on the CAISO Website.

**11.13.5 Validation Of RMR Charges And RMR Refunds**

The CAISO shall validate, based on information provided by each RMR Owner pursuant to paragraph 4, the amount due from the relevant Responsible Utility for RMR Charges and the amount due to the relevant Responsible Utility for RMR Refunds applicable to the Reliability Must-Run Generation and Ancillary Services of that RMR Owner, but shall not represent or warrant the accuracy or completeness of the information provided by the RMR Owner. The CAISO shall provide copies of its exception report and information to the relevant Responsible Utility and RMR Owner.

The CAISO shall not be obligated to pay the Responsible Utility any RMR Refunds unless and until the CAISO has received corresponding RMR Refunds into the Responsible Utility Facility Trust Account from the RMR Owner.

**11.13.6 Description Of The Billing Process**

**11.13.6.1 Issuance of RMR Invoices by the RMR Owner**

Each RMR Owner shall provide any RMR Invoice to the CAISO in the electronic form, mutually agreed by the parties, which may be updated by agreement with the CAISO, Responsible Utilities and RMR Owners from time to time in accordance with the requirements of Schedule O of the RMR Contract, on each of the days specified in the RMR Payments Calendar, and shall send to the relevant Responsible Utility a copy of that invoice on the day of issue.

**11.13.6.2 Review of the RMR Invoice by the CAISO**

The CAISO shall review each RMR Invoice within the period specified in the RMR Payments Calendar and is required to initiate proposed adjustments to that invoice to the RMR Owner and the relevant Responsible Utility. Once the CAISO initiates proposed adjustments, the RMR Owner shall issue a Revised Estimated RMR Invoice or Revised Adjusted RMR Invoice.

**11.13.6.3 Issuance of CAISO Invoices by the CAISO**

California Independent System Operator Corporation  
Fifth Replacement Tariff

The CAISO shall provide to the Responsible Utility and the RMR Owner on the dates specified in the RMR Payments Calendar CAISO Invoices showing:

- (a) the amounts which, on the basis of the Revised Estimated RMR Invoice or the Revised Adjusted RMR Invoice, as the case may be, and pursuant to Section 11.13, are to be paid by or to the relevant Responsible Utility and RMR Owner;
- (b) the Payment Date, being the date on which such amounts are to be paid and the time for such payment;
- (c) details (including the account number, bank name and Fedwire transfer instructions or, if applicable, ACH transfer instructions) of the RMR Owner Facility Trust Account to which any amounts owed by the Responsible Utility are to be paid, or of the RMR Responsible Utility Facility Trust Account to which any amounts owed by the RMR Owner are to be paid.

**11.13.6.4 Resolving Disputes Relating to Invoices**

**11.13.6.4.1 Review of the Invoices by the Responsible Utility**

Each Responsible Utility shall have the review period specified in the RMR Payments Calendar to review RMR Invoices and CAISO Invoices, validate and propose adjustments to such invoices, and notify the CAISO of any dispute. Notwithstanding the above, each Responsible Utility shall have the review time specified in Section 41.6 to dispute such invoice.

**11.13.6.4.2 Dispute Notice**

If a Responsible Utility disputes any item or calculation relating to any revised RMR Invoice, or any CAISO Invoice, it shall provide the CAISO, with a copy to the RMR Owner, via email or such other communication mode as the parties may mutually agree upon, a notice of dispute at any time from the receipt of the copy of such invoice from the RMR Owner or the CAISO to the expiration of the period for review set out in Section 11.13. The CAISO shall initiate a corresponding dispute with the RMR Owner under the RMR Contract.

**11.13.6.4.3 Contents of Dispute Notice**

The notice of dispute shall state clearly the Revised Estimated RMR Invoice, Revised Adjusted RMR Invoice, or CAISO Invoice in dispute, the item disputed (identifying specific Reliability Must-Run Units and



California Independent System Operator Corporation  
Fifth Replacement Tariff

time periods), the reasons for the dispute, and the proposed amendment (if appropriate) and shall be accompanied by all available evidence reasonably required to support the claim.

**11.13.6.4.4 Prior Period Change Agreed to by the RMR Owner**

Subject to Sections 11.13.6.4.5 or 11.13.6.4.6, if the RMR Owner agrees with the proposed change, the change shall be shown in a Prior Period Change Worksheet and included in the next appropriate May or December Estimated RMR Invoice as specified in Article 9.1 of the RMR Contract.

**11.13.6.4.5 Dispute Involving the RMR Owner**

If the dispute relates to an item originating in any RMR Invoice, the applicable provisions of the RMR Contract and Section 41.6.1 shall apply.

**11.13.6.4.6 Dispute Involving an Alleged Error or Breach or Default of the CAISO's Obligations Under Section 41.6**

If the dispute relates to an alleged error or breach or default of the CAISO's obligations under Section 41.6, the applicable provisions of the RMR Contract and Section 41.6.1 shall apply.

**11.13.6.4.7 Payment Pending Dispute**

Subject to Section 41.6, if there is any dispute relating to an item originating in an RMR Invoice that is not resolved prior to the Payment Date, the Responsible Utility shall be obligated to pay any amounts shown in the relevant CAISO Invoice on the Payment Date irrespective of whether any such dispute has been resolved or is still pending. The Responsible Utility may notify the CAISO that the payment is made under protest, in which case the CAISO shall notify the RMR Owner that payment is made under protest. In accordance with Section 9.6 of the RMR Contract, if such dispute is subsequently resolved in favor of the Responsible Utility that made the payment under protest, then any amount agreed or determined to be owed by the RMR Owner to the CAISO shall be repaid by the RMR Owner to the CAISO, with interest at the interest rate specified in the RMR Contract from the date of payment by the CAISO to the RMR Owner of the disputed amount to the date of repayment by the RMR Owner, as specified in Section 11.13.6.4.4. If an RMR Owner does not agree to make the change pursuant to Section 11.13.6.4.4, then such repayment shall be made by CAISO's deduction of such amount from the next CAISO Invoices until extinguished, or if the RMR Contract has terminated, by paying a RMR Refund in such amount to the Responsible Utility Facility Trust Account, subject to the limitation of Section 41.6.2.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.13.7 Payment Procedures**

**11.13.7.1 Payment Date**

The Payment Date for RMR Payments to and RMR Refunds from RMR Owners shall be the due date specified in the RMR Contract and in the RMR Payments Calendar and the same shall be the Payment Date for the CAISO and Responsible Utilities in relation to RMR Charges, provided that the RMR Owner has furnished the Responsible Utility and the CAISO with the Revised Estimated RMR Invoice or the Revised Adjusted RMR Invoice no less than nine (9) calendar days before the due date. The Payment Date shall be stated on the CAISO Invoice.

**11.13.7.2 Payment Method**

All payments and refunds by the CAISO to RMR Owners and Responsible Utilities shall be made via Fedwire or, if chosen by the RMR Owner or Responsible Utility, via ACH. However, if the RMR Owner is also the Responsible Utility, at the discretion of the RMR Owner, payments and refunds may be made by memorandum account instead of by Fedwire transfer or ACH.

**11.13.7.3 Payment by RMR Owners and Responsible Utilities.**

Each RMR Owner shall ensure that the amount shown on the relevant CAISO Invoice as payable by the RMR Owner shall be received into the Responsible Utility Facility Trust Account not later than 10:00 am on the Payment Date.

Subject to Section 41.6, each Responsible Utility shall ensure that the amount shown on the relevant CAISO Invoice as payable by the Responsible Utility shall be received into the RMR Owner Facility Trust Account not later than 10:00 am on the Payment Date.

**11.13.7.4 Payment by the CAISO**

The CAISO shall verify the amounts available for distribution to Responsible Utilities and/or RMR Owners on the Payment Date and shall give instructions to the CAISO Bank to remit from the relevant Facility Trust Account to the relevant settlement account maintained by each Responsible Utility or RMR Owner the amounts determined by the CAISO to be available for payment to each Responsible Utility or RMR Owner.

**11.13.7.5 Payment Default by RMR Owner or Responsible Utility**

California Independent System Operator Corporation  
Fifth Replacement Tariff

If by 10:00 am on a Payment Date the CAISO, in its reasonable opinion, believes the RMR Default Amount has not been received, the CAISO shall immediately notify the RMR Owner and the Responsible Utility. Where the RMR Default Amount was due from the Responsible Utility, the CAISO and RMR Owner shall proceed as set forth in Section 41.6 and the applicable provision of the RMR Contract. Where the RMR Default Amount was due from the RMR Owner, the CAISO and the Responsible Utility shall proceed as set forth in the applicable provision of the RMR Contract.

**11.13.7.5.1 Default Relating to Market Payments**

For the avoidance of doubt, non payment to RMR Owners, or their respective Scheduling Coordinators, of charges for Energy or Ancillary Services which are payable by the CAISO to Scheduling Coordinators representing such RMR Owners shall be dealt with pursuant to Sections 11.3 to 11.30 (inclusive).

**11.13.7.6 Set-off**

**11.13.7.6.1 Set-off in the Case of a Defaulting Responsible Utility**

The CAISO is authorized to apply any amount to which any defaulting Responsible Utility is or will be entitled from the Responsible Utility Facility Trust Account in or towards the satisfaction of any amount owed by that Responsible Utility to the RMR Owner Facility Trust Account arising under the settlement and billing process set out in this Section 11.13.

For the avoidance of doubt, neither the CAISO nor any Responsible Utility will be authorized to set off any amounts owed by that Responsible Utility in respect of one Facility Trust Account against amounts owed to that Responsible Utility in respect of another Facility Trust Account or any amounts owed by that Responsible Utility under this Section 11.13 against amounts owed to that Responsible Utility except as provided by Section 41.6.

**11.13.7.6.2 Set-off in the Case of a Defaulting RMR Owner**

The CAISO is authorized to apply any amount to which any defaulting RMR Owner is or will be entitled from the RMR Owner Facility Trust Account in or towards the satisfaction of any amount owed by that RMR Owner to the Responsible Utility Facility Trust Account in accordance with Article 9 of the RMR Contract and Sections 41.6 and 11.10.2.

For the avoidance of doubt, neither the CAISO nor any RMR Owner will be authorized to set off any amounts owed by that RMR Owner in respect of one Facility Trust Account against amounts owed to that

California Independent System Operator Corporation  
Fifth Replacement Tariff

RMR Owner in respect of another Facility Trust Account or any amounts owed by that RMR Owner under this Section 11.13 against amounts owed to that RMR Owner under the RMR Contract.

**11.13.7.7 Default Interest**

Responsible Utilities shall pay interest on RMR Default Amounts to the CAISO at the interest rate specified in the RMR Contract for the period from the relevant Payment Date to the date on which the payment is received by the CAISO.

RMR Owners shall pay interest to the CAISO on RMR Default Amounts at the interest rate specified in the RMR Contract for the period from the date on which payment was due to the date on which the payment is received by the CAISO.

The CAISO shall pay interest to RMR Owners at the interest rate specified in the RMR Contract for the period from the date on which payment is due under the RMR Contract to the date on which the payment is received by the RMR Owner.

The CAISO shall pay interest to Responsible Utilities at the interest rate specified in the relevant RMR Contract for the period from the date following the date it received an RMR Refund from the relevant RMR Owner to the date in which the payment is received by the relevant Responsible Utility.

Where payment of an RMR Default Amount is made by exercise of a right of set-off or deduction, payments shall be deemed received when payment of the sum which takes that set-off or deduction into account is made.

**11.13.8 Overpayments**

The provisions of Sections 11.29.19.3 and 11.29.19.4 shall apply to RMR Owners and Responsible Utilities which have been overpaid by the CAISO and references to CAISO Creditors in these sections and in the relevant Sections of the CAISO Tariff shall be read, for the purposes of this Section 11.13, to mean RMR Owners and Responsible Utilities as applicable. Disputed amounts shall not be considered to be overpayments until and unless the dispute is resolved.

**11.13.9 Communications**

**11.13.9.1 Method of Communication**

CAISO Invoices will be issued by the CAISO via the CAISO's secure communication system. RMR Invoices and Prior Period Change Worksheets will be issued by the RMR Owner in an electronic form

California Independent System Operator Corporation  
Fifth Replacement Tariff

mutually agreed by the parties and maintained on the CAISO Website. The CAISO shall also post Prior Period Change examples and Prior Period Change guidelines as specified in Article 9.1 of the RMR Contract.

**11.13.9.2 Emergency Procedures**

**11.13.9.2.1 Emergency Affecting the CAISO**

In the event of an emergency or a failure of any of the CAISO software or business systems, the CAISO may deem any Estimated RMR Invoice or any Adjusted RMR Invoice to be correct without thorough verification and may implement any temporary variation of the timing requirements relating to the settlement and billing process contained in this Section 11.13.

**11.13.9.2.2 Emergency Affecting the RMR Owner**

In the event of an emergency or a failure of any of the RMR Owner's systems, the RMR Owner may use Estimated RMR Invoices as provided in the applicable section of the RMR Contract or may implement any temporary variation of the timing requirements relating to the settlement and billing process contained in this Section 11.13 and its RMR Contract. Details of the variation will be published on the CAISO Website. Communications of an emergency nature on a due date or a Payment Date relating to payments shall be made by the fastest practical means including by telephone.

**11.13.10 Confidentiality**

The provisions of Sections 11.29.10.5 and 20.5 shall apply to this Section 11.13 between and among the RMR Owners, the CAISO and Responsible Utilities. Except as may otherwise be required by applicable law, all confidential information and data provided by RMR Owner or the CAISO to the Responsible Utility pursuant to the RMR Contract, Section 41.6 or this Section 11.13 shall be treated as confidential and proprietary to the providing party to the extent required by Section 12.5 and Schedule N of the RMR Contract and will be used by the receiving party only as permitted by such Section 12.5 and Schedule N.

**11.14 Neutrality Adjustments**

The CAISO shall be authorized to levy additional charges or make additional payments as special adjustments in regard to:

- (a) amounts required to reach an accounting trial balance of zero in the course of the Settlement process in the event that the charges calculated as due from CAISO

California Independent System Operator Corporation  
Fifth Replacement Tariff

Debtors are lower than payments calculated as due to the CAISO Creditors for the same Trading Day, which includes any amounts required to round up any invoice amount expressed in dollars and cents to the nearest whole dollar amount. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day on a monthly basis. In the event that the charges due from CAISO Debtors are higher than the payments due to CAISO Creditors, the CAISO shall allocate a payment to the Scheduling Coordinators who traded on that Trading Day pro rata to their Measured Demand in MWh of Energy for that Trading Day on a monthly basis; and

- (b) awards payable by or to the CAISO pursuant to good faith negotiations or CAISO ADR Procedures that the CAISO is not able to allocate to or to collect from a Market Participant or Market Participants in accordance with Section 13.5.3. These charges will be allocated among Scheduling Coordinators over an interval determined by the CAISO and pro rata based on Measured Demand during that interval.

**11.15 Payments Under Section 42.1 Contracts**

The CAISO shall calculate and levy charges for the recovery of costs incurred under contracts entered into by the CAISO under the authority granted in Section 42.1 in accordance with Section 42.1.8 or any other contract approved by FERC.

**11.16 Additional AS And RUC Payment Rescission Requirements**

The following provisions apply to the Settlement of rescission of payments for Ancillary Services and RUC Capacity in addition to the provisions of Sections 8.10.8 and 11.10.9 for Ancillary Services and Sections 31.5.7 and 11.2.2.2 for RUC Capacity.

**11.16.1 Resources With More Than One Capacity Obligation**

If the Generating Unit, Participating Load, Proxy Demand Resource, System Unit or System Resource is scheduled to provide more than one capacity obligation in a Settlement Interval, the order in which the non-compliant Ancillary Service and RUC Capacity will be apportioned to the various services under

California Independent System Operator Corporation  
Fifth Replacement Tariff

Section 8.10.8 is as follows. For Undispatchable Capacity the non-compliant capacity is first apportioned to RUC Capacity and then to any Non-Spinning Reserves. If the amount of Undispatchable Capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. For Unavailable Capacity or Undelivered Capacity the non-compliant capacity is first apportioned to any Non-Spinning Reserves. If the amount of non-compliant Ancillary Service capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. If the same Ancillary Service is scheduled in the Day-Ahead Market or Real-Time Market, then the payments shall be rescinded in proportion to the amount of each Ancillary Service scheduled in each market. If the same Ancillary Service is self-provided and Bid, the order of rescission will be first the amount of Ancillary Service amounts submitted in Bids and then the Self-Provided Ancillary Service.

**11.16.2 Load-Following MSSs With An AS Or RUC Capacity Obligation**

If a Load following MSS Operator is scheduled to provide Ancillary Service capacity, RUC Capacity, or some combination thereof in a Settlement Interval and if the scheduled capacity or a portion thereof is unavailable for some reason during the Settlement Interval, the non-compliant Ancillary Services and RUC Capacity (i.e., Undispatchable, Unavailable, or Undelivered Capacity) will be not be apportioned to the capacity designated by the MSS Operator as Load following up capacity and Load following down capacity. In determining which of the MSS Operator's capacity obligations were not available in Real-Time, the capacity designated by the MSS Operator as Load following up capacity and Load following down capacity shall be preserved or take precedence over the other capacity obligations.

**11.17 [NOT USED]**

**11.18 Emissions Costs**

**11.18.1 Obligation To Pay Emissions Cost Charges**

Each Scheduling Coordinator shall be obligated to pay a charge in accordance with this Section 11.18, which will be used to pay the verified Emissions Costs incurred by an Emissions Eligible Generator during a CAISO Commitment Period. The CAISO shall levy this administrative charge (the Emissions Cost charge) each month, against all Scheduling Coordinators based upon each Scheduling Coordinator's Balancing Authority Area Gross Load and Demand within California outside of the CAISO Balancing Authority Area that is served by exports from the CAISO Balancing Authority Area. Scheduling

California Independent System Operator Corporation  
Fifth Replacement Tariff

Coordinators shall make payment for all Emissions Cost charges in accordance with the CAISO Payments Calendar.

**11.18.2 CAISO Emissions Cost Trust Account**

All Emissions Cost charges received by the CAISO shall be deposited in the CAISO Emissions Cost Trust Account. The CAISO Emissions Cost Trust Account shall be an interest-bearing account separate from all other accounts maintained by the CAISO, and no other funds shall be commingled in it at any time.

**11.18.3 Rate For The Emissions Cost Charge**

The rate at which the CAISO will assess the Emissions Cost charge shall be at the projected annual total of all Emissions Costs incurred by Emissions Eligible Generators during CAISO Commitment Period, adjusted for interest projected to be earned on the monies in the CAISO Emissions Cost Trust Account, divided by the sum of the Balancing Authority Area Gross Load and the projected Demand within California outside of the CAISO Balancing Authority Area that is served by exports from the CAISO Balancing Authority Area of all Scheduling Coordinators for the applicable year ("Emissions Cost Demand"). The initial rate for the Emissions Cost charge, and all subsequent rates for the Emissions Cost charge, shall be posted on the CAISO Website.

**11.18.4 Adjustment Of The Rate For The Emissions Cost Charge**

The CAISO may adjust the rate at which the CAISO will assess the Emissions Cost charge on a monthly basis, as necessary, to reflect the net effect of the following:

- (a) the difference, if any, between actual Emissions Cost Demand and projected Emissions Cost Demand;
- (b) the difference, if any, between the projections of the Emissions Costs incurred by Emissions Eligible Generators during a CAISO Commitment Period and the actual Emissions Costs incurred by Emissions Eligible Generators during a CAISO Commitment Period as invoiced to the CAISO and verified in accordance with this Section 11.18; and
- (c) the difference, if any, between actual and projected interest earned on funds in the CAISO Emissions Cost Trust Account.



California Independent System Operator Corporation  
Fifth Replacement Tariff

The adjusted rate at which the CAISO will assess the Emissions Cost charge shall take effect on a prospective basis on the first day of the next calendar month. The CAISO shall publish all data and calculations used by the CAISO as a basis for such an adjustment on the CAISO Website at least five (5) days in advance of the date on which the new rate shall go into effect.

**11.18.5 Credits And Debits Of Emissions Cost Charges From SCs**

In addition to the surcharges or credits permitted under Section 11.29.7.3, the CAISO may credit or debit, as appropriate, the account of a Scheduling Coordinator for any over- or under-assessment of Emissions Cost charges that the CAISO determines occurred due to the error, omission, or miscalculation by the CAISO or the Scheduling Coordinator.

**11.18.6 Submission Of Emissions Cost Invoices**

Scheduling Coordinators for Generators eligible for Bid Cost Recovery that incur Emissions Costs during a CAISO Commitment Period may submit to the CAISO an invoice in the form specified on the CAISO Website (the Emissions Cost Invoice) for the recovery of such Emissions Costs. Emissions Cost Invoices shall not include any Emissions Costs specified in an RMR Contract for a unit. All Emissions Cost Invoices must include a copy of all final invoice statements from air quality districts demonstrating the Emissions Costs incurred by the applicable Generating Unit, and such other information as the CAISO may reasonably require to verify the Emissions Costs incurred during a CAISO Commitment Period.

**11.18.7 Payment Of Emissions Cost Invoices**

The CAISO shall pay Scheduling Coordinators for all Emissions Costs submitted in an Emissions Cost Invoice and demonstrated to be during a CAISO Commitment Period. If the Emissions Costs indicated in the applicable air quality districts' final invoice statements include emissions produced by operation not during a CAISO Commitment Period, the CAISO shall pay an amount equal to Emissions Costs multiplied by the ratio of the MWh associated with the CAISO Commitment Period to the total MWh associated with such Emissions Costs. The CAISO shall pay Emissions Cost Invoices each month in accordance with the CAISO Payments Calendar from the funds available in the CAISO Emissions Cost Trust Account. To the extent there are insufficient funds available in the CAISO Emissions Cost Trust Account in any month to pay all Emissions Costs submitted in an Emissions Cost Invoice and demonstrated to be during a CAISO Commitment Period, the CAISO shall make pro rata payment of such Emissions Costs and shall adjust

California Independent System Operator Corporation  
Fifth Replacement Tariff

the rate at which the CAISO will assess the Emissions Cost charge in accordance with Section 11.18.4. Any outstanding Emissions Costs owed from previous months will be paid in the order of the month in which such costs were invoiced to the CAISO. The CAISO's obligation to pay Emissions Costs is limited to the obligation to pay Emissions Cost charges received. All disputes concerning payment of Emissions Cost Invoices shall be subject to CAISO ADR Procedures, in accordance with Section 13.

**11.19 FERC Annual Charges**

**11.19.1 FERC Annual Charge Recovery Rate**

**11.19.1.1 Obligation for FERC Annual Charges**

Each Scheduling Coordinator shall be obligated to pay for the FERC Annual Charges for its use of the CAISO Controlled Grid to transmit electricity, including any use of the CAISO Controlled Grid through Existing Contracts scheduled by the Scheduling Coordinator. Any FERC Annual Charges to be assessed by FERC against the CAISO for such use of the CAISO Controlled Grid shall be assessed against Scheduling Coordinators at the FERC Annual Charge Recovery Rate, as determined in accordance with Section 11.19.1. Such assessment shall be levied monthly against all Scheduling Coordinators based upon each Scheduling Coordinator's metered Demand and exports.

**11.19.1.2 Annual Charges Assessment**

Scheduling Coordinators shall pay FERC Annual Charges assessed against them by the CAISO on a monthly or annual basis. Scheduling Coordinators that pay FERC Annual Charges on a monthly basis shall make the payment for such charges within five (5) Business Days after issuance of the market Invoice or Payment Advice containing the charges. Scheduling Coordinators that must pay FERC Annual Charges on an annual basis shall make the payment for such charges within five (5) Business Days from the Payment Date stated on the Invoice for FERC Annual Charges. For Scheduling Coordinators electing monthly settlement of the FERC Annual Charges, these charges are assessed for a given Trading Month in the same semi-monthly Invoice and Payment Advice containing the market Settlement and Grid Management Charge issued in accordance with the CAISO Payments Calendar. For Scheduling Coordinators electing yearly assessment of the FERC Annual Charges, the charges for a given Trading Month that are due annually are issued in accordance with the CAISO Payments Calendar on the same day as the market Invoice or Payment Advice but in a separate Invoice as indicated in Section 11.29.10.

California Independent System Operator Corporation  
Fifth Replacement Tariff

Further the FERC Annual Charges amounts are provided to Scheduling Coordinators at least twice a month in their Settlement Statements. Once the final FERC Annual Charge Recovery Rate is received from FERC in the spring or summer of the following year, revised FERC Annual Charges will be calculated and included on a supplemental Invoice or Payment Advice. All Scheduling Coordinators shall make payment for such charges within five (5) Business Days after the CAISO issues such supplemental Invoice.

**11.19.2 FERC Annual Charge Trust Account**

All funds collected by the CAISO for FERC Annual Charges shall be deposited in the FERC Annual Charge Trust Account. The FERC Annual Charge Trust Account shall be an interest-bearing account separate from all other accounts maintained by the CAISO, and no other funds shall be commingled in it at any time. The CAISO shall disburse funds from the FERC Annual Charge Trust Account in order to pay the FERC any and all FERC Annual Charges assessed against the CAISO.

**11.19.3 Determination Of The FERC Annual Charge Recovery Rate**

**11.19.3.1 Annual Charge Obligation**

The FERC Annual Charge Recovery Rate shall be set at the projected total FERC Annual Charge Obligation with regard to transactions on the CAISO Controlled Grid during the year in which the FERC Annual Charge Recovery Rate is collected, adjusted for interest projected to be earned on the monies in the FERC Annual Charge Trust Account ("Annual Charge Obligation"), divided by the projected Demand and exports during that year for all entities subject to assessment of FERC Annual Charges by the CAISO ("Annual Charge Demand"). The FERC Annual Charge Recovery Rate for the period from January 1, 2001 until the first adjustment of the FERC Annual Charge Recovery Rate goes into effect shall be posted on the CAISO Website at least fifteen (15) days in advance of the date on which the initial rate will go into effect.

**11.19.3.2 Adjustments to FERC Annual Charge Recovery Rate**

The CAISO may adjust the FERC Annual Charge Recovery Rate on a quarterly basis, as necessary, to reflect the net effect of the following:

- (a) the difference, if any, between actual Annual Charge Demand and projected Annual Charge Demand during the year-to-date;

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (b) the difference, if any, between the projections of the Annual Charge Obligation and the Annual Charge Demand upon which the charge for the year is based and the CAISO's most current projections of those values, provided that the projection of the Annual Charge Obligation may only be adjusted on an annual basis for changes in the Federal Energy Regulatory Commission's budget for its electric regulatory program or changes in the projected total transmission volumes subject to assessment of FERC Annual Charges;
- (c) the difference, if any, between actual and projected interest earned on funds in the FERC Annual Charge Trust Account; and
- (d) any positive or negative balances of funds collected for FERC Annual Charges in a previous year after all Invoices for FERC Annual Charges for that year have been paid by the CAISO, other than those that are addressed through the mechanism described in Section 11.19.3.4.

**11.19.3.3 Effectiveness of FERC Annual Charge Recovery Rate**

The adjusted FERC Annual Charge Recovery Rate shall take effect on the first day of the calendar quarter. The CAISO shall publish all data and calculations used by the CAISO as a basis for such an adjustment on the CAISO Website at least fifteen (15) days in advance of the date on which the new rate shall go into effect.

**11.19.3.4 Under- or Over-Recovery of FERC Annual Charge Recovery Rate**

If the FERC Annual Charges assessed by FERC against the CAISO for transactions on the CAISO Controlled Grid during any year exceed or fall short of funds collected by the CAISO for FERC Annual Charges with respect to that year by a range of ten (10) percent or less, the CAISO shall take such under- or over-recovery into account through an adjustment to the FERC Annual Charge Recovery Rate in accordance with this Section. Any deficiency of available funds necessary to pay for any assessment of FERC Annual Charges payable by the CAISO may be covered by an advance of funds from the CAISO's Grid Management Charge, provided any such advanced funds will be repaid. If the CAISO's collection of funds for FERC Annual Charges with respect to any year results in an under- or over-recovery of greater than ten (10) percent, the CAISO shall either assess a surcharge against all active Scheduling

California Independent System Operator Corporation  
Fifth Replacement Tariff

Coordinators for the amount under-recovered or shall issue a credit to all active Scheduling Coordinators for the amount over-recovered. The surcharge or credit shall be allocated among all active Scheduling Coordinators based on the percentage of the surcharge or credit that reflects the active Scheduling Coordinators metered Demand and exports during the relevant year. For purposes of this section, an "active Scheduling Coordinator" shall be a Scheduling Coordinator certified by the CAISO in accordance with this CAISO Tariff at the time the CAISO issues a surcharge or credit under this section. The CAISO will issue any surcharges or credits under this section within sixty (60) days of receiving a FERC Annual Charge assessment from the FERC.

**11.19.4 Credits And Debits Of FERC Annual Charges From SCs**

In addition to the surcharges or credits permitted under this CAISO Tariff, the CAISO shall credit or debit the appropriate Scheduling Coordinator for any over- or under-assessment of FERC Annual Charges that the CAISO determines occurred due to the error, omission, or miscalculation by the CAISO or the Scheduling Coordinator.

**11.20 NERC/WECC Charges**

**11.20.1 Responsibility For NERC/WECC Charges**

- (a) The CAISO shall invoice Scheduling Coordinators for all of the NERC/WECC Charges that are invoiced to the CAISO by the WECC on behalf of itself, NERC, and/or regional advisory bodies. Each Scheduling Coordinator shall be obligated to pay the CAISO all of the NERC/WECC Charges it is invoiced by the CAISO in accordance with this Section 11.20. Each Scheduling Coordinator's responsibility for NERC/WECC Charges is based on the Scheduling Coordinator's NERC/WECC Metered Demand.
- (b) The CAISO's calculation of collateral requirements and other credit requirements under the CAISO Tariff will not include any adjustment for a Scheduling Coordinator's NERC/WECC Charges.

**11.20.2 Process For Invoicing NERC/WECC Charges Assessed For 2007**

With regard to the NERC/WECC Charges assessed by the WECC for 2007, the following process shall apply:

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (a) The CAISO will issue a Market Notice that will include the following: (i) the total NERC/WECC Charges for 2007 that were invoiced to the CAISO by the WECC and (ii) the total of all Scheduling Coordinators' NERC/WECC Metered Demand for 2005. On or after the date on which the CAISO issues this Market Notice, the CAISO will notify each Scheduling Coordinator in writing of the Scheduling Coordinator's NERC/WECC Metered Demand for 2005. Each Scheduling Coordinator shall have sixty (60) calendar days from the date the CAISO provides it with this notification in writing to raise any disputes concerning the CAISO's calculation of the Scheduling Coordinator's NERC/WECC Metered Demand for 2005.
- (b) The CAISO will issue a Market Notice setting forth the Final NERC/WECC Charge Rate for the 2007 WECC assessment. The Final NERC/WECC Charge Rate for the 2007 WECC assessment shall be based on (i) the total NERC/WECC Charges for 2007 that were invoiced to the CAISO by the WECC divided by (ii) the total of all Scheduling Coordinators' NERC/WECC Metered Demand for 2005, including any adjustments to the calculation of NERC/WECC Metered Demand for 2005 made by the CAISO in response to disputes raised by Scheduling Coordinators pursuant to Section 11.20.2(a).
- (c) Within thirty (30) calendar days after the CAISO issues the Market Notice in Section 11.20.2 (b), the CAISO will issue Final NERC/WECC Charge Invoices that allocate NERC/WECC Charges for 2007 to Scheduling Coordinators based on (i) each Scheduling Coordinator's NERC/WECC Metered Demand for 2005 multiplied by (ii) the Final NERC/WECC Charge Rate for the 2007 WECC assessment. The CAISO shall deduct from the Final NERC/WECC Charge Invoices for the 2007 WECC assessment any amounts that Scheduling Coordinators have already paid directly to the WECC for NERC/WECC Charges for 2007 as reported to the CAISO by the WECC.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.20.3 Process For Invoicing NERC/WECC Charges Assessed For 2008**

With regard to the NERC/WECC Charges to be assessed by the WECC for 2008, the following process shall apply:

- (a) The CAISO will issue a Market Notice that will include the total of all Scheduling Coordinators' NERC/WECC Metered Demand for 2006. On or after the date on which the CAISO issues this Market Notice, the CAISO will notify each Scheduling Coordinator in writing of the Scheduling Coordinator's NERC/WECC Metered Demand for 2006. Each Scheduling Coordinator shall have sixty (60) calendar days from the date the CAISO provides it with this notification in writing to raise any disputes concerning the CAISO's calculation of the Scheduling Coordinator's NERC/WECC Metered Demand for 2006.
- (b) The CAISO will report to the WECC the total of all Scheduling Coordinators' NERC/WECC Metered Demand for 2006, including any adjustments to the calculation of NERC/WECC Metered Demand for 2006 made by the CAISO in response to disputes raised by Scheduling Coordinators pursuant to Section 11.20.3(a). This report shall facilitate the WECC calculation of actual NERC/WECC Charges to be invoiced to the CAISO for 2008.
- (c) Within five (5) Business Days after receipt of the WECC invoice to the CAISO setting forth the assessment for NERC/WECC Charges for 2008, the CAISO shall issue a Market Notice setting forth the Final NERC/WECC Charge Rate for 2008. The Final NERC/WECC Charge Rate for 2008 shall be based on (i) the total NERC/WECC Charges for 2008 that were invoiced to the CAISO by the WECC, divided by (ii) the total of all Scheduling Coordinators' NERC/WECC Metered Demand for 2006, as reported to the WECC.
- (d) Within fifteen (15) Business Days after receipt of the WECC invoice to the CAISO setting forth the assessment for NERC/WECC Charges for 2008, the CAISO will issue Final NERC/WECC Charge Invoices that allocate NERC/WECC Charges for 2008 to Scheduling Coordinators based on (i) each Scheduling Coordinator's

California Independent System Operator Corporation  
Fifth Replacement Tariff

NERC/WECC Metered Demand for 2006, multiplied by (ii) the Final  
NERC/WECC Charge Rate for 2008.

**11.20.4 Process For Invoicing NERC/WECC Charges For Years After 2008**

With regard to the NERC/WECC Charges to be assessed by the WECC for each NERC/WECC Charge Assessment Year after 2008, the following processes shall apply:

- (a) The CAISO will issue a Market Notice that will include the total of all Scheduling Coordinators' NERC/WECC Metered Demand for the calendar year two years prior to the NERC/WECC Charge Assessment Year. On or after the date on which the CAISO issues this Market Notice, the CAISO will notify each Scheduling Coordinator in writing of the Scheduling Coordinator's NERC/WECC Metered Demand for the calendar year two years prior to the NERC/WECC Charge Assessment Year. Each Scheduling Coordinator shall have sixty (60) calendar days from the date the CAISO provides it with this notification in writing to raise any disputes concerning the CAISO's calculation of the Scheduling Coordinator's NERC/WECC Metered Demand for the calendar year two years prior to the NERC/WECC Charge Assessment Year.
- (b) The CAISO will report to the WECC the total of all Scheduling Coordinators' NERC/WECC Metered Demand for the calendar year two years prior to the NERC/WECC Charge Assessment Year, including any adjustments to the calculation of NERC/WECC Metered Demand for that year made by the CAISO in response to disputes raised by Scheduling Coordinators pursuant to Section 11.20.4(a). The report will also include any adjustments to the calculation of NERC/WECC Metered Demand, based on decisions by the WECC to permit such adjustments, that the CAISO has time to reflect in the report and that the WECC provides to the CAISO in a written statement in accordance with the CAISO-WECC Billing Services Agreement. This report shall facilitate the WECC's calculation of actual NERC/WECC Charges to be invoiced to the CAISO for the NERC/WECC Charge Assessment Year.



California Independent System Operator Corporation  
Fifth Replacement Tariff

- (c) The CAISO will issue a Market Notice setting forth the Preliminary NERC/WECC Charge Rate for the NERC/WECC Charge Assessment Year.
- (d) By August 31 of the year preceding the NERC/WECC Charge Assessment Year, the CAISO will issue Preliminary NERC/WECC Charge Invoices for the NERC/WECC Charge Assessment Year.
- (e) Within five (5) Business Days after receipt of the WECC's invoice to the CAISO setting forth the assessment of NERC/WECC Charges for the NERC/WECC Charge Assessment Year, the CAISO shall issue a Market Notice setting forth the Final NERC/WECC Charge Rate for the NERC/WECC Charge Assessment Year. The Final NERC/WECC Charge Rate for the NERC/WECC Charge Assessment Year shall be based on (i) the total NERC/WECC Charges for the NERC/WECC Charge Assessment Year that were invoiced to the CAISO by the WECC, divided by (ii) the total of all Scheduling Coordinators' NERC/WECC Metered Demand including any adjustments to the calculation of NERC/WECC Metered Demand as reported to the WECC pursuant to Section 11.20.4(b), and including any additional adjustments to the calculation of NERC/WECC Metered Demand, based on decisions by the WECC to permit such adjustments, that the WECC provides to the CAISO in a written statement in accordance with the CAISO-WECC Billing Services Agreement.
- (f) Within fifteen (15) Business Days after receipt of the WECC invoice to the CAISO setting forth the assessment for NERC/WECC Charges for the NERC/WECC Charge Assessment Year, the CAISO will issue Final NERC/WECC Charge Invoices that allocate NERC/WECC Charges for the NERC/WECC Charge Assessment Year to Scheduling Coordinators based on (i) each Scheduling Coordinator's NERC/WECC Metered Demand as adjusted pursuant to Sections 11.20.(b) and 11.20.4(e) and pursuant to any additional adjustments that the WECC provides to the CAISO in a written statement in accordance with the CAISO-WECC Billing Services Agreement, multiplied by (ii) the Final

California Independent System Operator Corporation  
Fifth Replacement Tariff

NERC/WECC Charge Rate for the NERC/WECC Charge Assessment Year. If and to the extent that a Scheduling Coordinator has not already paid all of the NERC/WECC Charges for the NERC/WECC Charge Assessment Year that it is required to pay, the Scheduling Coordinator's Final NERC/WECC Charge Invoice will show the amount the Scheduling Coordinator is still required to pay. If and to the extent that a Scheduling Coordinator has already paid in excess of the NERC/WECC Charges for the NERC/WECC Charge Assessment Year that the Scheduling Coordinator is required to pay, the Scheduling Coordinator's Final NERC/WECC Charge Invoice will show the amount the Scheduling Coordinator will be credited.

**11.20.5 Timely Payments**

Scheduling Coordinators shall make timely payments to the CAISO pursuant to Preliminary NERC/WECC Charge Invoices within thirty (30) calendar days of issuance of such invoices. Scheduling Coordinators shall make timely payments to the CAISO pursuant to Final NERC/WECC Charge Invoices within fifteen (15) Business Days of issuance of such invoices.

**11.20.6 NERC/WECC Charge Trust Account**

The CAISO shall deposit all payments received pursuant to Preliminary NERC/WECC Charge Invoices and Final NERC/WECC Charge Invoices in the NERC/WECC Charge Trust Account. The NERC/WECC Charge Trust Account shall be separate from all other accounts maintained by the CAISO, and no other funds shall be commingled in it at any time. The CAISO shall disburse funds from the NERC/WECC Charge Trust Account in order to pay the WECC any and all NERC/WECC Charges invoiced to the CAISO.

**11.20.7 Preliminary And Final NERC/WECC Charge Invoices**

The CAISO shall invoice NERC/WECC Charges to Scheduling Coordinators by issuing Preliminary NERC/WECC Charge Invoices and Final NERC/WECC Charge Invoices. The Preliminary NERC/WECC Charge Invoices and Final NERC/WECC Charge Invoices shall be issued in accordance with the schedules set forth in this Section 11.20, provided that the CAISO may issue a Market Notice informing Scheduling Coordinators that the CAISO will implement a temporary modification to that schedule and

California Independent System Operator Corporation  
Fifth Replacement Tariff

setting forth the reasons for such modification, in which case the modified schedule described in that Market Notice shall govern.

**11.20.7.1 Confirmation**

It is the responsibility of each Scheduling Coordinator to notify the CAISO if the Scheduling Coordinator fails to receive a Preliminary NERC/WECC Charge Invoice or a Final NERC/WECC Charge Invoice in accordance with the applicable schedule. Each Scheduling Coordinator shall be deemed to have received its Preliminary NERC/WECC Charge Invoice or a Final NERC/WECC Charge Invoice on the date specified in the applicable schedule, unless the Scheduling Coordinator notifies the CAISO to the contrary.

**11.20.7.2 Validation**

Each Scheduling Coordinator shall have the opportunity to review the terms of the Preliminary NERC/WECC Charges Invoices and the Final NERC/WECC Charge Invoices that it receives. The Scheduling Coordinator shall be deemed to have validated each Preliminary NERC/WECC Charge Invoice or Final NERC/WECC Charge Invoice unless it has raised a dispute within ten (10) calendar days from the date of issuance. Once validated, a Preliminary NERC/WECC Charge Invoice or Final NERC/WECC Charge Invoice shall be binding on the Scheduling Coordinator to which it relates.

**11.20.7.3 Disputes and Dispute-Related Corrections**

Scheduling Coordinators shall be prohibited from disputing any Preliminary NERC/WECC Charge Invoice or Final NERC/WECC Charge Invoice, except on grounds that an error in a Preliminary NERC/WECC Charge Invoice or Final NERC/WECC Charge Invoice is due to a mere typographical or other ministerial error by the CAISO. A Scheduling Coordinator that wishes to dispute a NERC/WECC Charge Invoice on such grounds shall give the CAISO notice of dispute in writing within ten (10) calendar days of issuance. The notice of dispute shall state clearly the issue date of the Preliminary NERC/WECC Charge Invoice or Final NERC/WECC Charge Invoice, the item or calculation disputed, and the reasons for the dispute, and shall be accompanied by all available evidence reasonably required to support the claim. If the Scheduling Coordinator is correct that the Preliminary NERC/WECC Charge Invoice or Final NERC/WECC Charge Invoice contains a typographical or other ministerial error and the resolution of the dispute makes correction necessary, the CAISO shall issue a corrected Preliminary NERC/WECC Charge

California Independent System Operator Corporation  
Fifth Replacement Tariff

Invoice or a corrected Final NERC/WECC Charge Invoice within fifteen (15) calendar days of issuance of the invoice that is being corrected.

Each Scheduling Coordinator that receives a Preliminary NERC/WECC Charge Invoice or a Final NERC/WECC Charge Invoice shall pay any net debit and shall be entitled to receive any net credit in a Preliminary NERC/WECC Charge Invoice or a Final NERC/WECC Charge Invoice on the Payment Date, regardless of whether there is any dispute regarding the amount of the debit or credit. The CAISO will issue corrected Preliminary NERC/WECC Charge Invoices or corrected Final NERC/WECC Charge Invoices if the resolution of a dispute concerning a Preliminary NERC/WECC Charge Invoice or a Final NERC/WECC Charge Invoice, brought pursuant to this Section 11.20, makes such a correction necessary.

**11.20.8 Provision Of Payments And Information To The WECC**

- (a) With regard to NERC/WECC Charges assessed for 2007, the CAISO will forward to the WECC, within five (5) Business Days after the deadline for timely payments of Final NERC/WECC Charge Invoices pursuant to Section 11.20.2 has expired, (i) the amounts collected pursuant to Final NERC/WECC Charge Invoices for 2007 and (ii) a list of all Scheduling Coordinators that have failed to make full payment pursuant to their Final NERC/WECC Charge Invoices and the amounts that are unpaid.
- (b) With regard to NERC/WECC Charges assessed for years after 2007, the CAISO will forward to the WECC, at least three (3) Business Days prior to January 2 of each NERC/WECC Charge Assessment Year, (i) the amounts collected pursuant to Final NERC/WECC Charge Invoices for the NERC/WECC Charge Assessment Year and (ii) a list of all Scheduling Coordinators that have failed to make full payment pursuant to their NERC/WECC Charge Invoices and the amounts that are unpaid.
- (c) Under no circumstances shall the CAISO be obligated to pay to the WECC, NERC or any regional advisory body, or to their successors or assignees, any NERC/WECC Charges or any interest charges related to NERC/WECC Charges

California Independent System Operator Corporation  
Fifth Replacement Tariff

except for those NERC/WECC Charges actually paid to the CAISO by Scheduling Coordinators. The CAISO shall have no obligations whatsoever to pursue collections of NERC/WECC Charges other than the obligation to invoice Scheduling Coordinators and to provide information to the WECC or NERC as provided for in the CAISO Tariff. Notwithstanding the foregoing, the CAISO shall have the right, at its sole discretion, to recoup, set off and apply any amount to which a Scheduling Coordinator is or will be entitled, in or towards the satisfaction of any of that Scheduling Coordinator's past-due NERC/WECC Charges in accordance with Section 11.29.13.7.

- (d) The CAISO shall, on request, certify in writing the NERC/WECC Charges owed by a Scheduling Coordinator that remain unpaid and shall provide certified copies of the relevant Preliminary NERC/WECC Charge Invoices, Final NERC/WECC Charge Invoices, and other documentation on which the CAISO's certificate was based to the WECC, NERC, and the applicable Scheduling Coordinators. A CAISO certificate given under this Section 11.20.7(d) may be used as prima facie evidence of the amount due in any legal proceedings.

**11.21 Make Whole Payments for Price Corrections**

**11.21.1 CAISO Demand and Exports**

If the CAISO corrects an LMP in the upward direction pursuant to Section 35 that impacts Demand in the Day-Ahead Market and the HASP such that either a portion of or the entire cleared CAISO Demand or export Economic Bid curve becomes uneconomic, then the CAISO will calculate and apply the Price Correction Derived LMP for settlement of CAISO Demand and exports in Section 11.2.1.2, 11.2.3, 11.2.1.4 and 11.4.1. The CAISO shall not calculate and apply a Price Correction Derived LMP for settlement of exports that are part of a Schedule that results from Bids submitted in violation of Section 30.5.5. The CAISO will calculate a Price Correction Derived LMP for each affected CAISO Demand and exports as follows: the total cleared MWhs of CAISO Demand or exports in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable, multiplied by the corrected LMP, minus the make-whole payment amount, all of which is divided by the total cleared MWhs of CAISO Demand or export in the Day-Ahead

California Independent System Operator Corporation  
Fifth Replacement Tariff

Schedule or HASP Intertie Schedule, as applicable. The make-whole payment amount will be calculated on an hourly basis determined by the area between the Scheduling Coordinator's CAISO Demand or Export Bid curve and the corrected LMP, which is calculated as the MWhs for each of the cleared bid segments in the Day-Ahead Schedule or HASP Intertie Schedule for the affected resource, multiplied by the maximum of zero or the corrected LMP minus the bid segment price. For the purpose of this calculation, the CAISO will not factor in a make-whole payment amount for Self-Scheduled CAISO Demand or exports. Any non-zero amounts in revenue collected as a result of the application of the Price Correction Derived LMP will be captured through the calculation of the IFM Congestion Charge reflected in Section 11.2.4.1 and the allocation of non-zero amounts of the sum of Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy in accordance with Section 11.5.4.

**11.21.2 Price Correction for Settlement of Virtual Awards**

If the CAISO corrects an LMP pursuant to Section 35 that affects a Virtual Award such that either a portion or the entirety of the Virtual Bid Curve associated with the Virtual Award becomes uneconomic, then the CAISO will calculate and apply the price correction for settlement of Virtual Awards as follows: the total cleared MWhs of Virtual Awards multiplied by the corrected LMP, plus the make-whole amount. The make-whole amount for Virtual Demand Awards will be calculated on an hourly basis determined by the area between the Virtual Bid Curve and the corrected LMP, which is calculated as the MWhs in each of the cleared Virtual Bid segments of the Virtual Demand Bid multiplied by the maximum of zero or the corrected LMP minus the Virtual Bid segment price. For Virtual Supply Awards, the make-whole amount will be calculated on an hourly basis determined by the area between the Virtual Bid Curve and the corrected LMP, which is calculated as the MWhs in each of the cleared Virtual Bid segments of the Virtual Supply Bid multiplied by the maximum of zero or the Virtual Bid segment price minus the corrected LMP.

**11.22 Grid Management Charge**

**11.22.1 CAISO'S Obligations**

**11.22.1.1 FERC's Uniform System of Accounts**

The CAISO shall maintain a set of financial statements and records in accordance with the FERC's Uniform System of Accounts.

**11.22.1.2 [NOT USED]**

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.22.2 Costs Recovered Through The Grid Management Charge**

The Grid Management Charge shall recover the following costs incurred by the CAISO, as described in more detail in Appendix F, Schedule 1:

- (1) CAISO Operating Costs;
- (2) CAISO Other Costs and Revenues;
- (3) CAISO Financing Costs; and
- (4) CAISO Operating Cost Reserve adjustment; and
- (5) CAISO Cash-Funded Capital and Project Costs.

**11.22.2.1 [NOT USED]**

**11.22.2.2 [NOT USED]**

**11.22.2.3 [NOT USED]**

**11.22.2.4 [NOT USED]**

**11.22.2.5 Allocation of the GMC Among Scheduling Coordinators**

The costs recovered through the Grid Management Charge shall be allocated to the service charges that comprise the Grid Management Charge. The costs recovered through the Grid Management Charge shall not exceed \$197 million for 2012 and \$199 million for 2013 and 2014 unless the ISO submits a tariff amendment increasing such amounts pursuant to Section 205 of the FPA and FERC accepts such amendment. For subsequent years, the ISO must submit a tariff amendment establishing a maximum revenue requirement, which shall be subject to FERC approval. The service charges, as described in more detail in Appendix F, Schedule 1, Part A, are as follows:

- (a) Market Services Charge;
- (b) System Operations Charge; and
- (c) CRR Services Charge.

The charges shall be levied separately monthly in arrears on all Scheduling Coordinators based on the billing determinants specified below for each charge in accordance with formulae set out in Appendix F, Schedule 1, Part A.

**11.22.2.5.1 Market Services Charge**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Subject to Section 11.22.4, the Market Services Charge for each Scheduling Coordinator is calculated according to the formula in Appendix F, Schedule 1, Part A.

**11.22.2.5.2 System Operations Charge**

Subject to the exemption for certain long term contracts set forth in Appendix F, Schedule 1, Part E, the System Operations Charge for each Scheduling Coordinator is calculated according to the formula in Appendix F, Schedule 1, Part A.

**11.22.2.5.3 CRR Services Charge**

The CRR Services Charge for each Scheduling Coordinator is calculated according to the formula in Appendix F, Schedule 1, Part A.

**11.22.2.6 Calculation and Adjustment of the Grid Management Charge**

The charges set forth in Section 11.22.2.5 that comprise the Grid Management Charge shall be calculated through the formula set forth in Appendix F, Schedule 1, Part A. The formula set forth in Appendix F, Schedule 1, Part C sums the CAISO Operating Costs (less any available expense recoveries), CAISO Other Costs and Revenues, CAISO Financing Costs, and CAISO Operating Cost Reserve adjustment and CAISO Cash-Funded Capital and Project Costs associated with each of the CAISO service charges to obtain a total revenue requirement. This revenue requirement is allocated to each service as follows: twenty seven (27) percent to Market Services; sixty nine (69) percent to System Operations; and four (4) percent to CRR Services.

The revenue requirement for each service then shall be divided by the forecast annual or periodic billing determinant volume to obtain a rate for each service, which will be payable by Scheduling Coordinators as set forth in Section 11.22.2.5. The rates so established will be adjusted annually, through the operation of the formula set forth in Appendix F, Schedule 1, Part A. The CAISO shall post on the CAISO Website each year, before the adjusted rates go into effect, as described in Appendix F, Schedule 1, Part D, data showing the rates adjusted to reflect any change in the annual revenue requirement, variance between forecast and actual costs for the previous year or period, or any surplus revenues from the previous year or period (as defined in Section 11.17), or the inability to recover from a Scheduling Coordinator its share of the Grid Management Charge, or any under-achievement of a forecast of the



California Independent System Operator Corporation  
Fifth Replacement Tariff

billing determinant volumes used to establish the rates. Appendix F, Schedule 1, Part B sets forth the conditions under which a quarterly adjustment to the Grid Management Charge will be made.

**11.22.2.6.1 Credits and Debits of the Grid Management Charge**

In addition to the adjustments permitted under Section 11.29.7.3.3, the CAISO shall credit or debit, as appropriate, the account of a Scheduling Coordinator for any overpayment or underpayment of the Grid Management Charge that the CAISO determines occurred due to error, omission, or miscalculation by the CAISO or the Scheduling Coordinator.

**11.22.3 [NOT USED]**

**11.22.4 TOR Charges**

The ISO will exempt TORs from the Market Services Charge and the System Operations Charge that are calculated through the formula set forth in Appendix F, Schedule 1, Part A. The TOR Charge will be \$0.27/MWh, assessed on the minimum of a Scheduling Coordinator's TOR supply or TOR demand per Settlement Interval.

**11.22.5 Bid Segment Fee**

Each Scheduling Coordinator submitting a Bid will be subject to a Bid Segment Fee of \$0.005 per segment of the Bid. The ISO will credit amounts recovered through the Bid Segment Fee against the revenue requirement for Market Services Charge as described in Appendix F, Schedule 1, Part A.

**11.22.6 CRR Transaction Fee**

Each Scheduling Coordinator submitting a CRR Allocation nomination or CRR Auction bid will be subject to a CRR Transaction Fee of \$1.00 per submitted nomination or bid. The ISO will credit amounts recovered through the CRR Transaction Fee against the revenue requirement for CRR Services Charge as described in Appendix F, Schedule 1, Part A.

**11.22.7 Inter-Scheduling Coordinator Trade Transaction Fee**

Each Scheduling Coordinator submitting an Inter-Scheduling Coordinator Trade will be subject to a Inter-Scheduling Coordinator Trade Transaction Fee of \$1.00 per party per Inter-Scheduling Coordinator Trade. The ISO will credit amounts recovered through the Inter-Scheduling Coordinator Trade Transaction Fee against the revenue requirement for Market Services Charge as described in Appendix F, Schedule 1, Part A.

**11.22.8 Scheduling Coordinator ID Charge**

The Scheduling Coordinator ID Charge for each Scheduling Coordinator is \$1,000.00 per month, per Scheduling Coordinator ID Code for any Trading Month in which the Scheduling Coordinator has market activity. The ISO will credit amounts recovered through the Scheduling Coordinator ID Charges against the revenue requirement for Market Services Charges as described in Appendix F, Schedule 1, Part A.

**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,

California Independent System Operator Corporation  
Fifth Replacement Tariff

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 Net Scheduled 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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (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.

**11.24 [NOT USED]**

**11.24.1 [NOT USED]**

**11.24.2 [NOT USED]**

**11.24.3 [NOT USED]**

**11.24.4 [NOT USED]**

**11.25 Flexible Ramping Constraint Compensation**

**11.25.1 Compensation**

All resources identified as resolving the Flexible Ramping Constraint in the applicable RTUC interval are awarded Flexible Ramping Constraint capacity and will be compensated for such capacity for each RTUC interval, whether or not the Flexible Ramping Constraint is binding, limited by the quantity of Flexible Ramping Constraint requirements set by the CAISO operators as follows: The Scheduling Coordinator is paid the product of the (1) upward MW of capacity identified to satisfy the constraint, multiplied by 0.25 hours, and (2) Flexible Ramping Constraint Derived Price calculated for each applicable fifteen-minute RTUC interval as described further in this Section 11.25.1. Payment to resources will be rescinded as set forth in Section 11.25.2. For each applicable fifteen-minute RTUC interval, the Flexible Ramping Constraint Derived Price is equal to the lesser of: 1) \$800/MWh; or 2) the greater of: (a) zero (0), or (b) the Real-Time ASMP for Spinning Reserves for the applicable fifteen-minute RTUC interval; or (c) the Flexible Ramping Constraint Shadow Price minus seventy-five (75) percent of the maximum of (i) zero (0), or (ii) the Real-Time System Marginal Energy Cost, calculated as the simple average of the three five-minute Dispatch Interval System Marginal energy costs in the applicable fifteen-minute RTUC interval.



California Independent System Operator Corporation  
Fifth Replacement Tariff

The Shadow Price of the binding Flexible Ramping Constraint represents the reduction of the total Energy and Ancillary Services procurement cost associated with a marginal change of that constraint, which is equal to zero (0) if the Flexible Ramping Constraint is not binding. All costs associated with payments made pursuant to this Section 11.25 are allocated to all Scheduling Coordinators pursuant to the requirements set forth in Section 11.25.3.

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

Payments 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 amounts calculated as the minimum of: 1) the Flexible Ramping Constraint capacity identified as having contributed to the relief of the Flexible Ramping Constraint, or 2) the maximum of (a) zero (0), or (b) the difference between (i) the absolute value of sum of the negative Tier 1 UIE and negative Tier 2 UIE, which are both as defined in Section 11.5.2, and (ii) the upward MWs identified as Undelivered Ancillary Services Capacity as required in Section 11.10.9.3. The rescinded amounts will be based on the product of the: 1) MWs quantities to be rescinded determined as described in this Section 11.25.2; and 2) hourly Flexible Ramping Constraint price determined as the weighted average of the four fifteen-minute Flexible Ramping Constraint Derived Prices derived as described in Section 11.25.1.

**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 in Section 11.25.2. The CAISO divides the total Flexible Ramping Constraint costs incurred in two portions and allocates each portion as follows:

**11.25.3.1 Allocation to Measured Demand**

Seventy five (75) percent of the total Flexible Ramping Constraint costs netted as described above in the Section 11.25.3, are allocated to Scheduling Coordinators based on their Measured Demand for each applicable Trading Hour. Each Scheduling Coordinator is assessed a portion of seventy-five (75) percent share of the total costs equal to the Scheduling Coordinator's Measured Demand for the applicable Trading Hour divided by total market Measured Demand for the applicable Trading Hour.

**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

California Independent System Operator Corporation  
Fifth Replacement Tariff

section 11.25.3, are allocated to Scheduling Coordinators based on their gross negative supply deviations as follows, using a two-step process.

First on a daily basis, the CAISO determines a daily rate equal to twenty-five (25) percent of the total daily Flexible Ramping Constraint costs divided by total daily gross supply negative deviations for the applicable Trading Day. Each Scheduling Coordinator is assessed its share of these daily costs based on its daily gross negative deviations calculated by resource as described below. Second, at the end of each Trading Month, the ISO reverses the daily amounts assessed to Scheduling Coordinators and calculates a monthly rate equal to twenty-five (25) percent of the total monthly Flexible Ramping Constraint costs divided by the total monthly gross supply negative deviations. Each Scheduling Coordinator is assessed its share of these monthly costs per its monthly gross negative deviations calculated by resource as described below. The gross supply negative deviations are determined by resource based on the sum of: (1) the resource's total negative Settlement Interval Tier 1 UIE and Tier 2 UIE deviations, which are determined as defined in Section 11.5.2, and (2) any negative import Operational Adjustments. Gross supply negative deviations determined for this purpose are not netted across Settlement Intervals. The CAISO will provide the ability for Scheduling Coordinators to see daily or monthly Flexible Ramping Constraint cost allocation by resource for their resources in their regularly released settlement statements.

**11.26 [NOT USED]**

**11.27 Voltage Support And Black Start Charges**

The CAISO shall calculate, account for and settle charges and payments for Voltage Support and Black Start as set out in Sections 11.10.1.4, 11.10.1.5, 11.10.7, 11.10.8, and the applicable Business Practice Manual.

**11.28 Calculating, Charging And Disbursing Default Interest**

The CAISO shall calculate, charge and disburse all collected default Interest in accordance with the CAISO Tariff.

**11.29 CAISO as Counterparty; Billing and Payment;**

- (a) The CAISO shall be the contracting counterparty, in its own name and right, to each Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO for any

California Independent System Operator Corporation  
Fifth Replacement Tariff

purchase or sale of any product or service, or for any other transaction, that is financially settled by the CAISO under the CAISO Tariff, except under the following circumstances:

- (i) The CAISO shall not be the contracting counterparty for transactions that procure Station Power for a Generating Unit located in Mexico or for transactions that procure Energy or Ancillary Services within Mexico; for such transactions, the CAISO will not act as principal but instead as agent for and on behalf of the relevant Scheduling Coordinators.
- (ii) The provisions of this Section 11.29 will not apply to the billing and payment of transactions associated with Trading Days that occurred prior to September 1, 2012. Billing and payment of such transactions shall be governed by the terms of the tariff effective on the Trading Days.
- (iii) The CAISO's status as contracting counterparty is not intended to affect the tax-exempt status of transmission facilities or entitlements subject to the CAISO's operational control.

Bids for Supply submitted by a Scheduling Coordinator for any resource funded by Municipal Tax Exempt Debt are not, and shall not be construed or deemed to be, a sale to the CAISO or other transaction that is financially settled by the CAISO to the extent that the load serving entity that holds entitlements to the resource for which such Bids for Supply are submitted is using its entitlements to serve native load during that interval. For purposes of this subsection only, a load serving entity is using its entitlements to a resource to serve native load under the following conditions: A) For a Load Serving Entity that is serving demand inside the ISO Balancing Authority Area, if the total MW volume of such Bids for Supply that clear in any settlement interval is less than or equal to the metered CAISO Demand for that settlement interval for the Load Serving Entity that holds entitlements to the resources for which such Bids for Supply are submitted, or B) for load serving entities that serve demand outside of the CAISO Balancing Authority Area by wheeling through or exporting from the CAISO Balancing Authority Area, if the total MW volume of such Bids for Supply that clear in any settlement interval is less than

California Independent System Operator Corporation  
Fifth Replacement Tariff

or equal to the total of wheel throughs or exports that are used to serve the native load for the load serving entity that holds entitlements to the resources for which such Bids for Supply are submitted during that settlement interval. Nothing in the two preceding sentences shall affect credit requirements under Section 12 of the CAISO Tariff or settlements charges or credits issued pursuant to any section of the CAISO tariff. The details of such Bids for Supply may be included in Settlement Statements by the CAISO for purposes of calculating settlement charges and credits other than for Supply.

- (b) The purchase or sale of any products or service, or any other transaction, that is financially settled by CAISO under this CAISO Tariff shall be deemed to occur within the State of California. To the extent permitted by applicable law, any warranties provided by the sellers to the CAISO of such products or services, whether express, implied or statutory, are hereby passed to the Business Associates who purchase such products or services from the CAISO on a “pass through basis” and to the extent not passed through, any such warranties are hereby assigned by the CAISO to the purchasing Business Associates. Sellers to the CAISO and Business Customers acknowledge that warranties on such products are limited to that offered by the seller to CAISO and will exist, if at all, solely between the seller to the CAISO and the purchasing Business Associate. AS BETWEEN THE PURCHASING BUSINESS ASSOCIATE AND THE CAISO AS COUNTERPARTY, NO EXPRESS OR IMPLIED WARRANTIES ARE MADE BY THE CAISO REGARDING THE PRODUCTS AND SERVICES SOLD BY THE CAISO AS COUNTERPARTY, AND ANY SUCH PRODUCTS AND SERVICES ARE PROVIDED ON AN “AS IS” AND “AS AVAILABLE” BASIS. THE CAISO MAKES NO WARRANTY OR REPRESENTATION THAT THE PRODUCTS OR SERVICES WILL BE UNINTERRUPTED OR ERROR FREE. PURCHASING BUSINESS ASSOCIATES HEREBY WAIVE, AND THE CAISO HEREBY DISCLAIMS, ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. THE CAISO DOES NOT WARRANT THAT THE PRODUCTS AND

California Independent System Operator Corporation  
Fifth Replacement Tariff

SERVICES OFFERED WILL MEET CUSTOMER'S REQUIREMENTS. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY THE CAISO OR ANY AUTHORIZED REPRESENTATIVE OF THE CAISO SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF ANY PASS THROUGH OR ASSIGNED WARRANTY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES IN CERTAIN CIRCUMSTANCES, SO THE ABOVE EXCLUSION APPLIES ONLY TO THE EXTENT PERMITTED BY APPLICABLE LAW.

- (c) The CAISO will calculate for each charge the amounts payable by the relevant Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for each Settlement Period of the Trading Day, and the amounts payable to that Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for each charge for each Settlement Period of that Trading Day and shall arrive at a net amount payable for each charge by or to that Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for each charge for that Trading Day. Each of these net amounts will appear in the Settlement Statements that the CAISO will provide to the relevant Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO.
- (d) The components of the Grid Management Charge will be included in an Initial Settlement Statement T+3B, and any Recalculation Settlement Statement with the other types of charges referred to in Section 11.

**11.29.1 Billing And Payment Process Based On Settlement Statements**

The billing and payment process shall be based on the issuance of Initial Settlement Statement T+3B and the Recalculation Settlement Statements.

**11.29.2 Time-Frame For Payments Or Charges**

Payments or charges for the items referred to in Section 11.1.2 (except for the charges payable under long-term contracts) for each Trading Day in each calendar month shall be made four (4) Business Days after issuance of the Invoices and Payment Advices issued in accordance with Section 11.29.10.

Payments for FERC Annual Charges will be made in accordance with Section 11.19.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.29.3 Prepayments**

- (a) A Scheduling Coordinator or CRR Holder may choose to pay at an earlier date than the Payment Date specified in the CAISO Payments Calendar by way of prepayment, provided it notifies the CAISO by electronic means before submitting its prepayment.
- (b) Prepayment notifications must specify the dollar amount prepaid.
- (c) Prepayments must be made by Scheduling Coordinators or CRR Holders via Fedwire or ACH into their CAISO prepayment accounts designated by the CAISO. The relevant Scheduling Coordinator or CRR Holder shall grant the CAISO a security interest on all funds in its CAISO prepayment account.
- (d) On any Payment Date the CAISO shall be entitled to cause funds from the relevant Scheduling Coordinator's or CRR Holder's CAISO prepayment account to be transferred to the CAISO Clearing Account in such amounts as may be necessary to discharge in full that Scheduling Coordinator's or CRR Holder's payment obligation arising in relation to that Payment Date by way of set-off or recoupment.
- (e) Any funds held in the relevant Scheduling Coordinator's or CRR Holder's CAISO prepayment account shall be treated as part of that Scheduling Coordinator's or CRR Holder's Financial Security.
- (f) Interest (or other income) accruing on the relevant Scheduling Coordinator's or CRR Holder's CAISO prepayment account shall inure to the benefit of that Scheduling Coordinator or CRR Holder and shall be added to the balance of its CAISO prepayment account on a monthly basis.
- (g) Funds held in a CAISO prepayment account by a Scheduling Coordinator or CRR Holder may be recouped, offset or applied by the CAISO to any outstanding financial obligations of that Scheduling Coordinator or CRR Holder to the CAISO.

**11.29.4 System Failure**

**11.29.4.1 At CAISO Debtor's Bank**

California Independent System Operator Corporation  
Fifth Replacement Tariff

If any CAISO Debtor becomes aware that a payment will not, or is unlikely to be, received by the CAISO Bank by 10:00 am on the relevant Payment Date for any reason (including failure of the Fedwire or any computer system), it shall immediately notify the CAISO, giving full details of the payment delay (including the reasons for the payment delay). The CAISO Debtor shall make all reasonable efforts to remit payment as soon as possible, by an alternative method if necessary, to ensure that funds are received for value no later than 10:00 am on the Payment Date, or as soon as possible thereafter.

**11.29.4.2 At the CAISO's Bank**

In the event of failure of any electronic transfer system affecting the CAISO Bank, the CAISO shall use reasonable efforts to establish alternative methods of remitting funds to the CAISO Creditors' Settlement Accounts by close of banking business on that Payment Date, or as soon as possible thereafter. The CAISO shall notify the CAISO Debtors and the CAISO Creditors of occurrence of the system failure and the alternative methods and anticipated time of payment. In the event that a payment is received late by the CAISO Bank due to either a system failure affecting the CAISO Bank or untimely performance of an ACH draft debit for which the CAISO is responsible, the enforcement actions set forth in Section 11.29.14 shall not apply to such late payment.

**11.29.5 General Principles For Production Of Settlement Statements**

**11.29.5.1 Basis of Settlement**

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.

**11.29.5.2 Right to Dispute**

All Scheduling Coordinators, CRR Holders, Black Start Generators or Participating TOs shall have the right to dispute any item or calculation set forth in any Recalculation Settlement Statement T+12B (except Scheduling Coordinator Estimated Settlement Quality Meter Data or CAISO Estimated Settlement Quality Meter Data), or Recalculation Settlement Statement T+55B, or Incremental Changes in Recalculation Settlement Statements T+9M, T+18M, and T+35M or Unscheduled Recalculation Settlement Statements that it receives pursuant to Section 11.29.7.3 in accordance with this CAISO Tariff, but not those set forth in Initial Settlement Statement T+3B or Recalculation Settlement Statement T+36M.

**11.29.5.3 Data Files**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Settlement Statements relating to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall be accompanied by data files of supporting information that includes the following for each Settlement Period of the Trading Day:

- (a) the aggregate quantity (in MWh) of Energy supplied or withdrawn by the Scheduling Coordinator Metered Entities represented by the Scheduling Coordinator;
- (b) the aggregate quantity (in MW) and type of Ancillary Services capacity provided or purchased;
- (c) the relevant prices that the CAISO has applied in its calculations;
- (d) details of the scheduled quantities of Energy and Ancillary Services accepted by the CAISO in the Day-Ahead Market and the Hour-Ahead Market;
- (e) details of Imbalance Energy and penalty payments;
- (f) details of the CRR Payments or CRR Charges, and any payments or charges associated with the CRR Auctions; and
- (g) detailed calculations of all fees, charges and payments allocated among Scheduling Coordinators and each Scheduling Coordinator's share.

**11.29.5.4 Settlement Software**

The CAISO Settlement software shall be audited by an independent firm of auditors competent to carry out audits of such software to determine its consistency with the CAISO Tariff. In any dispute regarding Settlement calculations, a certificate of such firm of auditors that the CAISO software is consistent with the CAISO Tariff shall be prima facie proof that the charges shown in a Settlement Statement have been calculated in a method consistent with the CAISO Tariff. Nothing in this section will be deemed to establish the burden of proof with respect to Settlement calculations in any proceeding.

**11.29.6 Balancing Of Market Accounts In Absence Of Meter Data**

Settlements shall not be cleared for final processing until the accounting trial balance is zero. In order to publish a Settlement Statement, the CAISO may use estimated, disputed or calculated Meter Data.

When actual verified Meter Data is available and all of the disputes raised by Scheduling Coordinators, CRR Holders, Black Start Generators, and Participating TOs during the validation process described in



California Independent System Operator Corporation  
Fifth Replacement Tariff

Section 11.29.8 have been determined, the CAISO shall recalculate the amounts payable and receivable by the affected Scheduling Coordinators, CRR Holders, Black Start Generators, and Participating TOs or by all Scheduling Coordinators, CRR Holders, Black Start Generators, and Participating TOs, if applicable, as soon as reasonably practical and shall show any required adjustments as a debit or credit in the next Settlement Statement.

**11.29.7 Settlements Cycle**

**11.29.7.1 Timing of the Settlements Process**

The CAISO will publish: (i) Initial Settlement Statements T+3B on the third (3) Business Day from the relevant Trading Day (T+3B), (ii) Recalculation Settlement Statements T+12B on the twelfth (12) Business Day from the relevant Trading Day (T+12B), (iii) Recalculation Settlement Statements T+55B on the fifty-fifth (55) Business Day from the relevant Trading Day (T+55B), (iv) Recalculation Settlement Statements T+9M on the one-hundred and ninety-fourth (194) Business Day after the Trading Day, which is approximately nine (9) months after the Trading Day (T+9M) if necessary, (v) Recalculation Settlement Statements T+18M on the three hundred and eighty third (383) Business Day after the Trading Day, which is approximately eighteen (18) calendar months from the relevant Trading Day (T+18M) if necessary, (vi) Recalculation Settlement Statements T+35M on the seven hundred and thirty-seventh (737) Business Day after the Trading Day, which is approximately thirty-five (35) calendar months from the relevant Trading Day (T+35M) if necessary, (vii) Recalculation Settlement Statements T+36M on the seven hundred and fifty-ninth (759) Business Day after the Trading Day, which is approximately thirty-six (36) calendar months from the relevant Trading Day (T+36M) if necessary, and (viii) any Unscheduled Recalculation Settlement Statement issued pursuant to Section 11.29.7.3. The CAISO will issue a notice to the market if a Recalculation Settlement Statement T+9M, Recalculation Settlement Statement T+18M, Recalculation Settlement Statement T+35M, Recalculation Settlement Statement T+36M, or any Unscheduled Recalculation Settlement Statement pursuant to Section 11.29.7.3 is issued for a Trading Day. The CAISO will notify affected Market Participants regarding failed or late publication of any Settlement Statements specified above and will rectify such failed or late publications pursuant to its procedure posted on the CAISO Website.

**11.29.7.1.1 Initial Settlement Statement T+3B**

California Independent System Operator Corporation  
Fifth Replacement Tariff

The CAISO shall provide to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for validation an Initial Settlement Statement T+3B for each Trading Day within three (3) Business Days of the relevant Trading Day, covering all Settlement Periods in that Trading Day. Each Initial Settlement Statement T+3B will be solely based on CAISO Estimated Settlement Quality Meter Data in accordance with Section 11.1.4. The Initial Settlement Statement T+3B will include the following:

- (a) the amount payable or receivable by the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for each charge referred to in Section 11 for each Settlement Period in the relevant Trading Day;
- (b) the total amount payable or receivable by that Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for each charge for all Settlement Periods in that Trading Day after the amounts payable and the amounts receivable under (a) have been netted off pursuant to Section 11.29;
- (c) the components of each charge in each Settlement Period except for information contained in the Imbalance Energy report referred to in this Section 11.29.7.1.1; and
- (d) a breakdown of the components of the Imbalance Energy charge (the Imbalance Energy report).

**11.29.7.1.2 Recalculation Settlement Statements**

The CAISO shall provide to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO Recalculation Settlement Statements in accordance with the CAISO Tariff and the CAISO Payments Calendar. Recalculation Settlement Statements shall be in a format similar to that of the Initial Settlement Statement T+3B and shall include the same granularity of information provided in the Initial Settlement Statement T+3B as amended following the validation procedure.

**11.29.7.1.3 Recalculation Settlement Statement – Bridge Period**

For Trading Days April 1, 2009 through October 31, 2009, the settlement timeline shall include: (i) issuance of Recalculation Settlement Statement T+18M if necessary, Recalculation Settlement Statement T+35M if necessary, and Recalculation Settlement Statement T+36M, if necessary to adjust any charge

California Independent System Operator Corporation  
Fifth Replacement Tariff

set forth in a previously published Settlement Statement for any Trading Day within this period; and (ii) any other Recalculation Settlement Statement authorized under Section 11.29.7.3.

Any Recalculation Settlement Statement issued pursuant to this Section shall be subject to the same provisions in the CAISO Tariff as are applicable to a Recalculation Settlement Statement T+18M, Recalculation Settlement Statement T+35M, Recalculation Settlement Statement T+36M, or any other Recalculation Settlement Statement authorized under Section 11.29.7.3, including, but not limited to, Section 11.29.7.2 (Basis for Billing and Payment), Section 11.29.8 (Confirmation and Validation), and Section 11.29.9 (Payment Procedures), except that Section 11.29.10.2 (Interest) shall not apply.

The CAISO will include the publication dates and related invoice dates for the Recalculation Settlement Statements for Trading Days within the period April 1, 2009 through October 31, 2009 on the CAISO Payments Calendar prepared in accordance with Section 11.29.24.

The CAISO will issue a notice to the market if a Recalculation Settlement Statement T+18M, Recalculation Settlement Statement T+35M, Recalculation Settlement Statement T+36M, or any additional Recalculation Settlement Statement is required for a Trading Day within the period April 1, 2009 through October 31, 2009.

To the extent that any provision in this Section is in conflict or inconsistent with CAISO Tariff Appendix H (Grandfathered Metering and Settlement Provisions for Trading Days Prior to November 1, 2009), the provision in this Section shall prevail.

**11.29.7.1.4 Bridge Period for Settlements Process Timeline Change**

For Trading Days November 1, 2009 to September 30, 2011, the settlement timeline shall include: (i) issuance of Recalculation Settlement Statement T+18M if necessary, Recalculation Settlement Statement T+35M if necessary, and Recalculation Settlement Statement T+36M, if necessary to adjust any charge set forth in a previously published Settlement Statement for any Trading Day within this period; and (ii) any other Recalculation Settlement Statement authorized under Section 11.29.7.3.

Any Recalculation Settlement Statement issued pursuant to this Section shall be subject to the same provisions in the CAISO Tariff as are applicable to a Recalculation Settlement Statement T+18M, Recalculation Settlement Statement T+35M, Recalculation Settlement Statement T+36M, or any other Recalculation Settlement Statement authorized under Section 11.29.7.3, including, but not limited to,

California Independent System Operator Corporation  
Fifth Replacement Tariff

Section 11.29.7.2 (Basis for Billing and Payment), Section 11.29.8 (Confirmation and Validation), and Section 11.29.9 (Payment Procedures), except that Section 11.29.10.2 (Interest) shall not apply.

The CAISO will include the publication dates and related invoice dates for the Recalculation Settlement Statements for Trading Days within the period November 1, 2009 through September 30, 2011 on the CAISO Payments Calendar prepared in accordance with Section 11.29.24.

The CAISO will issue a notice to the market if a Recalculation Settlement Statement T+18M, Recalculation Settlement Statement T+35M, Recalculation Settlement Statement T+36M, or any additional Recalculation Settlement Statement is required for a Trading Day within the period November 1, 2009 through September 30, 2011.

To the extent that any provision in this Section is in conflict or inconsistent with CAISO Tariff Appendix H (Grandfathered Metering and Settlement Provisions for Trading Days Prior to November 1, 2009), the provision in this Section shall prevail.

**11.29.7.2 Basis for Billing and Payment**

The Initial Settlement Statement T+3B and any Recalculation Settlement Statement shall constitute the basis for billing in accordance with this CAISO Tariff. The Initial Settlement Statement T+3B shall constitute the basis for billing for all charges in the first instance. The Recalculation Settlement Statements T+12B and T+55B shall constitute the basis for billing for adjustments to charges set forth in the Initial Settlement Statement T+3B. Each Scheduling Coordinator, CRR Holder, Black Start Generator, and Participating TO shall pay any net debit and, subject to the limitations in Section 11.29.17.1, shall be entitled to receive any net credit shown in its Invoice or Payment Advice on the Payment Date, whether or not there is any dispute regarding the amount of the debit or credit.

**11.29.7.2.1 Elimination of Invoices under \$10.00**

Invoices and Payment Advices due to or from any Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO for amounts less than \$10.00 will be adjusted to \$0.00 and no amount will be due to or from that Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO for that Invoice or Payment Advice.

**11.29.7.3 Unscheduled Recalculation Settlement Statements**

**11.29.7.3.1 Unscheduled Reissue Recalculation Settlement Statement**

California Independent System Operator Corporation  
Fifth Replacement Tariff

The CAISO shall issue an Unscheduled Reissue Recalculation Settlement Statement to correct a miscalculation that occurred on a Recalculation Settlement Statement T+9M or Recalculation Settlement Statement T+18 if the following criteria are met:

- The miscalculation occurred as a result of a CAISO data transfer error or other similar data processing error;
- The miscalculation was identified by the CAISO, Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO on a timely basis within the dispute timeline applicable to the Recalculation Settlement Statement; and
- The financial impact of the miscalculation on the market as a whole was greater than \$1,000,000 for the Trading Day. For purposes of determining whether the \$1,000,000 threshold for issuing the unscheduled recalculation settlement statement has been met, the CAISO will calculate the financial impact resulting from an error based on the dollar value of the charges that were mistakenly assessed due to the error.

The CAISO will issue a notice to advise the market that a miscalculation occurred and that it will be corrected in an Unscheduled Reissue Recalculation Settlement Statement. The CAISO will issue the Unscheduled Reissue Recalculation Settlement Statement no less than thirty (30) days after the date that the market notice was issued and will include the net adjustment amounts in the next available regularly scheduled invoice. Any miscalculation due to a CAISO data transfer error or other similar data processing error that does not meet the criteria set forth in this section will be corrected on the next Recalculation Settlement Statement T+18M or Recalculation Settlement Statement T+35M as appropriate.

**11.29.7.3.2 Unscheduled Directed Recalculation Settlement Statement**

The CAISO shall issue no Recalculation Settlement Statements other than Recalculation Settlement Statements T+12B, Recalculation Settlement Statements T+55B, Recalculation Settlement Statements T+9M, Recalculation Settlement Statements T+18M, Recalculation Settlement Statements T+35M, Recalculation Settlement Statements T+36M, and Unscheduled Reissue Recalculation Settlement Statements unless directed by the CAISO Governing Board or pursuant to a FERC order.

California Independent System Operator Corporation  
Fifth Replacement Tariff

11.29.7.3.3 If an Unscheduled Directed Recalculation Settlement Statement is ordered by the CAISO Governing Board, the CAISO shall arrange to have the Recalculation Settlement Statement carried out as soon as is reasonably practicable following the CAISO Governing Board's order, subject to the availability of staff and computer time, compatible software, appropriate data and other resources.

11.29.7.3.4 The cost of an Unscheduled Directed Recalculation Settlement Statement shall be borne by the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO requesting it, unless an additional Recalculation Settlement Statement was needed due to a clerical oversight or error on the part of the CAISO staff.

11.29.7.3.5 Where an Unscheduled Directed Recalculation Settlement Statement indicates that the accounts of Scheduling Coordinators, CRR Holders, Black Start Generators, or Participating TOs should be debited or credited to reflect alterations to Settlements previously made under this CAISO Tariff, for those Scheduling Coordinators, CRR Holders, Black Start Generators, or Participating TOs affected by the additional Recalculation Settlement Statement, the CAISO shall reflect the amounts to be debited or credited in the next scheduled weekly Invoice or Payment Advice for the end of the month.

11.29.7.3.6 Unscheduled Directed Recalculation Settlement Statements, post closing adjustments and the financial outcomes of CAISO ADR Procedures and any other dispute resolution may be invoiced separately from monthly market activities in accordance with Section 11.29.10.3.

**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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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, Recalculation Settlement Statement T+35M, or Unscheduled Recalculation Settlement Statements that it receives pursuant to Section 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+12B**



California Independent System Operator Corporation  
Fifth Replacement Tariff

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+12B, except for CAISO or Scheduling Coordinator Estimated Settlement Quality Meter Data, no later than fourteen (14) Business Days from the publication date of a Recalculation Settlement Statement T+12B. Valid disputes regarding data appearing on a 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.

**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 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+55B.

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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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 (22) 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.

**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 data 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

California Independent System Operator Corporation  
Fifth Replacement 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.

**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.

**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 date 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 T+55B.

**11.29.8.4.9      **Recurring Disputes or Exceptions****

A Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO may request the CAISO to treat as recurring a dispute or exception raised in accordance with Sections 11.29.8.1 and 11.29.8.3 above, if a dispute or exception would apply to Recalculation Settlement Statements for subsequent Trading Days as permitted by Section 11.29.8.4. A request for recurring treatment may be made for any valid reason provided that Recalculation Settlement Statements for subsequent Trading Days would be affected, including, but not limited to, that the disputed calculation will recur, or that a disagreement as to policy will affect calculations in subsequent Recalculation Settlement Statements. If a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO wishes to request that the CAISO treat a dispute as recurring, it shall, in the notice, clearly indicate that it requests such treatment and set forth in detail the reasons that support such treatment. To the extent possible, the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall state the types of

California Independent System Operator Corporation  
Fifth Replacement Tariff

charges and dates to which the dispute will apply, and provide estimates of the amounts that will likely be claimed on each date.

The CAISO shall make a determination on such a request within five (5) Business Days of receipt. To preserve its right to dispute an item, a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO must continue to raise a dispute or report an exception until it is notified by the CAISO that the CAISO agrees to treat the dispute or exception as recurring. If the CAISO grants a request to treat a dispute or exception as recurring, the dispute raised or exception reported by the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall be deemed to apply to every subsequent Recalculation Settlement Statement provided to the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO from the date that the CAISO grants the request for recurrent treatment until: a) ninety (90) days have elapsed, unless the CAISO indicates a different expiration date on its response to the request, in which case the expiration date shall be as stated by the CAISO in its response or b) the dispute or exception is resolved, whichever is shorter. The CAISO may deny a request that the CAISO treat a dispute as recurring for any valid reason, including because the request is not adequately specific as to the basis for recurring treatment or the subsequent calculations that will be affected.

**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 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

California Independent System Operator Corporation  
Fifth Replacement Tariff

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 Payment Pending Dispute**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO which receives an Invoice or Payment Advice shall pay any net debit and, subject to the limitations in Section 11.29.17.1, 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.

**11.29.9 Payment Procedures**

**11.29.9.1 Payments By and to the CAISO**

All Scheduling Coordinators, CRR Holders, Black Start Generators, and Participating TOs shall discharge their obligations to pay the amounts owed by them and shall receive payments of all amounts owed to them solely in accordance with this CAISO Tariff.

**11.29.9.2 CAISO Accounts to be Established**

The CAISO is authorized to establish and maintain bank accounts and obtain lines of credit and other banking facilities (not exceeding an aggregate amount set by the CAISO Governing Board) necessary for the operation of its Settlement and billing procedures. Each such account shall be maintained at a bank or other financial institution in California. Unless otherwise specified in this CAISO Tariff the CAISO will recover all costs incurred in connection with these CAISO banking facilities through the appropriate component of the Grid Management Charge. The CAISO shall establish and operate the following accounts:

**11.29.9.2.1** A CAISO Clearing Account to and from which all payments under this Section 11.29 are made;

**11.29.9.2.2** A CAISO Reserve Account from which any debit balances on the CAISO Clearing Account at the close of banking business on each Business Day shall be settled or reduced in accordance with this CAISO Tariff. The CAISO shall use the Financial Security provided by a Scheduling Coordinator, CRR Holder, or Candidate CRR Holder pursuant to Section 12, if necessary, to clear any debit balances on the CAISO Reserve Account that may arise as a result of that Scheduling Coordinator's or CRR Holder's failure to pay an amount due under this CAISO Tariff;

**11.29.9.2.3** A CAISO Surplus Account;

**11.29.9.2.4** A CAISO Penalty Reserve Account: and

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.29.9.2.5** Such other accounts as the CAISO deems necessary or convenient for the purpose of efficiently implementing the funds transfer system under this CAISO Tariff. The CAISO shall notify Market Participants of the establishment of such accounts through the CAISO Website and by issuance of a Market Notice.

**11.29.9.3       Accounts of the Scheduling Coordinators, CRR Holders, Black Start Generators, and Participating TOs**

Each Scheduling Coordinator, CRR Holder, Black Start Generator, and Participating TO shall establish and maintain at all times a Settlement Account at a commercial bank located in the United States and reasonably acceptable to the CAISO which can effect money transfers via Fedwire and, at its option, may also maintain an account capable of ACH transfers where payments to and from the CAISO Clearing Account shall be made in accordance with this CAISO Tariff. Scheduling Coordinators, CRR Holders, and Black Start Generators may, but will not be required to, maintain separate accounts for receipts and payments. Each Scheduling Coordinator, CRR Holder, and Black Start Generator shall notify the CAISO of its account details and of any changes to those details in accordance with the provisions of its Scheduling Coordinator Agreement, CRR Entity Agreement, or Interim Black Start Agreement. Participating TOs will notify the CAISO of their Settlement Account details in accordance with Section 2.2.1 of their Transmission Control Agreement and may notify the CAISO from time to time of any changes by giving at least seven (7) days written notice before the new account becomes operational.

**11.29.9.4       [Not Used]**

**11.29.9.5       No Co-Mingling**

To facilitate and better ensure accurate processing of payment defaults pursuant to Section 11.29.17.1, the CAISO shall not co-mingle any funds standing to the credit of a CAISO Account with its other funds and shall promptly withdraw any amounts paid into a CAISO Account representing amounts paid for the account of the CAISO.

**11.29.9.6       Use of Accounts**

**11.29.9.6.1     Clearing Account**

- (a) Subject to Section 11.29.3, and unless the CAISO instructs otherwise pursuant to Section 11.29.11, each CAISO Debtor shall ensure that the amount shown on the Invoice as payable by that CAISO Debtor shall be received into the CAISO



California Independent System Operator Corporation  
Fifth Replacement Tariff

Clearing Account for value not later than 10:00 a.m. on the Payment Date.

- (b) On the Payment Date, the CAISO shall be entitled to cause the transfer of such amounts held in a Scheduling Coordinator's or CRR Holder's CAISO prepayment account to the CAISO Clearing Account as provided in Section 11.29.3.

The CAISO shall calculate the amounts available for distribution to CAISO Creditors on the Payment Date and shall give irrevocable instructions to the CAISO Bank to remit from the CAISO Clearing Account to the relevant Settlement Accounts maintained by the CAISO Creditors, the aggregate amounts determined by the CAISO to be available for payment to CAISO Creditors for value by close of business on the Payment Date if no CAISO Debtors are in default. If a CAISO Debtor is in default and until all defaulting amounts have been collected, the CAISO shall remit payments as soon as practical within five (5) Business Days of the collection date posted in the CAISO Payments Calendar. If required, the CAISO shall instruct the CAISO Bank to transfer amounts from the CAISO Reserve Account to enable the CAISO Clearing Account to clear.

The CAISO is authorized to instruct the CAISO Bank to debit the CAISO Clearing Account and transfer to the relevant CAISO Account sufficient funds to pay in full the Grid Management Charge and FERC Annual Charges falling due on any Payment Date with priority over any other payments to be remitted on that or on subsequent days out of the CAISO Clearing Account.

**11.29.9.6.2 Reserve Account**

The CAISO Reserve Account shall be available to the CAISO for the purpose of providing funds to clear the CAISO Clearing Account in the event that there are insufficient funds in the CAISO Clearing Account to pay CAISO Creditors. If there are insufficient funds in the CAISO Clearing Account to pay CAISO Creditors and clear the account on any Payment Date, due to payment default by one or more CAISO Debtors, the CAISO shall transfer funds from the CAISO Reserve Account to the CAISO Clearing Account to clear it by close of banking business on that Payment Date pursuant to Section 11.29.13.4. If the CAISO Reserve Account is drawn upon, the CAISO shall as soon as possible thereafter take any necessary steps against the defaulting Scheduling Coordinator or CRR Holder, including making any calculations or taking any other appropriate action, to replenish the CAISO Reserve Account including drawing on any credit support or other Financial Security provided by the defaulting Scheduling

California Independent System Operator Corporation  
Fifth Replacement Tariff

Coordinator or CRR Holder pursuant to Section 12 or serving demands on any defaulting Scheduling Coordinator or CRR Holder if Financial Security has been exhausted or if no Financial Security is available due to establishment of an Unsecured Credit Limit.

**11.29.9.6.2.1 Replenishing the CAISO Reserve Account Following Payment Default**

If the CAISO has debited the CAISO Reserve Account then:

- (a) If, after the CAISO has debited the CAISO Reserve Account on a Payment Date, the CAISO Bank receives a payment from a CAISO Debtor which has not been (but should have been, if it had been received on a timely basis) credited to the CAISO Clearing Account by 10:00 am on the Payment Date and which required the debiting of the CAISO Reserve Account, such payment shall be credited to the CAISO Reserve Account.
- (b) The proceeds of any enforcement of Financial Security and/or amounts recovered under proceedings shall be credited to the CAISO Reserve Account.
- (c) If, after taking reasonable action, the CAISO determines that the default amount (or any part) and/or Interest cannot be recovered on the next practicable Invoices, the CAISO shall notify Market Participants of the identity of the defaulting Business Associate together with the unrecoverable amounts and such amounts shall be allocated in accordance with Section 11.29.17 of the CAISO Tariff with corresponding credits to the CAISO Reserve Account.

**11.29.9.6.3 Surplus Account**

The CAISO shall establish and maintain a bank account denominated the CAISO Surplus Account. The CAISO Surplus Account shall include the following:

- (a) Any amounts paid to the CAISO in respect of penalties or Sanctions referred to in Section 11.14 shall be credited to the CAISO Surplus Account, subject, however, to Section 11.29.9.6.1(b).

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (b) The funds referred to in Section 11.29.9.6.1(a) pertaining to penalties or Sanctions as provided in Section 11.14 shall first be applied towards any expenses, loss or costs incurred by the CAISO except for that portion of those amounts collected pursuant to 37.9.4. Any excess after such application will be credited to the CAISO Surplus Account pursuant to 11.29.9.6.1(a).
- (c) The funds referred to in Section 11.29.9.6.1(a) pertaining to default Interest referred to in Section 11.29.13.1 shall first be applied towards any unpaid CAISO Creditor balances for the Trading Month in which the default Interest was assessed and second to any other unpaid CAISO Creditor balances. Only after all unpaid CAISO Creditor balances are satisfied in full will any excess funds pertaining to default Interest be credited to the CAISO Surplus Account pursuant to Section 11.29.9.6.1(a).

In the event that there are funds in the CAISO Surplus Account in excess of an amount to be determined by the CAISO Governing Board and identified in a Market Notice by the CAISO to Market Participants, the amount of such excess will be distributed to Scheduling Coordinators using the same method of apportioning the refund as the method employed in apportioning the liability for the Grid Management Charge.

**11.29.9.6.4 CAISO Penalty Reserve Account**

- (a) The CAISO Penalty Reserve Account will be available to the CAISO for the purpose of using funds collected for late payments of amounts set forth in Invoices pursuant to Section 11.29.14(c) and for late postings of Financial Security pursuant to Section 12.5.2(c) to clear the CAISO Clearing Account in the event that there are insufficient funds in the CAISO Clearing Account to pay CAISO Creditors. If there are insufficient funds in the CAISO Clearing Account to pay CAISO Creditors and to clear the account on any Payment Date occurring on or after April 7, 2010, due to payment default by one or more CAISO Debtors, the CAISO shall transfer funds from the CAISO Penalty Reserve Account to the CAISO Clearing Account to clear it by close of banking business on that Payment Date pursuant to Section 11.29.13.4. If available funds in the CAISO Penalty Reserve Account are insufficient to clear the

California Independent System Operator Corporation  
Fifth Replacement Tariff

CAISO Clearing Account and the payment default is not cured, the payment default will be allocated in accordance with the CAISO Tariff. After the payment default is allocated in accordance with the CAISO Tariff, any funds that are subsequently added to the CAISO Penalty Reserve Account can only be used to clear the CAISO Clearing Account pursuant to this Section 11.29.9.6.4 for payment defaults that occur after the funds were added to the CAISO Penalty Reserve Account. The CAISO Penalty Reserve Account will be an interest-bearing account separate from all other accounts maintained by the CAISO, and no other funds will be commingled in it at any time.

- (b) On December 31 of each year, the CAISO will draw any funds then available in the CAISO Penalty Reserve Account in excess of five (5) million dollars and will apply that excess to offset the following year's Grid Management Charge revenue requirement pursuant to Schedule 1 of Appendix F.
- (c) If the CAISO Penalty Reserve Account is drawn upon, the CAISO will as soon as possible thereafter take any necessary steps against the defaulting Scheduling Coordinator or CRR Holder, including making any calculations or taking any other appropriate action, to replenish the CAISO Penalty Reserve Account, including drawing on any credit support or other Financial Security provided by the defaulting Scheduling Coordinator or CRR Holder pursuant to Section 12 or serving demands on any defaulting Scheduling Coordinator if Financial Security has been exhausted or if no Financial Security is available due to establishment of an Unsecured Credit Limit.

**11.29.9.6.4.1 Replenishment Following Payment Default**

If the CAISO has debited the CAISO Penalty Reserve Account, then:

- (a) If, after the CAISO has debited the CAISO Penalty Reserve Account on a Payment Date, the CAISO Bank receives a payment from a CAISO Debtor which has not been (but should have been, if it had been received on a timely basis) credited to the CAISO Clearing Account by 10:00 am on the Payment Date and

California Independent System Operator Corporation  
Fifth Replacement Tariff

which required the debiting of the CAISO Penalty Reserve Account, such payment shall be credited to the CAISO Penalty Reserve Account, less any amounts due to Market Participants.

- (b) The proceeds of any enforcement of Financial Security and/or amounts recovered under proceedings shall be credited to the CAISO Penalty Reserve Account.
- (c) If, after taking reasonable action, the CAISO determines that the default amount (or any part) and/or Interest cannot be recovered, the CAISO shall notify Market Participants of the identity of the defaulting Business Associate together with the unrecoverable amounts and such amounts shall be allocated in accordance with Section 11.29.17 of the CAISO Tariff with corresponding credits to the CAISO Penalty Reserve Account.

**11.29.10 Billing And Payment**

The CAISO shall prepare and send to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO an Invoice or Payment Advice on Wednesday of each week. If Wednesday falls on a CAISO holiday, the CAISO will issue the Invoice or Payment Advice on the next Business Day. Each Invoice or Payment Advice shall show the amount that is payable by or to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO, which amount shall equal the positive or negative total of all net charges reflected on the relevant Settlement Statements, the Payment Date, being the date on which such amount is to be paid or received, and details of the CAISO Clearing Account to which any amounts owed by or to Scheduling Coordinators, CRR Holder, Black Start Generator or Participating TO is to be paid. Revenues owed from a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO are expressed as a positive amount on an Invoice. Revenues owed to a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO are expressed as a negative amount on a Payment Advice. Payments or charges for the items referred to in an Invoice or Payment Advice (except for the charges payable under long-term contracts) for each Trading Day shall be made four (4) Business Days after the date on which the weekly Invoice or Payment Advice is issued. If the fourth (4)

California Independent System Operator Corporation  
Fifth Replacement Tariff

Business Day after an Invoice or Payment Advice is issued falls on a CAISO holiday, then the Payment Date for the Invoice or Payment Advice shall be the next Business Day.

**11.29.10.1 Billing Periods**

Each Invoice or Payment Advice will include (i) the initial Settlement Statements T+3B for the Trading Days of Monday through Sunday in the previous week, (ii) Recalculation Settlement Statements T+12B for the same Trading Days as the Initial Settlement Statements T+3B, and (iii) other billing periods as provided in the CAISO Payments Calendar. The other billing periods correspond to the dates on which the Recalculation Settlement Statements are published. Any Invoice or Payment Advice for a billing period corresponding to a Recalculation Settlement Statement will be reflected on the next scheduled Invoice or Payment Advice. Each billing period will be represented separately on the Invoice or Payment Advice but the net Invoice or Payment Advice for a Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO will reflect the entity's net financial obligations in all billing periods.

**11.29.10.2 Interest**

Interest will be applied to any Incremental Changes between Initial Settlement Statement T+3B and Recalculation Settlement Statement T+12B, and thereafter to any Incremental Changes between each subsequent Recalculation Settlement Statement through Recalculation Settlement Statement T+36M. Interest will be calculated on a daily basis and will apply from the Payment Date for the Invoice of Payment Advice to the Payment Date for the next Recalculation Settlement Statement. The rate of interest will be the interest rate calculated in accordance with 18 C.F.R. 35.19a of FERC's regulations.

**11.29.10.3 Other Invoicing Provisions**

The Invoices or Payment Advices will also include the total charges for each component of the Grid Management Charge, the total charges associated with any Interest for each relevant Trading Month, the FERC Annual Charges due monthly, as well as any disbursements associated with a shortfall receipt distribution.

A separate Invoice for the FERC Annual Charges due annually will be issued by the CAISO to the Scheduling Coordinator in accordance with Section 11.19.1.2. The CAISO will issue separate Invoices for NERC/WECC Charges as described in Section 11.20.

California Independent System Operator Corporation  
Fifth Replacement Tariff

A separate Invoice for a shortfall allocation will be issued by the CAISO to Scheduling Coordinators in the event of a payment default in accordance with Section 11.29.17.1.

In the event of an allocation of a payment default in accordance with Section 11.29.17.2, the CAISO may either issue separate Invoices to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2, as applicable, or may issue Invoices through its standard invoicing process that include the allocation of the payment default.

Recalculation Settlement Statements, post closing adjustments and the financial outcomes of CAISO ADR Procedures and any other dispute resolution may be invoiced separately from monthly market activities. The CAISO shall provide a Market Notice at least five (5) Business Days prior to such invoicing identifying the components of such Invoice or Payment Advice.

**11.29.10.4      Emergency Procedures**

**11.29.10.5      Use of Estimated Data**

In the event of an emergency or a failure of any of the CAISO software or business systems, the CAISO may use estimated Settlement Statements and Invoices and Payment Advices and may implement any temporary variation of the timing requirements relating to the Settlement and billing process contained in the CAISO Tariff. Details of the variation and the method chosen to produce estimated data, Settlement Statements and Invoices and Payment Advices will be published on the CAISO Website.

**11.29.10.6      Payment of Estimated Statements and Invoices**

When estimated Settlement Statements and Invoices or Payment Advices are issued by the CAISO, payments between the CAISO and Market Participants shall be made on an estimated basis and the necessary corrections shall be made by the CAISO as soon as practicable. The corrections will be reflected as soon as practicable in later Settlement Statements and Invoices and Payment Advices issued by the CAISO unless the CAISO has authorized the adjustment pursuant to Section 11.29.11. Failure to make such estimated payments shall result in the same consequences as a failure to make actual payments.

**11.29.10.7      Validation and Correction of Estimated Statements and Invoices**

California Independent System Operator Corporation  
Fifth Replacement Tariff

The CAISO shall use its best efforts to verify the estimated data and to make the necessary corrections as soon as practicable. The corrections will be reflected as soon as practicable in later Settlement Statements and Invoices and Payment Advices issued by the CAISO.

**11.29.10.8 Estimated Statements to be Final**

In the event that the CAISO is of the opinion that, despite its best efforts, it is not possible for it to verify the estimated data because actual data is not reasonably expected to become available to the CAISO in the foreseeable future, the CAISO shall consult with the Market Participants in order to develop the most appropriate substitute data including using data provided by Market Participants. Following such determination of substitute data, the CAISO shall send to the relevant Market Participants revised Settlement Statements and Invoices and Payment Advices. The provisions of Section 11.29.8.6 shall apply to payment of revised Invoices issued in accordance with these emergency procedures. Failure to make payments of such revised Invoices shall result in the same consequences as a failure to make actual payments.

**11.29.11 Instructions For Payment**

Unless the CAISO instructs otherwise, each Scheduling Coordinator or CRR Holder shall ensure that the amount shown on the Invoice as payable by that Scheduling Coordinator or CRR Holder is received into the CAISO Clearing Account for value not later than 10:00 a.m. on the Payment Date. In the event of a verifiable error that would be reversed on a future Invoice or Payment Advice, the CAISO may instruct a Scheduling Coordinator or CRR Holder to reduce its payment in the amount of a specific charge reflected on an Invoice. Any such occurrence will not constitute a payment default under the CAISO Tariff. If the CAISO directs such a reduction in payment, it shall make offsetting adjustments on future Invoices or Payment Advices of Scheduling Coordinators, CRR Holders, Black Start Generators or Participating TOs that received settlement credits corresponding to the verifiably erroneous charge. The CAISO will inform those entities of the adjustments to their Invoices or Payment Advices.

**11.29.12 CAISO'S Responsibilities**

On the due date for payment of amounts shown in an Invoice, the CAISO shall ascertain whether all amounts required to be received into the CAISO Clearing Account have been credited to it. If any such



California Independent System Operator Corporation  
Fifth Replacement Tariff

amount has not been so credited, it shall ascertain which Scheduling Coordinators or CRR Holders have failed to pay the amount owed by them and it may, subject to any notice or cure provisions in this Section 11.29, exercise any rights available under the CAISO Tariff or under applicable law to recover any overdue amount.

**11.29.13 Non-Payment By A Scheduling Coordinator Or CRR Holder**

**11.29.13.1 Notification and Interest**

If a Scheduling Coordinator or CRR Holder becomes aware that a payment for which it is responsible will not be received into the CAISO Clearing Account on time, it shall immediately notify the CAISO of the fact and the reason for the non-payment. If the Scheduling Coordinator or CRR Holder fails to pay any sum to the CAISO when due and after and the CAISO draws upon any and all available Financial Security provided by the defaulting Scheduling Coordinator or CRR Holder, the Scheduling Coordinator or CRR Holder shall pay Interest on the overdue amount for the period from the Payment Date to the date on which the payment is received into the CAISO Clearing Account, together with any related transaction costs incurred by the CAISO. The CAISO shall apply all such Interest payments on the default amount either on a pro rata basis to CAISO Creditors in relation to amounts past due in the order of the creation of such debts, or, if the default amount was allocated pursuant to Section 11.29.17.2, to Default-Invoiced SCIDs in proportion to their allocated shares of the default amount as calculated pursuant to Section 11.29.17.2.1 or to SCIDs in proportion to their allocated shares of the default amount as calculated pursuant to Section 11.29.17.2.2, as applicable, in relation to amounts past due in the order of the creation of such debts.

**11.29.13.2 Payment Default**

Subject to Section 11.29.13.6, if by 10:00 am on a Payment Date the CAISO, in its reasonable opinion, believes that all or any part of any amount due to be received into the CAISO Clearing Account from any Scheduling Coordinator or CRR Holder has not been received and there are insufficient funds in the relevant Scheduling Coordinator's or CRR Holder's CAISO prepayment account (the amount of insufficiency being referred to as the "default amount"), the CAISO shall take the following actions to enable the CAISO Clearing Account to clear not later than the close of banking business on the relevant Payment Date.

**11.29.13.3 Enforcing the Financial Security of a Defaulting Scheduling Coordinator or CRR Holder**

Subject to Section 11.29.13.6, the CAISO shall make reasonable endeavors to enforce the defaulting Scheduling Coordinator's or CRR Holder's Financial Security (if any) to the extent necessary to pay the default amount. If it is not practicable to obtain clear funds in time to effect payment to CAISO Creditors on the same day the CAISO shall proceed in accordance with Sections 11.29.13.4 or 11.29.17.1 as applicable.

**11.29.13.4 Use of CAISO Reserve Account**

If there are funds standing to the credit of the CAISO Reserve Account or the CAISO Penalty Reserve Account (including the proceeds of drawings under banking facilities described in Sections 11.29.9.6.2 and 11.29.9.6.4), the CAISO shall debit the CAISO Reserve Account or the CAISO Penalty Reserve Account with the default amount in order to clear the CAISO Clearing Account and effect payment to the CAISO Creditors.

**11.29.13.5 Action against a Defaulting Scheduling Coordinator or CRR Holder**

The CAISO shall as soon as possible after taking action under 11.29.13.4 take any steps it deems appropriate against the defaulting Scheduling Coordinator to recover the default amount (and any Interest as set out in Section 11.29.13.3 including enforcing any Financial Security, exercising its rights of recoupment or set-off and/or bringing proceedings against the defaulting Scheduling Coordinator or CRR Holder pursuant to Section 11.29.21.1.

**11.29.13.6 Default to be Remedied Promptly**

In the event that the CAISO reasonably believes that an outstanding amount which has not been paid by 10:00 am on the relevant Payment Date, is likely to be paid no later than close of banking business on the next Business Day then the CAISO may, but shall not be obliged to, delay enforcing that CAISO Debtor's Financial Security or taking other measures to recover payment until after the close of banking business on the next Business Day but Interest shall nonetheless accrue pursuant to Section 11.29.13.1.

**11.29.13.7 Set-Off and Recoupment**

The CAISO is authorized to recoup, set off and apply any amount owed on any Payment Advice to which any defaulting CAISO Debtor is or will be entitled, in or towards the satisfaction of any of that CAISO Debtor's debts on any Invoice arising under the CAISO Settlement and billing process. Each CAISO

California Independent System Operator Corporation  
Fifth Replacement Tariff

Creditor and each CAISO Debtor expressly acknowledges the following application of funds: first to the current month's Grid Management Charge, and then as described in 11.29.13.8 except as limited by Section 11.29.17. Nothing in this Section 11.29.13.7 shall be construed as affecting the methodology by which the CAISO determines the amounts of Invoices or Payment Advices.

**11.29.13.8 Order of Payments**

Unless otherwise specified in accordance with Section 11.29.17, the CAISO shall apply payments received in respect of amounts owing to CAISO Creditors to repay the relevant debts in the order of the creation of such debts.

**11.29.13.9 Interest Accruing while Enforcing the Financial Security**

If the CAISO has debited the CAISO Reserve Account and it subsequently succeeds in enforcing the Financial Security provided by the defaulting Scheduling Coordinator or CRR Holder, the CAISO shall be entitled to withdraw from such Financial Security in addition to the default amount, all costs incurred and Interest accrued to the CAISO as a result of debiting the CAISO Reserve Account from the date of such debit to the date of enforcement of the said Financial Security.

**11.29.13.10 Application of Funds Received**

Amounts credited to the CAISO Clearing Account in payment of a default amount (as set out in Section 11.29.9.6.2.1 and 11.29.9.6.4.1) or as a result of enforcing the defaulting CAISO Debtor's Financial Security shall be applied to the CAISO Reserve Account pursuant to Section 11.29.9.6.2.1 or to the CAISO Penalty Reserve Account pursuant to Section 11.29.9.6.4.1 to reduce amounts outstanding under any CAISO banking facilities used to fund the CAISO Reserve Account or the CAISO Penalty Reserve Account on the relevant Payment Date less any amounts that first shall be applied either to reimburse pro rata any CAISO Creditors whose payments were reduced pursuant to Section 11.29.17.1, or, if the default amount was allocated pursuant to Section 11.29.17.2, to reimburse Default-Invoiced SCIDs in proportion to their allocated shares of the default amount as calculated pursuant to Section 11.29.17.2.1 or to reimburse SCIDs in proportion to their allocated shares of the default amount as calculated pursuant to Section 11.29.17.2.2, as applicable.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**11.29.14 Enforcement Actions for Late Payments**

Each Market Participant that is late in paying the amount set forth in an Invoice from the CAISO is subject to the following enforcement actions:

- (a) After each of the first four (4) times during a rolling twelve (12) month period that a Market Participant is late in paying the amount set forth in an Invoice from the CAISO, the CAISO will send the delinquent Market Participant a warning notice.
- (b) After the fifth time during a rolling twelve (12) month period that a Market Participant is late in paying the amount set forth in an Invoice, the CAISO may revoke the Market Participant's Unsecured Credit Limit and require the Market Participant to post cash or another form of Financial Security reasonably acceptable to the CAISO in lieu of unsecured credit or any other form of Financial Security to secure the Market Participant's financial obligations. The CAISO will require such a cash posting or other form of Financial Security for no fewer than twelve (12) months following the month in which the Market Participant's third delinquency occurs, and the CAISO may then return to the Market Participant all or a portion of the posted cash or other form of Financial Security, reinstate the Market Participant's ability to use an Unsecured Credit Limit, and reinstate the Market Participant's ability to use unsecured credit or other form of Financial Security to secure the Market Participant's financial obligations if, during the intervening time, the Market Participant has timely paid all of the amounts set forth in its Invoices from the CAISO, and timely met any requests for Financial Security pursuant to Section 12.4.
- (c) After the fifth time and each subsequent time during a rolling twelve (12) month period that a Market Participant is late in paying the amount set forth in an Invoice, the CAISO will assess a penalty to the Market Participant equal to the greater of \$1,000 or two percent (2%) of the amount set forth in the Invoice that the Market Participant has been late in paying, up to a maximum amount of \$20,000 per each late payment for which the CAISO assesses a penalty pursuant to this Section 11.29.14(c). This penalty will be included in the next Invoice to the Market Participant. Penalty amounts collected by the

California Independent System Operator Corporation  
Fifth Replacement Tariff

CAISO pursuant to this Section 11.29.14(c) will be treated as set forth in Section 11.29.9.6.4.

- (d) After the sixth and any subsequent times during a rolling twelve (12) month period that a Market Participant is late in paying the amount set forth in an Invoice, the CAISO may extend the time period that it imposes the measures described in Section 11.29.14 (b) for the Market Participant's fifth delinquency during a rolling twelve (12) month period.
- (e) After the seventh time during a rolling twelve-month period that a Market Participant is late in paying the amount set forth in an Invoice, the CAISO may, notwithstanding any other provision of the CAISO Tariff, (i) suspend any and all rights of the Market Participant under the CAISO Tariff, effective immediately after the CAISO sends written notice of the suspension to the Market Participant, and (ii) terminate any agreement entered into between the CAISO and the Market Participant that allows the Market Participant to participate in the CAISO Markets, effective upon the date the CAISO sends written notice of the termination to the Market Participant or upon the date established in accordance with FERC rules if FERC rules require the CAISO to file the notice of termination with FERC. If the CAISO sends a notice of suspension or termination to a Market Participant pursuant to this Section 11.29.14(e), the Market Participant will not have the right to prevent such suspension or termination by curing its late payment of an amount set forth in an Invoice. The CAISO will, following termination of an agreement pursuant to this Section 11.29.14(e) and within thirty (30) days of being satisfied that no sums remain owing by the Market Participant under the CAISO Tariff, return or release to the Market Participant, as appropriate, any money or credit support provided by such Market Participant to the CAISO under Section 12.
- (f) Any time that a Market Participant is late in paying the amount set forth in an Invoice, the CAISO will assess Interest to the Market Participant and will apply Interest payments as set forth in Section 11.29.13.1. Any time that a Market Participant is late in paying the amount set forth in an Invoice, the CAISO may also take other applicable enforcement

California Independent System Operator Corporation  
Fifth Replacement Tariff

actions in the CAISO Tariff and in the applicable Business Practice Manual, if deemed necessary by the CAISO to protect the financial integrity of the CAISO Markets.

**11.29.15 [NOT USED]**

**11.29.16 Prohibition On Transfers**

The CAISO shall at no time instruct the CAISO Bank to transfer any sum from a CAISO Account to another account except as permitted under this CAISO Tariff.

**11.29.17 Alternative Payment Procedures**

**11.29.17.1 Pro Rata Reduction to Payments**

The obligation of the CAISO to pay Scheduling Coordinators, CRR Holders, Black Start Generators, Participating TOs, and any other Business Associates monies owed for a given settlement period shall be limited so that the aggregate liability of the CAISO for such payments does not exceed the sum of a) the amounts paid to the CAISO Clearing Account for that settlement period, b) additional amounts recovered by the CAISO by enforcing any Financial Security provided by a defaulting Scheduling Coordinator of CRR Holder to cover any shortfall for that settlement period, and c) amounts transferred to the CAISO Clearing Account from the CAISO Reserve Account and the CAISO Penalty Reserve Account to cover any shortfall for that settlement period. If it is not possible to clear the CAISO Clearing Account on a Payment Date because of an insufficiency of funds available in the CAISO Reserve Account or the CAISO Penalty Reserve Account, or by enforcing any Financial Security provided by a defaulting Scheduling Coordinator or CRR Holder, the CAISO shall, after deducting Grid Management Charge and FERC Annual Charges in accordance with Section 11.29.9.6.1, (1) first pay in full every CAISO Creditor whose net amounts receivable on the relevant Payment Date is less than \$5,000; and (2) second, reduce payments to all remaining CAISO Creditors proportionately to the net amounts payable to them on the relevant Payment Date to the extent necessary to clear the CAISO Clearing Account through a shortfall allocation. Each payment default amount allocated to CAISO Creditors through a shortfall allocation under this Section 11.29.17.1 that remains unpaid by the defaulting Scheduling Coordinator or CRR Holder will be allocated as set forth in Section 11.29.17.2. The provisions of this Section 11.29.17.1 shall not apply to non-payment of any penalty amount that a Scheduling Coordinator or CRR Holder has

California Independent System Operator Corporation  
Fifth Replacement Tariff

disputed and FERC has specifically authorized the Scheduling Coordinator or CRR Holder to net its payment to the CAISO by the amount of the penalty in question in accordance with Section 37.9.3.

**11.29.17.2 Payment Default Allocation**

**11.29.17.2.1 Methodology for Allocating Payment Default Amounts**

Except as set forth in Section 11.29.17.2.2, each payment default amount allocated to CAISO Creditors through a shortfall allocation pursuant to Section 11.29.17.1 and that remains unpaid by the defaulting Scheduling Coordinator or CRR Holder will be allocated on the next practicable Invoices to the Default-Invoiced SCIDs to which the percentage shares calculated pursuant to Section 11.29.17.2.7 for the current calendar quarter apply, excluding the CAISO Debtor that has not paid the payment default amount, pursuant to the following methodology:

- (a) Twenty (20) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the net amounts that were payable in each applicable calendar quarter (and averaged within such calendar quarter) to the Default-Invoiced SCIDs over the applicable Default Look-Back Periods. For Market Participants subject to Default Election option 1, these net amounts will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, these net amounts will be calculated by consolidating all of the data for the applicable SCIDs, recognizing any offsetting effect of an individual SCID's positive or negative dollar amount in the consolidated total.
- (b) Thirty (30) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the sum of the absolute values of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter (and averaged within such calendar quarter) over the applicable Default Look-Back Periods, after excluding dollar amounts shown on the Invoices for payments and charges for GMC, RMR, and Wheeling Access Charge costs, and after excluding the billing of Access Charges and the payment of Transmission Revenue Requirements to Participating Transmission Owners. For Market Participants subject to Default Election option 1, the sum of the absolute values of the dollar amounts shown on their Invoices payable or

California Independent System Operator Corporation  
Fifth Replacement Tariff

receivable in each applicable calendar quarter will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, the absolute values of the net sum of the dollar amounts shown on their Invoices payable or receivable in each applicable calendar quarter will be calculated by consolidating all of the data for the applicable SCIDs, recognizing any offsetting effect of an individual SCID's positive or negative dollar amount in the consolidated total.

- (c) Fifty (50) percent of the payment default amount will be allocated to the Default-Invoiced SCIDs in proportion to the largest of the following five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) for each Default-Invoiced SCID over the applicable Default Look-Back Periods:
- (1) Cleared Day-Ahead Schedules to supply Energy, plus Day-Ahead Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus scheduled supply obligation for Ancillary Services (including imports but excluding RUC Schedules), plus Virtual Supply Awards;
  - (2) Metered Generation, plus Real-Time Interchange Import Schedules, plus Real-Time Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus HASP Ancillary Services Awards and qualified Self-Provided Ancillary Services, plus Real-Time supply obligation for Ancillary Services;
  - (3) Cleared Day-Ahead Schedules for Demand (including Demand served by Pumped-Storage Hydro Units and exports) multiplied by one-hundred three (103) percent to reflect Transmission Losses, plus scheduled demand obligation for Ancillary Services, plus Virtual Demand Awards;
  - (4) Metered Load multiplied by one-hundred three (103) percent to reflect Transmission Losses, plus Real-Time Interchange Export Schedules, plus Real-Time demand obligation for Ancillary Services; or
  - (5) The greater of (A) the quantity of CRRs acquired in CRR Auctions or transferred through the Secondary Registration System (excluding CRRs acquired in CRR Allocations) or (B) Inter-SC Trades of Energy.



California Independent System Operator Corporation  
Fifth Replacement Tariff

For Market Participants subject to Default Election option 1, each of the five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) will be calculated on an SCID-by-SCID basis. For Market Participants that are eligible for and have chosen Default Election option 2, each of the five (5) amounts calculated in MWh for every month in each applicable calendar quarter (and averaged within such calendar quarter) will be calculated by consolidating all of the data for the applicable SCIDs.

**11.29.17.2.2 Interim De Minimis Allocation**

During the time period from the effective date of this Section 11.29.17.2.2 until April 1, 2011, each payment default amount allocated to CAISO Creditors through a shortfall allocation pursuant to Section 11.29.17.1 that is equal to or less than \$1,000 multiplied by the total number of SCIDs that have recorded market activity in the most recent Trading Month will be allocated on the next practicable Invoices among all such SCIDs so that an equal share of the payment default amount is allocated to each applicable SCID excluding the CAISO Debtor that has not paid the payment default amount. Notwithstanding the foregoing, if allocation of a payment default amount to any SCID under this Section 11.29.17.2.2 would result in any entity: (i) being allocated more than a \$1,000 share of a payment default amount per applicable SCID or (ii) being allocated cumulative shares of payment default amounts that equal more than \$1,000 per applicable SCID, the CAISO will instead allocate the payment default amount pursuant to Section 11.29.17.2.1.

**11.29.17.2.3 Interest on Allocated Payment Default Amounts**

In accordance with Section 11.29.10.2, Interest will be charged to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2 to the extent the payment default amounts allocated to those Default-Invoiced SCIDs or SCIDs exceed the payment default amounts allocated to them through a shortfall allocation pursuant to Section 11.29.17.1, and Interest will be paid to Default-Invoiced SCIDs pursuant to Section 11.29.17.2.1 or to SCIDs pursuant to Section 11.29.17.2.2 to the extent the payment default amounts allocated to those Default-Invoiced SCIDs or SCIDs are exceeded by the payment default amounts allocated to them through a shortfall allocation pursuant to Section 11.29.17.1, for the period between the date of the shortfall allocation and the date payments are

California Independent System Operator Corporation  
Fifth Replacement Tariff

due for the Invoices on which the allocation of the payment default amounts appear. The Interest payable pursuant to this Section 11.29.17.2.3 will be included on the Invoices on which the allocation of the payment default amounts appear.

**11.29.17.2.4 Default Election**

(a) Each Market Participant that is a Scheduling Coordinator, a CRR Holder, a Candidate CRR Holder, or a PTO will make an election of either option 1 or option 2 under this Section 11.29.17.2.4, which will be the Market Participant's Default Election until such time as a subsequent change by the Market Participant of its Default Election from option 1 to option 2 (or vice versa) goes into effect. Each Market Participant that is a Scheduling Coordinator, a CRR Holder, a Candidate CRR Holder, or a PTO shall make only a single Default Election regardless of whether that Market Participant has multiple effective contracts with the CAISO that cause the entity to be a Market Participant. For example, an entity that has signed a Scheduling Coordinator Agreement and a CRR Entity Agreement shall only make a single Default Election.

(i) Option 1: For such Market Participants that choose Default Election option 1, the methodology for allocating payment default amounts set forth in Section 11.29.17.2.1 will apply to each SCID of such Market Participant on an SCID-by-SCID basis, and each SCID of such Market Participant will be a Default-Invoiced SCID.

(ii) Option 2: In order to qualify for Default Election option 2, all of the SCIDs of a Market Participant with one or more effective contracts with the CAISO must certify that they meet one of the following criteria, and the entity must agree that the methodology for allocating payment default amounts set forth in Section 11.29.17.2.1 will apply to all SCIDs created for use under all of the effective contracts with the CAISO based on a consolidation of data for all such SCIDs:

(1) All of the SCIDs are associated with Affiliates or business units under common control where one or more of the Affiliates or business units or a related business entity has more than fifty (50) percent control of the

California Independent System Operator Corporation  
Fifth Replacement Tariff

Affiliates or business units, either directly or through one or more intermediaries;

- (2) All of the SCIDs are associated with a Joint Powers Authority; or
- (3) All of the SCIDs are associated with a municipal utility or state or federal agency.

Each Market Participant that chooses Default Election option 2 will at the same time select a single SCID to be the sole Default-Invoiced SCID under option 2. This Default-Invoiced SCID will receive Invoices containing payment default amounts allocated on behalf of all of the SCIDs under all contracts between the entity and the CAISO. Allocation of payment default amounts for entities choosing Default Election option 2 will be based on consolidated data from all of the entity's SCIDs. The selection of a single SCID as the sole Default-Invoiced SCID will not in any way relieve any Market Participant subject to Default Election option 2 of any obligation to pay Invoices, including in the event of a default by the Default-Invoiced SCID on a default payment obligation, in which case the CAISO will be entitled to utilize all available Financial Security provided by any defaulting Market Participant subject to Default Election option 2.

- (b) By October 15, 2010, Market Participants will inform the CAISO in writing of their initial Default Elections for the period from March 31, 2009 through December 31, 2011. Within five (5) Business Days after FERC issues an order accepting the settlement agreement filed in FERC Docket No. EL09-62, Market Participants will inform the CAISO in writing of any changes to their initial Default Elections for the period from March 31, 2009 through December 31, 2011. If Market Participants that have made initial Default Elections fail to timely inform the CAISO in writing of changes to their initial Default Elections, the Market Participants will be deemed to have chosen their initial Default Elections as their Default Elections for the period from March 31, 2009 through December 31, 2011.
- (c) Starting on October 1, 2011, Market Participants may subsequently change their Default Elections by October 1 of each calendar year by notifying the CAISO, to become effective

California Independent System Operator Corporation  
Fifth Replacement Tariff

on January 1 of the next calendar year. Market Participants that do not change their Default Elections by that date will be deemed to have chosen to continue their current Default Elections.

- (d) Each entity that becomes a Scheduling Coordinator, a CRR Holder, a Candidate CRR Holder, or a PTO after one of the dates set forth in Section 11.29.17.2.4(a), -(b), or -(c) will make its Default Election prior to engaging in any transactions in the CAISO Markets. The Default Election of each such entity will remain in effect until the entity makes another Default Election pursuant to this Section 11.29.17.2.4. However, any Market Participant that has already made a Default Election will not be eligible to change its Default Election as a result of its subsequently also becoming a Scheduling Coordinator, a CRR Holder, a Candidate CRR Holder, or a PTO.
- (e) Market Participants that do not timely inform the CAISO of their initial Default Elections will be deemed to have chosen Default Election option 1.

**11.29.17.2.5 Effect of Change in Default Election**

Starting with the Default Elections due by October 1, 2011, each time that a Market Participant changes its Default Election pursuant to Section 11.29.17.2.4 from option 1 to option 2 (or vice versa), the following provisions will apply:

- (a) For the first quarter of the calendar year after the change in Default Election goes into effect, the Default-Invoiced SCID(s) will be allocated shares of payment default amounts calculated pursuant to Section 11.29.17.2.1 based on application of the prior election to the first three (3) full calendar quarters of data within the Default Look-Back Period and application of the new election to the most recent full calendar quarter of data within the Default Look-Back Period.
- (b) For the second quarter of the calendar year after the change in Default Election goes into effect, the Default-Invoiced SCID(s) will be allocated shares of payment default amounts calculated pursuant to Section 11.29.17.2.1 based on application of the prior election to the first two (2) full calendar quarters of data within the Default Look-Back Period and

California Independent System Operator Corporation  
Fifth Replacement Tariff

application of the new election to the most recent two (2) full calendar quarters of data within the Default Look-Back Period.

- (c) For the third quarter of the calendar year after the change in Default Election goes into effect, the new Default-Invoiced SCID(s) will be allocated shares of payment default amounts calculated pursuant to Section 11.29.17.2.1 based on application of the prior election to the first full calendar quarter of data within the Default Look-Back Period and application of the new election to the most recent three (3) full calendar quarters of data within the Default Look-Back Period.
- (d) For the fourth quarter of the calendar year after the change in Default Election goes into effect, the Default-Invoiced SCID(s) will be allocated shares of payment default amounts calculated pursuant to Section 11.29.17.2.1 based on application of the new election to the entire Default Look-Back Period.

**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+55B 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+55B 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+55B 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+55B data are available.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (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).

**11.29.17.2.7 Provision of Information on Percentage Shares**

Beginning with the second calendar quarter of 2011, the CAISO will provide to each Default-Invoiced SCID on or about the first Business Day of the applicable calendar quarter its own percentage share of any payment default amount that may be allocated in the calendar quarter to which the percentage share applies, subject to adjustment to account for any non-paying CAISO Debtor, based on application of the methodology for allocating payment default amounts set forth in Section 11.29.17.2.1 to the applicable

California Independent System Operator Corporation  
Fifth Replacement Tariff

Default Look-Back Period. In calculating the percentage share for each Default-Invoiced SCID pursuant to this Section 11.29.17.2.7, the CAISO will determine the percentage share for each full calendar quarter and will average those quarterly percentage shares.

**11.29.17.2.8 Scope of Payment Default Allocation Provisions**

The provisions of Section 11.29.17.2 will not apply to the allocation of payment default amounts and interest accrued thereon that are associated with Trading Days that occurred prior to April 1, 2009.

**11.29.17.3 Payment of Defaulted Receivables**

Collections of defaulted receivables (other than Interest) will either be distributed pro rata to CAISO Creditors for the month of default or, if the defaulted receivables are allocated pursuant to Section 11.29.17.2, collections of the defaulted receivables will be distributed to Default-Invoiced SCIDs in proportion to their allocated shares of the defaulted receivables as calculated pursuant to Section 11.29.17.2.1 or to SCIDs in proportion to their allocated shares of the defaulted receivables as calculated pursuant to Section 11.29.17.2.2, as applicable, for the month in which the payment default occurred.

- (1) If the total collected in that closing related to the past due Trading Month is less than \$5,000, then the funds shall accumulate in an interest-bearing account until either: (a) the account exceeds \$5,000, (b) there have been no distributions from the account for six months, or (c) all defaults for that month have been collected exclusive of any bankruptcy defaults.
- (2) If all CAISO Creditors for that Trading Month have been paid, then the proceeds will either be paid pro rata to the CAISO Creditors in the oldest unpaid Trading Month, or, if the defaulted receivables are allocated pursuant to Section 11.29.17.2, the proceeds will be paid to the Default-Invoiced SCIDs in proportion to their allocated shares of the default amount, as calculated pursuant to Section 11.29.17.2.1 or will be paid to the SCIDs in proportion to their allocated shares of the default amount as calculated pursuant to Section 11.29.17.2.2, as applicable, in the oldest unpaid Trading Month.
- (3) This provision is also applicable to the amounts netted against CAISO Creditor balances related to prior defaulted receivables.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (4) All defaulted receivables disbursed under this Section shall be disbursed in accordance with the timeframes set forth in Section 11.29.9.6.1.

**11.29.18 [NOT USED]**

**11.29.19 Payment Errors**

**11.29.19.1 Overpayments**

If for any reason, including the negligence of the CAISO Bank or the CAISO, a CAISO Creditor receives an overpayment on any Payment Date, the CAISO Creditor shall within two (2) Business Days from the date of receipt of the funds into its Scheduling Coordinator or CRR Holder Settlement Account, notify the CAISO of the amount of the overpayment and shall forthwith pay the overpayment into a CAISO Account specified by the CAISO.

**11.29.19.2 Repayment of Overpayment**

If prior to a CAISO Creditor notifying the CAISO of the overpayment, the CAISO receives notice (from the CAISO Bank or otherwise) of the overpayment, the CAISO shall within two (2) Business Days notify the recipient of the overpayment. The CAISO shall be responsible for payment to those entitled to the sum which has been overpaid.

**11.29.19.3 Overpayment Held In Trust**

Until a CAISO Creditor refunds the overpayment to the CAISO, the CAISO Creditor shall be deemed to hold the amount of such overpayment on trust for CAISO.

**11.29.19.4 Interest on Overpayment**

- (a) If an overpayment is repaid by a CAISO Creditor in accordance with Section 11.29.19.1, the CAISO shall be entitled to interest on the amount of the overpayment at the prime rate of the bank where the Settlement Account of the overpaid CAISO Creditor is located from the date the overpayment was received to the time that the repayment is credited to the relevant CAISO Account.



California Independent System Operator Corporation  
Fifth Replacement Tariff

- (b) If the overpayment (or any part of it) is not repaid by a CAISO Creditor in accordance with Section 11.29.19.1, the CAISO shall be entitled to Interest on the amount of the overpayment from the end of the two day period referred to in that section until the repayment is credited to the relevant CAISO Account and the CAISO will be entitled to treat the overpayment (and any Interest accruing thereon) as a default amount to which Section 11.29.13.2 will apply.

**11.29.19.5 Treatment of Amounts Outstanding as a Result of an Overpayment**

The CAISO shall apply the amount of any overpayment repaid (including interest received) to credit any underpaid CAISO Creditors pro rata to the amounts of their underpayments on the same day of receipt, or if not practicable, on the following Business Day.

**11.29.19.6 Underpayments**

If for any reason, including the negligence of the CAISO Bank or the CAISO, a CAISO Creditor receives on the relevant Payment Date an underpayment, the CAISO Creditor shall within two (2) Business Days from receipt into its Settlement Account, notify the CAISO of the amount of the underpayment, and the CAISO after consultation with the CAISO Bank, shall use all reasonable endeavors to identify such entity as shall have received any corresponding overpayment and promptly correct the underpayment. If, by reason of negligence, the CAISO holds or has under its control after five (5) Business Days from receipt in the CAISO Clearing Account amounts which it ought properly to have paid to CAISO Creditors, such CAISO Creditors shall be entitled to interest on such amounts, for such period as the CAISO improperly holds or has such amounts under its control.

**11.29.20 Defaults**

In addition to and not in lieu of any other events specified in this CAISO Tariff as constituting a default, the occurrence of any of the following events shall constitute a default under this CAISO Tariff:

- (a) If a Scheduling Coordinator or CRR Holder files a petition or otherwise commences, authorizes, or acquiesces in the commencement of a case, petition, proceeding, or cause of action under any bankruptcy or insolvency law or similar law for the protection of debtors or creditors; or

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (b) If a Scheduling Coordinator or CRR Holder has a petition, case, proceeding or cause of action filed or commenced against it and such case, petition, proceeding or cause of action is not withdrawn or dismissed within (30) days after such filing or commencement;

In the event of any default under the CAISO Tariff, the CAISO shall, in addition to any other remedies available at law in equity or under the CAISO Tariff, have the sole and exclusive right to take debt collection action against a Scheduling Coordinator or CRR Holder on account of a default under the terms of the CAISO Tariff. The CAISO shall make commercially reasonable endeavors to prevent any payment default or recover any default amount. The CAISO shall be entitled to recover from the defaulting Scheduling Coordinator or CRR Holder all costs and expenses associated with its collection efforts, including Interest, attorney's fees, and any related transaction costs as provided in Section 11.29.13.1. In the event of a default by a Participating TO, Black Start Generator, or other Business Associate, the provisions of this CAISO Tariff that apply to defaults by a Scheduling Coordinator or CRR Holder shall apply equally.

**11.29.21 [Not Used]**

**11.29.22 Data Gathering And Storage**

**11.29.22.1 Required Capabilities**

The CAISO shall ensure that the Settlement process shall contain, at a minimum, the following data gathering and storage capabilities:

- (a) the accurate, time-sequenced, end-to-end traceability of the Settlements process so that Scheduling Coordinators, CRR Holders and Participating TOs can fully verify their Settlement Statements;
- (b) the ability to specify and accept data that is specifically needed for audit trail requirements; and
- (c) the archiving of Meter Data, Settlement runs and other information used to prepare Settlement Statements to be consistent with the time frame required to re-run the Settlement process by state laws and the rules of the Local Regulatory Authority.

**11.29.22.2 Data Dissemination**

California Independent System Operator Corporation  
Fifth Replacement Tariff

Data shall not be disseminated by the CAISO except as permitted in this CAISO Tariff.

**11.29.23 Communications**

The Initial Settlement Statement T+3B, any Recalculation Settlement Statement, and Invoices, and Payment Advices will be considered issued to CAISO Creditors or CAISO Debtors when released by the CAISO's secure communication system. Communications on a Payment Date relating to payment shall be made by the fastest practical means including by telephone. If there is a failure of a communication system and it is not possible to communicate by electronic means, then the CAISO or CAISO Creditor or CAISO Debtor, as the case may be, shall communicate by facsimile but only if the recipient is first advised by telephone to expect the facsimile. Methods of communication between the CAISO and Market Participants may be varied by the CAISO giving not less than ten (10) days notice to Market Participants on the CAISO's secure communication system.

**11.29.24 CAISO Payments Calendar**

**11.29.24.1 Preparation**

In September of each year, the CAISO will prepare a draft CAISO Payments Calendar for the following calendar year showing for each Trading Day:

- (a) The date by which Scheduling Coordinators are required to provide Actual Settlement Quality Meter Data or Scheduling Coordinator Estimated Settlement Quality Meter Data for all their Scheduling Coordinator Metered Entities for each Settlement Period in the Trading Day;
- (b) The date on which the CAISO will issue Initial Settlement Statements T+3B and Invoices and Payment Advices to Scheduling Coordinators or CRR Holders, Black Start Generators and Participating TOs for that Trading Day;
- (c) The date on which the CAISO will issue the Recalculation Settlement Statements T+12B, T+55B, T+9M, T+18M, T+35M, and T+36M, and Invoices and Payment Advices to Scheduling Coordinators, CRR Holders, Black Start Generators and Participating TOs for that Trading Day;

California Independent System Operator Corporation  
Fifth Replacement Tariff

- (d) The dates by which Scheduling Coordinators, CRR Holders, Black Start Generators and Participating TOs are required to notify the CAISO of any disputes in relation to their Recalculation Settlement Statements T+12B, T+55B, T+9M, T+18M and T+35M.
- (e) The date and time by which CAISO Debtors are required to have made payments into the CAISO Clearing Account in payment of Invoices for that Trading Day;
- (f) The dates and times on which the CAISO Clearing Account will remit payments to the CAISO Creditors of amounts owing to them for that Trading Day; and
- (g) In relation to Reliability Must-Run Charges and RMR Payments, the details set out in paragraph 3 of Appendix N, Part J.

The CAISO will make a draft of the CAISO Payments Calendar available on the CAISO Website to Scheduling Coordinators, CRR Holders, Black Start Generators, Participating TOs and RMR Owners any of which may submit comments and objections to the CAISO within two weeks of the date of posting of the draft on the CAISO Website. No later than October 31st in each year, the CAISO will publish the final CAISO Payments Calendar for the following calendar year, after considering the comments and objections received from Scheduling Coordinators, CRR Holders, Black Start Generators, Participating TOs and RMR Owners. The final CAISO Payments Calendar will be posted on the CAISO Website, and will show for the period from 1 January to 31 December in the next succeeding year (both dates inclusive), the dates on which Settlement Statements shall be published by the CAISO and the Payment Dates on which the CAISO will pay the Participating TOs the Wheeling revenues allocated to them pursuant to Section 26.1.4.3.

**11.29.24.2 Distribution**

Any CAISO Payments Calendar prepared pursuant to this Section 11.29.24 shall be distributed promptly to each Scheduling Coordinator, each Participating TO, the CAISO Bank, the CAISO Audit Committee and the CAISO Governing Board and shall be published on the CAISO Website.

**11.29.24.3 Final Calendar Binding**

California Independent System Operator Corporation  
Fifth Replacement Tariff

The final CAISO Payments Calendar shall be binding on the CAISO and on Scheduling Coordinators, CRR Holders, Black Start Generators, Participating TOs and RMR Owners.

**11.29.24.4 Calendar Content and Format**

The CAISO may change the content or format of the CAISO Payments Calendar. The CAISO may also produce a summary outline of the Settlement and billing cycles.

**11.29.24.5 Update the Final Payments Calendar**

If, as a result of an amendment to the CAISO Tariff approved by FERC, the final CAISO Payments Calendar developed in accordance with Section 11.29.24 is rendered inconsistent with the timing set forth in this CAISO Tariff, the CAISO shall update the final CAISO Payments Calendar to make it consistent with the CAISO Tariff as approved by FERC on the date on which the CAISO Tariff amendment goes into effect. The CAISO shall simultaneously send out a Market Notice to Market Participants that the final CAISO Payments Calendar has been revised.

**11.30 Auditing**

All of the data, information, and estimates the CAISO uses to calculate Settlement amounts shall be subject to the auditing requirements of Section 22.1. The CAISO shall calculate these amounts using the software referred to in Section 11.29.5.4 except in cases of system breakdown when it shall apply the procedures set out in 11.29.10.1 (Emergency Procedures).

**11.31 HASP Intertie Schedules Decline Charges**

The Decline Potential Charge – Imports shall apply to any HASP Intertie Schedule for an Energy import when the HASP Intertie Schedule is not delivered for any reason (with no exceptions based on the circumstances of a particular failure to deliver). The Decline Potential Charge – Exports shall apply to any HASP Intertie Schedule for an Energy export when the HASP Intertie Schedule is not delivered for any reason (with no exceptions based on the circumstances of a particular failure to deliver). For any Settlement Interval, the Decline Potential Charge – Imports or Decline Potential Charge – Exports, as the case may be, shall equal the MWh quantity of the import or export not delivered multiplied by the greater of \$10/MWh or fifty percent (50%) of the HASP Intertie LMP. The Decline Potential Charge – Imports and Decline Potential Charge – Exports will be calculated for each HASP Intertie Schedule that is not

California Independent System Operator Corporation  
Fifth Replacement Tariff

delivered, provided that only the Decline Monthly Charge – Imports and Decline Monthly Charge – Exports shall be payable by the Scheduling Coordinator as described in Section 11.31.1.

**11.31.1 Decline Monthly Charge – Imports**

The Decline Monthly Charge – Imports shall be applied to each Scheduling Coordinator on the Settlement Statements issued for the last Trading Day of each Trading Month, and shall be the sum of the Scheduling Coordinator's Decline Potential Charges – Imports for each Settlement Period during that Trading Month multiplied by a ratio. The ratio will represent the portion of the Scheduling Coordinator's declined HASP Intertie Schedules for Energy imports that exceed the applicable exemption threshold during the Trading Month.

- (a) The ratio will be calculated as follows:
  - (i) the Scheduling Coordinator's total MWh quantity of HASP Intertie Schedules for Energy imports that were not delivered during that Trading Month minus the applicable exemption threshold, divided by
  - (ii) the Scheduling Coordinator's total MWh quantity of HASP Intertie Schedules for Energy imports that were not delivered during the Trading Month.
- (b) The applicable exemption threshold is the greater of the following:
  - (i) the Decline Threshold Quantity – Imports/Exports; or
  - (ii) the total MWh quantity of HASP Intertie Schedules for Energy imports during the Trading Month multiplied by the Scheduling Coordinator's Decline Threshold Percentage – Imports/Exports.

Notwithstanding the foregoing, the Decline Monthly Charge – Imports shall equal zero if either:

- a) The percentage of the MWh quantity of HASP Intertie Schedules for Energy imports that the Scheduling Coordinator did not deliver during the Trading Month is less than the Decline Threshold Percentage – Imports/Exports; or
- b) The total MWh quantity of HASP Intertie Schedules for Energy imports that the Scheduling Coordinator did not deliver in the applicable Trading Month is less than the Decline Threshold Quantity – Imports/Exports.

**11.31.2 Decline Monthly Charge – Exports**

The Decline Monthly Charge – Exports shall be applied to each Scheduling Coordinator on the Settlement Statements issued for the last Trading Day of each Trading Month, and shall be the sum of the Scheduling Coordinator's Decline Potential Charges – Exports for each Settlement Interval during that Trading Month multiplied by a ratio. The ratio will represent the portion of the Scheduling Coordinator's declined HASP Intertie Schedules for Energy exports that exceed the applicable exemption threshold during the Trading Month.

- (a) The ratio will be calculated as follows:
  - (i) the Scheduling Coordinator's total MWh quantity of HASP Intertie Schedules for Energy exports that were not delivered during that Trading Month minus the applicable exemption threshold, divided by
  - (ii) the Scheduling Coordinator's total MWh quantity of HASP Intertie Schedules for Energy exports that were not delivered during the Trading Month.
- (b) The applicable exemption threshold is the greater of the following:
  - (i) the Decline Threshold Quantity – Imports/Exports; or
  - (ii) the total MWh quantity of HASP Intertie Schedules for Energy exports during the Trading Month multiplied by the Scheduling Coordinator's Decline Threshold Percentage – Imports/Exports.

Notwithstanding the foregoing, the Decline Monthly Charge – Exports shall equal zero if either:

- a) The percentage of the MWh quantity of HASP Intertie Schedules for Energy exports that the Scheduling Coordinator did not deliver during the Trading Month is less than the Decline Threshold Percentage – Imports/Exports; or
- b) The total MWh quantity of HASP Intertie Schedules for Energy exports that the Scheduling Coordinator did not deliver in the applicable Trading Month is less than the Decline Threshold Quantity – Imports/Exports.

**11.31.3 Allocation Of Import/Export Decline Monthly Charges**

On the Settlement Statements issued for the last Trading Day of the applicable Trading Month, each Scheduling Coordinator shall receive a credit for its share of the total of all Decline Monthly Charges – Imports and Decline Monthly Charges – Exports assessed to Scheduling Coordinators for the applicable Trading Month. The credits shall be allocated according to the proportion of each Scheduling Coordinator's Measured CAISO Demand to total Measured CAISO Demand for the CAISO Balancing Authority Area during the Trading Month.

**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 are wholly or partially reversed 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.



California Independent System Operator Corporation  
Fifth Replacement Tariff

- (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.

**11.33 Settling Revenue from Schedule Sourcing/Sinking in Same BAA**

The import portion of any Schedule resulting from Bids submitted in violation of Section 30.5.5 will be settled at the lower of the: (a) LMP of the Scheduling Point for the import portion of the Schedule in the market in which the import portion of the Schedule was awarded; or (b) LMP of the Scheduling Point for the export portion of the Schedule in the market in which the export portion of the Schedule was awarded. Such settlement will occur irrespective of whether the import and export were scheduled in the same market or are split between the Day-Ahead Market and HASP.