

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System) Docket Nos. ER06-615-___ and
Operator Corporation) ER08-___-000**

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
FILING OF FOURTH REPLACEMENT VERSION OF
FERC ELECTRIC TARIFF**

VOLUME 2 OF 7

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ATTACHMENT B – CAISO TARIFF CLEAN SHEETS
FOURTH REPLACEMENT VOLUME NUMBERS I & II

ARTICLE I – GENERAL PROVISIONS

1. DEFINITIONS AND INTERPRETATION.

1.1 The general provisions of this Article I shall apply to this CAISO Tariff.

1.2 Definitions.

Capitalized terms used in this CAISO Tariff shall have the meanings set out in the Master Definitions Supplement set out in Appendix A unless otherwise stated or the context otherwise requires. If two or more capitalized terms are used together in a manner not uniquely defined in Appendix A to this CAISO Tariff, the meanings of each defined term apply.

1.3 Rules of Interpretation.

1.3.1 In this CAISO Tariff “includes” or “including” shall mean “including without limitation”.

1.3.2 In this CAISO Tariff, unless the context otherwise requires:

- (a) the singular shall include the plural and vice versa;
- (b) references to a Section or Appendix shall mean a section or appendix of this CAISO Tariff;
- (c) references to any law shall be deemed references to such law as it may be amended, replaced or restated from time to time;
- (d) any reference to a “person” includes any individual, partnership, firm, company, corporation, joint venture, trust, association, organization or other entity, in each case, whether or not having separate legal personality;
- (e) any reference to a day, month, week or year is to a calendar day, month, week or year;
- (f) if the provisions of a Protocol and Section 1 through 4 conflict, the provisions in Sections 1 through 4 will prevail to the extent of the inconsistency;

- (g) a reference to this CAISO Tariff or to a given agreement, or instrument shall be a reference to this CAISO Tariff or to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made;
- (h) if the provisions of this CAISO Tariff and those of an existing contract conflict, with respect to Outage coordination, the existing contract will prevail to the extent of the inconsistency;
- (i) time references are references to prevailing Pacific time;
- (j) the Operating Procedures or Business Practice Manuals referenced in this CAISO Tariff, as may be amended from time to time, shall be posted on the CAISO Website, except as provided in Section 22.11, and such references in this CAISO Tariff shall be to the Operating Procedures or Business Practice Manuals then posted on the CAISO Website;
- (k) if the provisions of an Operating Procedure or a Business Practice Manual and this CAISO Tariff conflict, the CAISO Tariff will prevail to the extent of the inconsistency;
- (l) any reference to a day or Trading Day, week, month or year is a reference to a calendar day, week, month or year except that a reference to a Business Day shall have the meaning set forth in Appendix A; and
- (m) the captions and headings in this CAISO Tariff are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the rates, terms, and conditions of this CAISO Tariff.

2. ACCESS TO THE CAISO CONTROLLED GRID.

2.1 Open Access.

The CAISO shall, subject to Sections 2.2 and 3, provide to all Eligible Customers open and non-discriminatory access to the CAISO Controlled Grid regardless of the locations of their connections to the CAISO Controlled Grid in accordance with the terms of this CAISO Tariff including, in particular, the procedures for bidding and scheduling and Congestion Management. Energy and Ancillary Services may be transmitted for an Eligible Customer into, out of or through the CAISO Controlled Grid only through the submission of Bids or Self-Schedules by a Scheduling Coordinator. A Scheduling Coordinator must ensure that each Eligible Customer which it represents has all appropriate licenses or authorizations from the Local Regulatory Authority, FERC or any other regulatory body.

2.2 Eligibility of Customers for Direct Access or Wholesale Sales.

The eligibility of an End-Use Customer to be treated as a Direct Access End-User will be determined in accordance with the eligibility and phase-in procedures (if any) adopted by the Local Regulatory Authority. Any dispute as to whether an End-Use Customer meets the eligibility criteria must be resolved by the Local Regulatory Authority prior to the CAISO treating that End-Use Customer as a Direct Access End-User. A Wholesale Customer shall not be entitled to participate in Wholesale Sales through a Scheduling Coordinator if it is not entitled to wholesale transmission service pursuant to the provisions of FPA Section 212(h).

3. FACILITIES FINANCED BY LOCAL FURNISHING BONDS OR OTHER TAX-EXEMPT BONDS.

This Section 3 applies only to transmission facilities which are under the Operational Control of the CAISO and are owned by a Local Furnishing Participating TO or other Tax Exempt Participating TO. Nothing in this CAISO Tariff or the TCA shall compel (and the CAISO is not authorized to request) any Local Furnishing Participating TO or other Tax Exempt Participating TO to violate: (1) restrictions applicable to facilities which are part of a system that was financed in whole or part with Local Furnishing Bonds or other Tax Exempt Debt or (2) the contractual restrictions and covenants regarding the use of any transmission facilities specified in Appendix B to the TCA.

Each Local Furnishing Participating TO and other Tax Exempt Participating TO shall cooperate with and provide all necessary assistance to the CAISO in developing a CAISO Protocol to meet the objectives of the first paragraph of this Section 3 and shall keep the CAISO fully informed of any changes necessary to that CAISO Protocol from time to time.

The CAISO shall implement the CAISO Protocol referred to in this Section 3 provided that the Local Furnishing Participating TOs and other Tax Exempt Participating TOs shall bear sole responsibility for the development of that CAISO Protocol including the interpretation of all relevant legislation and the tax and other financial consequences of its implementation.

4 ROLES AND RESPONSIBILITIES.

4.1 [NOT USED]

4.2 Market Participant Responsibilities.

4.2.1 Comply with Dispatch Instructions and Operating Orders Issued.

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

4.2.2 Implementation of Instructions.

All Market Participants shall respond to CAISO instructions with no more delay than specified in the response times set out in the CAISO Tariff, Operating Procedures and Business Practice Manuals.

4.3 Relationship Between CAISO and Participating TOs.

4.3.1 Nature of Relationship.

Each Participating TO shall enter into the Transmission Control Agreement with the CAISO. In addition to converting Existing Rights in accordance with Section 16.1.4, and except as provided in Section 4.3.1.3, New Participating TOs will be required to turn over Operational Control of all facilities and Entitlements that: (1) satisfy the FERC's functional criteria for determining transmission facilities that should be placed under CAISO Operational Control; (2) satisfy the criteria adopted by the CAISO Governing Board identifying transmission facilities for which the CAISO should assume Operational Control; and (3) are the subject of mutual agreement between the CAISO and the Participating TOs. The CAISO shall notify Market Participants when an application has been received from a potential Participating TO and shall notify Market Participants that a New Participating TO has executed the Transmission Control Agreement and the date on which the CAISO will have Operational Control of the transmission facilities.

4.3.1.1 In any year, a Participating TO applicant must declare its intent in writing to the CAISO to become a New Participating TO by January 1 or July 1, and provide the CAISO with an application within fifteen (15) days of such notice of intent. Applicable agreements will be negotiated and filed with the Federal Energy Regulatory Commission as soon as possible for the New Participating TO, such that the agreements can be effective the following July 1 or January 1.

4.3.1.2 With respect to its submission of Bids, including Self-Schedules to the CAISO, a New Participating TO shall become a Scheduling Coordinator or obtain the services of a Scheduling Coordinator that has been certified in accordance with Section 4.5.1, which Scheduling Coordinator shall not be the entity's Responsible Participating TO in accordance with the Responsible Participating Transmission Owner Agreement, unless mutually agreed, and shall operate in accordance with the CAISO Tariff and applicable agreements.

The New Participating TO shall assume responsibility for paying all Scheduling Coordinators' charges regardless of whether the New Participating TO elects to become a Scheduling Coordinator or obtains the services of a Scheduling Coordinator.

For the period between the effective date of this provision and ending December 31, 2010, the TAC Transition Date pursuant to Section 4.2 of Appendix F, Schedule 3, New Participating TOs that have joined the CAISO and turned over Operational Control of their facilities and Entitlements shall receive the IFM Congestion Credit in accordance with Section 11.2.1.5, which IFM Congestion Credit shall only be applicable to those facilities and Entitlements in existence on the effective date of the CAISO's initial assumption of Operational Control over the facilities and Entitlements of a New Participating TO.

4.3.1.2.1 New Participating TOs shall complete TRTC Instructions for their Converted Rights as provided in Section 16.4.5. To the extent such Converted Rights derive from ETCs with Original Participating TOs, the New Participating TOs and the appropriate Original Participating TO shall develop the TRTC Instructions together.

4.3.1.3 Western Path 15 shall be required to turn over to CAISO Operational Control only its rights and interests in the Path 15 Upgrade and shall not be required to turn over to CAISO Operational Control Central Valley Project transmission facilities, Pacific AC Intertie transmission facilities, California-Oregon Transmission Project facilities, or any other new transmission facilities or Entitlements not related to the Path 15 Upgrade. For purposes of the CAISO Tariff, Western Path 15 shall be treated with respect to revenue recovery as a Project Sponsor in accordance with Section 24.7.

4.3.1.4 The capacity provided to the CAISO under the Transmission Exchange Agreement originally accepted by FERC in Docket No. ER04-688 is deemed to be CAISO Controlled Grid facilities and is subject to all terms and conditions of the CAISO Tariff.

4.3.1.5 Each Participating TO must provide its Local Reliability Criteria to the CAISO, as required by the TCA.

4.3.1.6 Converted Rights.

A recipient of transmission service under an Existing Contract that chooses to become a Participating TO and convert its rights to CAISO transmission service, and the Participating TO which provides the transmission service under the Existing Contract, shall change the terms and conditions of the contract to provide that:

- (a) The recipient of the transmission service received under an Existing Contract that has converted its rights to CAISO transmission service shall turn over Operational Control of its transmission Entitlement to the CAISO for management by the CAISO in accordance with the CAISO Tariff, applicable Operating Procedures, and Business Practice Manuals;
- (b) The recipient of the transmission service under an Existing Contract that has converted its rights to CAISO transmission service shall obtain all future transmission services within, into (starting at the CAISO Controlled Grid), out of, or through the CAISO Controlled Grid using the CAISO's bidding, scheduling, and operational procedures, the CAISO Tariff, and any applicable TO Tariff, provided that this provision shall not affect the rights, if any, of the contract parties to extend Existing Contracts;
- (c) For the capacity represented by its rights, the recipient of firm transmission service under an Existing Contract that has converted its rights to CAISO transmission service shall be entitled to receive all Wheeling revenue credits throughout the term that the capacity is available under the Existing Contract;

- (d) The recipient of the transmission service received under an Existing Contract that has converted its rights to CAISO transmission service shall continue to have the obligation to pay the provider of the service for its transmission service at the rates provided in the Existing Contract, as they may change from time to time under the terms of the Existing Contract, or as mutually agreed between the contract parties, through the term of the contract, subject to the terms and conditions of the contract, including the rights of the parties to the contract to seek unilateral or other changes pursuant to Section 205 or Section 206 of the Federal Power Act and the FERC's Rules and Regulations or as otherwise provided by law.
- (e) Other aspects of such an Existing Contract may also need to be changed. If the parties to the contract are unable to negotiate such changes, they shall seek appropriate changes through the mechanisms provided within the contract, including the rights, if any, to seek unilateral or other changes pursuant to Section 205 or Section 206 of the Federal Power Act and the FERC's Rules and Regulations or as otherwise provided by law.

4.4 Relationship Between CAISO and UDCs.

4.4.1 General Nature of Relationship Between CAISO and UDCs.

The CAISO shall not be obliged to accept Bids which would require Energy to be transmitted to or from the Distribution System of a UDC directly connected to the CAISO Controlled Grid unless the relevant UDC has entered into a UDC Operating Agreement. The UDC Operating Agreement shall require UDCs to comply with the applicable provisions of this Section 4.4 and any other expressly applicable Sections of this CAISO Tariff as these may be amended from time to time.

The CAISO shall operate the CAISO Controlled Grid, and each UDC shall operate its Distribution System at all times in accordance with Good Utility Practice and in a manner that ensures safe and reliable operation. The CAISO shall, pursuant to its obligations set forth in this Section 4.4, have the right by agreement to delegate certain operational responsibilities to the relevant Participating TO or UDC pursuant to this Section 4.4. All information made available to UDCs by the CAISO shall also be made available to Scheduling Coordinators. All information pertaining to the physical state or operation, maintenance and failure of the UDC Distribution System affecting the operation of the CAISO Controlled Grid that is made available to the CAISO by the UDC shall also be made available to Scheduling Coordinators upon receipt of reasonable notice.

4.4.2 UDC Responsibilities.

Recognizing the CAISO's duty to ensure efficient use and reliable operation of the CAISO Controlled Grid consistent with the Applicable Reliability Criteria, each UDC shall:

- (a) operate and maintain its facilities, in accordance with applicable safety and reliability standards, regulatory requirements, applicable operating guidelines, applicable rates, tariffs, statutes and regulations governing their provision of service to their End-Use Customers and Good Utility Practice so as to avoid any material adverse impact on the CAISO Controlled Grid;
- (b) provide the CAISO Outage Coordination Office each year with a schedule of upcoming maintenance (including all equipment Outages) that has a reasonable potential of impacting the CAISO Controlled Grid in accordance with Section 9.3.6 and in accordance with the other scheduling procedures described in this CAISO Tariff;

- (c) coordinate with the CAISO, Participating TOs and Generators to ensure that CAISO Controlled Grid Critical Protective Systems, including relay systems, are installed and maintained in order to function on a coordinated and complementary basis with UDCs', Generators' and Participating TOs' protective systems.
- (d) coordinate any requests for emergency Outages on point of interconnection equipment directly with the appropriate CAISO Control Center as specified in Section 7.1.

4.4.3 System Emergency Reports: UDC Obligations.

Each UDC shall maintain all appropriate records pertaining to a System Emergency and each UDC shall cooperate with the CAISO in the preparation of an Outage review pursuant to Section 7.7.13.

4.4.4 Coordination of Expansion or Modifications to UDC Facilities.

Each UDC and the Participating TO with which it is interconnected shall coordinate in the planning and implementation of any expansion or modifications of a UDC's or Participating TO's system that will affect their transmission interconnection, the CAISO Controlled Grid or the transmission services to be required by the UDC. The Participating TO shall be responsible for coordinating with the CAISO.

4.4.5 Information Sharing.

4.4.5.1 System Planning Studies.

The CAISO, Participating TOs and UDCs shall share information such as projected Load growth and system expansions necessary to conduct necessary System Planning Studies to the extent that these may impact the operation of the CAISO Controlled Grid.

4.4.5.2 System Surveys and Inspections.

The CAISO and each UDC shall cooperate with each other in performing system surveys and inspections to the extent these relate to the operation of the CAISO Controlled Grid.

4.4.5.3 Reports.

The CAISO shall make available to the UDCs any public annual reviews or reports regarding performance standards, measurements and incentives relating to the CAISO Controlled Grid and shall also make available, upon reasonable notice, any such reports that the CAISO receives from the Participating TOs. Each UDC shall make available to the CAISO any public annual reviews or reports regarding performance standards, measurements and incentives relating to the UDC's Distribution System to the extent these relate to the operation of the CAISO Controlled Grid.

4.4.5.4 Maintenance.

The CAISO and UDCs shall develop an operating procedure to record requests received for Maintenance Outages by the CAISO and the completion of the requested maintenance and turnaround times. The UDCs shall maintain records that substantiate all maintenance performed on UDC facilities that are under the Operational Control of the CAISO. These records shall be made available to the CAISO upon receipt of reasonable notice.

4.4.6 Installation of and Rights of Access to UDC Facilities.

4.4.6.1 Installation of Facilities.

4.4.6.1.1 Meeting Service Obligations.

The CAISO and the UDC shall each have the right on reasonable notice to install or to have installed equipment (including metering equipment) or other facilities on the property of the other, to the extent that such installation is necessary for the installing party to meet its service obligations unless to do so would have a negative impact on the reliability of the service provided by the party owning the property.

4.4.6.1.2 Governing Agreements for Installations.

The CAISO and the UDC shall enter into agreements governing the installation of equipment or other facilities containing customary, reasonable terms and conditions.

4.4.6.2 Access to Facilities.

The UDCs shall grant the CAISO reasonable access to UDC facilities free of charge for purposes of inspection, repair, maintenance, or upgrading of facilities installed by the CAISO on the UDC's system, provided that the CAISO must provide reasonable advance notice of its intent to access UDC facilities and opportunity for UDC staff to be present. Such access shall not be provided unless the parties mutually agree to the date, time and purpose of each access. Agreement on the terms of the access shall not be unreasonably withheld.

4.4.6.3 Access During Emergencies.

Notwithstanding any provision in this Section 4.4 the CAISO may have access, without giving prior notice, to any UDC's equipment or other facilities during times of a System Emergency or where access is needed in connection with an audit function.

4.4.7 Provision of Information for CRRs to Reflect Load Migration.

Each UDC shall provide to the CAISO information as provided in Section 36.8.5.2 that enables the CAISO to perform transfers of CRRs that reflect Load Migration in a timely manner as required in Section 36.8.5.

4.4.8 UDC Facilities under CAISO Control.

The CAISO and each UDC shall enter into an agreement in relation to the operation and maintenance of the UDC's facilities that are under the CAISO's Operational Control.

4.5 Responsibilities of a Scheduling Coordinator.

4.5.1 Scheduling Coordinator Certification.

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

Each Scheduling Coordinator shall:

- (a) demonstrate to the CAISO's reasonable satisfaction that it is capable of performing the functions of a Scheduling Coordinator under this CAISO Tariff including (without limitation) the functions specified in Sections 4.5.3 and 4.5.4;
- (b) identify each of the Eligible Customers (including itself if it trades for its own account) which it is authorized to represent as Scheduling Coordinator and confirm that the metering requirements under Section 10 are met in relation to each Eligible Customer that it represents under this CAISO Tariff;
- (c) confirm that each of the End-Use Customers it represents is eligible for service as a Direct Access End User;
- (d) confirm that none of the Wholesale Customers it represents is ineligible for wholesale transmission service pursuant to the provisions of FPA Section 212(h);
- (e) demonstrate to the CAISO's reasonable satisfaction that it meets the financial criteria set out in Section 12;
- (f) enter into a Scheduling Coordinator Agreement with the CAISO; and
- (g) provide NERC tagging data.

4.5.1.1 Procedure to become a Scheduling Coordinator.

4.5.1.1.1 Scheduling Coordinator Application.

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

4.5.1.1.2 CAISO Information.

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

- (a) the Scheduling Coordinator Application Form, as set forth in the applicable Business Practice Manual;
- (b) the CAISO Tariff and Business Practice Manuals; and
- (c) forms for a credit application for Scheduling Coordinator Applicants applying for Unsecured Credit Limits and for provision of Financial Security to be provided pursuant to Section 12.

4.5.1.1.3 Duplicate Information.

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

4.5.1.1.4 Scheduling Coordinator Applicant Returns Application.

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

4.5.1.1.5 Notice of Receipt.

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

4.5.1.1.6 CAISO Review of Application.

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

4.5.1.1.6.1 Information Requirements.

The Scheduling Coordinator Applicant must submit with its application:

- (a) the proposed date for commencement of service, which may not be less than 120 days after the date the application was filed, unless waived by the CAISO;
- (b) financial and credit information as set forth in Section 12; and
- (c) the prescribed non-refundable application fee of \$5,000.

4.5.1.1.6.2 Scheduling Coordinator Applicant's Obligation for Contracts.

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

- (a) represented Generators have entered into Participating Generator Agreements or Qualifying Facility Participating Generator Agreements as provided in Appendices B.2 and B.3, respectively with the CAISO;
- (b) represented UDCs have entered into UDC Operating Agreements as provided in Appendix B.8 with the CAISO;
- (c) represented CAISO Metered Entities have entered into Meter Service Agreements for CAISO Metered Entities as provided in Appendix B.6 with the CAISO;
- (d) none of the Wholesale Customers it will represent are ineligible for wholesale transmission service pursuant to the provisions of the FPA Section 212(h); and
- (e) each End-Use Customer it will represent is eligible for service as a Direct Access End User pursuant to an established program approved by the California Public Utilities Commission or a Local Regulatory Authority.

4.5.1.1.7 Deficient Application.

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

4.5.1.1.7.1 Scheduling Coordinator Applicant's Additional Information.

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

4.5.1.1.7.2 No Response from Scheduling Coordinator Applicant.

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

4.5.1.1.8 CAISO Approval or Rejection of an Application.

4.5.1.1.8.1 Approval or Rejection Notification.

- (a) If the CAISO approves the application, it will send an electronic notification of approval. In addition, the CAISO will provide a Scheduling Coordinator Agreement, a Meter Service Agreement for Scheduling Coordinators as provided in Appendix B.7, if applicable, any other applicable agreements, and any required CAISO network connectivity security agreement for the Scheduling Coordinator Applicant's signature.
- (b) If the CAISO rejects the application, the CAISO will send an electronic notification of rejection stating one or more of the following grounds:
 - (i.) incomplete information;
 - (ii.) non-compliance with credit requirements pursuant to Section 12;
 - (iii.) non-compliance with third party contractual obligations;
 - (iv.) non-compliance with technical requirements; or
 - (v.) non-compliance with any other CAISO Tariff requirements.

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

4.5.1.1.8.2 Time for Processing Application.

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

4.5.1.1.9 Scheduling Coordinator Applicant's Response.

4.5.1.1.9.1 Scheduling Coordinator Applicant's Acceptance.

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

4.5.1.1.9.2 Scheduling Coordinator Applicant's Rejection.

4.5.1.1.9.2.1 Resubmittal.

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

4.5.1.1.9.2.2 Appeal.

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

4.5.1.1.10 Post Application Procedures Prior to Final Certification.

4.5.1.1.10.1 Scheduling Coordinator's Administrative, Financial and Technical Requirements.

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

- (a) provided the technical/operational information required to complete the Scheduling Coordinator Application Form as set forth in the applicable Business Practice Manual, and to comply with Section 10.3;
- (b) executed a network connectivity security agreement for access to the CAISO's software used in conducting business with the CAISO and compliance with the CAISO's system security requirements in a form approved by the CAISO, if applicable;
- (c) obtained and installed any required software for functional interface for Validation, Estimation and Editing meter values (VEE), if applicable;
- (d) undertaken required training and testing regarding the use of the CAISO's market, operating, and technical systems, as specified in the applicable Business Practice Manual;
- (e) provided its bank account information and arranged for Fed-Wire transfers;
- (f) provided an emergency plan specifying the procedures by which Scheduling Coordinator operations and contacts with the CAISO will be maintained during an emergency, containing information specified in the applicable Business Practice Manual; and
- (g) obtained and installed a computer link and any necessary software in order to communicate with the CAISO, as specified in the applicable Business Practice Manual.

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

4.5.1.1.10.2 Application Closure after 12 Months.

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

4.5.1.1.11 Final Certification of Scheduling Coordinator Applicant.

The Scheduling Coordinator Applicant will become a Scheduling Coordinator when:

- (a) its application has been accepted;
- (b) it has entered into a Scheduling Coordinator Agreement, a Meter Service Agreement for Scheduling Coordinators, if applicable, and any other applicable agreements with the CAISO;
- (c) it has met the credit requirements of Section 12; and
- (d) it has fulfilled all technical/operational requirements of Sections 4.5.4.1 and 4.5.1.1.10.1.

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

4.5.1.2 Scheduling Coordinator's Ongoing Obligations After Certification.

4.5.1.2.1 Scheduling Coordinator's Obligation to Report Changes.

4.5.1.2.1.1 Obligation to Report a Change in Filed Information.

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

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

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

4.5.1.2.2 CAISO's Response for Failure to Inform.

4.5.1.2.2.1 Failure to Promptly Report a Material Change.

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

4.5.1.3 Additional Scheduling Coordinator Identification Code Registration.

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

4.5.2 Eligible Customers Represented by Scheduling Coordinators.

Each Scheduling Coordinator shall within ten (10) days of a request by the CAISO provide the CAISO with a list of the Eligible Customers that it represents at the date of the request.

4.5.3 Responsibilities of a Scheduling Coordinator.

Each Scheduling Coordinator shall be responsible for:

4.5.3.1 Obligation to Pay.

Paying the CAISO's charges in accordance with this CAISO Tariff;

4.5.3.2 Submit Bids and Interchange Schedules.

4.5.3.2.1 Submitting Bids, including Self-Schedules, for Energy in CAISO Markets that relate to the Market Participants for which it serves as Scheduling Coordinator;

4.5.3.2.2 Submitting Interchange schedules prepared in accordance with all NERC, WECC and CAISO requirements, including providing E-Tags for all applicable transactions pursuant to WECC practices;

4.5.3.3 Modifications in Demand and Supply.

Coordinating and allocating modifications in Demand and exports and Generation and imports at the direction of the CAISO in accordance with this CAISO Tariff;

4.5.3.4 Inter-SC Trades.

Submitting any applicable Inter-SC Trades that the Market Participants intend to have settled through the CAISO Markets, pursuant to this CAISO Tariff;

4.5.3.5 Tracking and Settling Trades.

Tracking and settling all intermediate trades, including bilateral transactions and Inter-SC Trades, among the entities for which it serves as Scheduling Coordinator;

4.5.3.6 Ancillary Services.

Providing Ancillary Services in accordance with Section 8;

4.5.3.7 Annual and Monthly Forecasts.

Submitting to the CAISO its forecasted monthly and annual peak Demand in the CAISO Balancing Authority Area and/or its forecasted monthly and annual Generation capacity, as applicable; the forecasts shall be submitted to the CAISO electronically on a monthly basis by noon of the 18th working day of the month and shall cover a period of twelve (12) months on a rolling basis;

4.5.3.8 Business Practice Manuals.

Complying with all CAISO Business Practice Manuals and ensuring compliance by each of the Market Participants which it represents with all applicable provisions of the Business Practice Manuals;

4.5.3.9 Interruptible Imports. Identifying any Interruptible Imports included in its Bids or Inter-SC Trades;

4.5.3.10 Participating Intermittent Resources.

Submitting Bids, including Self-Schedules, for Participating Intermittent Resources consistent with the CAISO Tariff;

4.5.3.11 Day-Ahead Market Published Schedules and Awards.

Starting-up units and timely achieving specified operating levels in response to Dispatch Instructions, in accordance with CAISO published Schedules and awards;

4.5.3.12 Financial Responsibility.

Assuming financial responsibility for all Schedules, awards, HASP Intertie Schedules and Dispatch Instructions issued in the CAISO Markets, in accordance with the provisions of this CAISO Tariff; and

4.5.3.13 Compliance with Environmental Constraints, Operating Permits and Applicable Law.

Submitting Bids so that any service provided in accordance with such Bids does not violate environmental constraints, operating permits or applicable law. All submitted Bids must reflect resource limitations and other constraints as such are required to be reported to the CAISO Control Center.

4.5.4 Operations of a Scheduling Coordinator.

4.5.4.1 Maintain Twenty-four (24) Hour Scheduling Centers.

Each Scheduling Coordinator shall operate and maintain a twenty-four (24) hour, seven (7) days per week, scheduling center. Each Scheduling Coordinator shall designate a senior member of staff as its scheduling center manager who shall be responsible for operational communications with the CAISO and who shall have sufficient authority to commit and bind the Scheduling Coordinator.

4.5.4.2 [NOT USED]

4.5.4.3 Dynamic Scheduling.

Scheduling Coordinators may submit Bids for imports of Energy and Ancillary Services for which associated Energy is delivered from Dynamic System Resources located outside of the CAISO Balancing Authority Area, provided that: (a) such dynamic scheduling is technically feasible and consistent with all applicable NERC and WECC criteria and policies, (b) all operating, technical, and business requirements for dynamic scheduling functionality, as set forth in the Dynamic Scheduling Protocol in Appendix X or posted in standards on the CAISO Website, are satisfied, (c) the Scheduling Coordinator for the Dynamic System Resource executes a Dynamic Scheduling Agreement for Scheduling Coordinators as provided in Appendix B.5 with the CAISO for the operation of dynamic scheduling functionality, and (d) all affected Host Balancing Authorities and Intermediary Balancing Authorities each execute with the CAISO an Interconnected Balancing Authority Area Operating Agreement, a Dynamic Scheduling Host Balancing Authority Operating Agreement as provided in Appendix B.9, or a special operating agreement related to the operation of dynamic functionality.

4.5.4.4 Termination of Scheduling Coordinator Agreement and Suspension of Certification.

- (a) A Scheduling Coordinator's Scheduling Coordinator Agreement may be terminated by the CAISO on written notice to the Scheduling Coordinator:
 - (i) if the Scheduling Coordinator no longer meets the requirements for eligibility set out in Section 4.5 and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default;
 - (ii) if the Scheduling Coordinator fails to pay any sum under this CAISO Tariff and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default;
 - (iii) if the Scheduling Coordinator commits any other default under this CAISO Tariff or any of the CAISO Business Practice Manuals which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given it written notice of the default; or
 - (iv) if the Scheduling Coordinator does not participate in the CAISO's markets for Energy or Ancillary Services for a period of twelve (12) consecutive months and fails to comply with the provisions of Section 4.5.4.4.2 within 120 days after the CAISO has given it written notice of the CAISO's intent to terminate its Scheduling Coordinator Agreement.

- (b) A Scheduling Coordinator's Scheduling Coordinator Agreement may be terminated by the Scheduling Coordinator on sixty (60) days written notice to the CAISO, provided that such notice shall not be effective to terminate the Scheduling Coordinator Agreement until the Scheduling Coordinator has complied with all applicable requirements of Section 4.5.2.

- (c) The CAISO shall, following termination of a Scheduling Coordinator Agreement and within thirty (30) days of being satisfied that no sums remain owing by the Scheduling Coordinator under the CAISO Tariff, return or release to the Scheduling Coordinator, as appropriate, any money or credit support provided by such Scheduling Coordinator to the CAISO under Section 12.

4.5.4.4.1 Pending the effective date of termination of service pursuant to Section 4.5.4.5.1, the CAISO will suspend the certification of a Scheduling Coordinator which has received a notice of termination under Section 4.5.4.4(a) and the Scheduling Coordinator will not be eligible to participate in the CAISO's Energy and Ancillary Services markets.

4.5.4.4.2 A Scheduling Coordinator that has received a notice of the CAISO's intent to terminate its Scheduling Coordinator Agreement for failure to participate in the CAISO's markets for Energy and Ancillary Services for a period of twelve (12) consecutive months pursuant to Section 4.5.4.4(a)(iv) will avoid having its Scheduling Coordinator Agreement terminated and will have its certification reinstated if it completes the testing and training required for Scheduling Coordinator certification as set forth in the applicable Business Practice Manual within 120 days after the CAISO's issuance of the notice of intent to terminate.

4.5.4.5 Notification of Termination.

The CAISO shall, promptly after providing written notice of default to a Scheduling Coordinator as specified in Section 4.5.4.4(a), notify the Scheduling Coordinators that could be required to represent End User Eligible Customers of the Scheduling Coordinator under Section 4.5.4.6.2 if the default is not cured. The CAISO shall, as soon as reasonably practicable following the occurrence of any of the events specified in Section 4.5.4.4, notify the Scheduling Coordinator and the Scheduling Coordinators that could be required to represent End User Eligible Customers of the defaulting Scheduling Coordinator, and the UDCs, and shall as soon as reasonably practicable after the issuance of such notice of termination post such notice on the CAISO Website. Termination of the Scheduling Coordinator Agreement will automatically remove the Scheduling Coordinator's certification under Section 4.5 and Section 8.4.

4.5.4.5.1 Filing of Notice of Termination.

Any notice of termination given pursuant to Section 4.5.4.4 shall also be filed by the CAISO with FERC, if required by FERC rules, if the non-compliance is not remedied within the period specified in Section 4.5.4.4, and it shall be effective in accordance with FERC rules.

4.5.4.6 Continuation of Service on Termination.

4.5.4.6.1 Option for Eligible Customers to choose a new Scheduling Coordinator.

When the CAISO suspends the certification of a Scheduling Coordinator pending termination, Eligible Customers of the defaulting Scheduling Coordinator shall be entitled to select another Scheduling Coordinator to represent them. The CAISO will post notice of any suspension on the CAISO Website. Until the CAISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of the defaulting Scheduling Coordinator, the Eligible Customer of the defaulting Scheduling Coordinator will receive interim service in accordance with Section 4.5.4.6.2.

4.5.4.6.2 Interim Service.

The CAISO shall maintain a list of Scheduling Coordinators willing to represent Eligible Customers of a defaulting Scheduling Coordinator, which list may be differentiated by UDC service area. Scheduling Coordinators who indicate to the CAISO their desire to be on such list shall be placed thereon by the CAISO in random order.

- (a) When the CAISO suspends the certification of a Scheduling Coordinator in accordance with Section 4.5.4.4.1, Eligible Customers of the defaulting Scheduling Coordinators shall be assigned to all Scheduling Coordinators on the list established pursuant to this Section 4.5.4.6.2 in a non-discriminatory manner to be established by the CAISO, and each Eligible Customer shall thereafter be represented by the Scheduling Coordinator to which it is assigned unless and until it selects another Scheduling Coordinator in accordance with Section 4.5.4.6.1, subject to this Section 4.5.4.6.2 subsection (b).

- (b) Unless the CAISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of a defaulting Scheduling Coordinator within seven (7) days of the notice of termination being posted on the CAISO Website, the Scheduling Coordinator to which that Eligible Customer has been assigned in accordance with subsection (a) may establish a reasonable minimum period for service, not to exceed thirty (30) days.
- (c) In the event no Scheduling Coordinator indicates its willingness to represent Eligible Customers of a defaulting Scheduling Coordinator, the UDC that has the obligation to serve End-Use Customers of the Eligible Customer, if any, shall arrange to serve those End-Use Customers of such Eligible Customers that are located within the service area of the UDC. Such service will be provided in a manner consistent with that which the UDC provides, pursuant to the rules and tariffs of the Local Regulatory Authority, for its bundled End-Use Customers.
- (d) This Section shall not in any way require a UDC to provide or arrange for Scheduling Coordinator service for wholesale Eligible Customers.

4.6 Relationship Between CAISO and Generators.

The CAISO shall not accept Bids for any Generating Unit interconnected to the CAISO Controlled Grid, or to the Distribution System of a Participating TO or of a UDC otherwise than through a Scheduling Coordinator. The CAISO shall further not be obligated to accept Bids from Scheduling Coordinators relating to Generation from any Generating Unit interconnected to the CAISO Controlled Grid unless the relevant Generator undertakes in writing, by entering into a Participating Generator Agreement or QF PGA with the CAISO, to comply with all applicable provisions of this CAISO Tariff as they may be amended from time to time, including, without limitation, the applicable provisions of this Section 4.6 and Section 7.7.

4.6.1 General Responsibilities.

4.6.1.1 Operate Pursuant to Relevant Provisions of CAISO Tariff.

Participating Generators shall operate, or cause their facilities to be operated, in accordance with the relevant provisions of this CAISO Tariff, including, but not limited to, the operating requirements for normal and emergency operating conditions specified in Section 7 and the requirements for the dispatch and testing of Ancillary Services specified in Section 8.

- (i) Each Participating Generator shall immediately inform the CAISO, through its respective Scheduling Coordinator, of any change or potential change in the current status of any Generating Units that are under the Dispatch control of the CAISO. This will include, but not be limited to, any change in status of equipment that could affect the maximum output of a Generating Unit, the minimum load of a Generating Unit, the ability of a Generating Unit to operate with automatic voltage regulation, operation of the PSSs (whether in or out of service), the availability of a Generating Unit governor, or a Generating Unit's ability to provide Ancillary Services as required. Each Participating Generator shall immediately report to the CAISO, through its Scheduling Coordinator, any actual or potential concerns or problems that it may have with respect to Generating Unit direct digital control equipment, Generating Unit voltage control equipment, or any other equipment that may impact the reliable operation of the CAISO Controlled Grid.

- (ii) In the event that a Participating Generator cannot meet its Generation schedule as specified in the Day-Ahead Schedule, or comply with a Dispatch Instruction, whether due to a Generating Unit trip or the loss of a piece of equipment causing a reduction in capacity or output, the Participating Generator shall notify the CAISO, through its Scheduling Coordinator, at once. If a Participating Generator will not be able to meet a time commitment or requires the cancellation of a Generating Unit Start-Up, it shall notify the CAISO, through its Scheduling Coordinator, at once.

4.6.1.2 Operate Pursuant to Relevant Operating Procedures.

Participating Generators shall operate, or cause their Generating Units and associated facilities to be operated, in accordance with the relevant Operating Procedures and Business Practice Manuals established by the CAISO or, prior to the establishment of such procedures, the Operating Procedures established by the TO or UDC owning the facilities that interconnect with the Generating Unit of the Participating Generator.

4.6.2 [NOT USED]

4.6.3 Participating Generators Connected to UDC Systems, Regulatory Must-Take Generation, and Qualifying Facilities.

With regard to any Generating Unit directly connected to a UDC system, a Participating Generator shall comply with applicable UDC tariffs, interconnection requirements and generation agreements. With regard to a Participating Generator's Generating Units directly connected to a UDC system, the CAISO and the UDC will coordinate to develop procedures to avoid conflicting CAISO and UDC operational directives. With regard to Regulatory Must-Take Generation, the CAISO will honor applicable terms and conditions of existing agreements, including Existing QF Contracts, as specified in Section 4.6.3.2. Qualifying Facilities that are not Regulatory Must-Take Generation subject to an Existing QF Contract shall comply with the requirements applicable to Participating Generators, as specified in Section 4.6.3.3.

4.6.3.1 Exemption for Generating Units Less Than One (1) MW.

A Generator with a Generating Unit directly connected to a UDC system will be exempt from compliance with this Section 4.6 and Section 10.1.3 in relation to that Generating Unit provided that (i) the rated capacity of the Generating Unit is less than one (1) MW, and (ii) the Generator does not use the Generating Unit to participate in the CAISO Markets. This exemption in no way affects the calculation of or any obligation to pay the appropriate charges or to comply with all the other applicable Sections of this CAISO Tariff.

4.6.3.2 Existing Agreements for Regulatory Must-Take Generation.

Notwithstanding any other provision of this CAISO Tariff, the CAISO shall discharge its responsibilities in a manner that honors any contractual rights and obligations of the parties to existing agreements, including Existing QF Contracts, or final regulatory treatment, relating to Regulatory Must-Take Generation of which protocols or other instructions are notified in writing to the CAISO from time to time and on reasonable notice.

4.6.3.3 Qualifying Facilities without Existing QF Contracts.

The owner or operator of a Qualifying Facility that is not subject to an Existing QF Contract that the CAISO is required to honor pursuant to Section 4.6.3.2 shall be subject to all requirements applicable to Participating Generators pursuant to Section 4.6. The owner or operator of the Qualifying Facility may satisfy the requirements of this Section 4.6.3.3 by entering into a Qualifying Facility Participating Generator Agreement (QF PGA) with the CAISO, in which case it shall comply with the provisions of the QF PGA and Section 4.6.3.4. In order to be eligible to enter into the QF PGA, a Participating Generator must demonstrate to the CAISO that its Generating Unit has established QF status pursuant to PURPA and that (a) the Self-provided Load of the Participating Generator that is served by the QF either has contracted for and continues through the term of the QF PGA to have secured standby service from a UDC or MSS Operator under terms approved by the Local Regulatory Authority or FERC, as applicable, or (b) the Self-provided Load is curtailed concurrently with any Outage of the Generation serving that Self-provided Load in an amount sufficient to cover that Outage.

4.6.3.4 Participating Generator with a QF PGA.

A Participating Generator that is eligible for and has entered into a Qualifying Facility Participating Generator Agreement shall be subject to the provisions of this Section 4.6.3.4, as reflected in the terms of the QF PGA.

4.6.3.4.1 Revenue Metering for a QF Subject to a QF PGA.

In accordance with the terms of the QF PGA and Section 10.1.3.3, a Participating Generator that has entered into a QF PGA may net the revenue metering value for the Generation produced by each Net Scheduled QF listed in the QF PGA and the revenue metering value for the Demand of the Self-provided Load that is (i) served by the Net Scheduled QF and (ii) electrically located on the same side of the Point of Demarcation.

4.6.3.4.2 Telemetry for a QF Subject to a QF PGA.

A Participating Generator that has entered into a QF PGA may satisfy the provisions of Section 7.6.1(d) for the installation of telemetry by installing telemetry at the Point of Demarcation for the purpose of recording the net impact of the Net Scheduled QF upon the CAISO Controlled Grid; provided that the installed telemetry satisfies the technical, functional, and performance requirements for telemetry set forth in the CAISO Tariff and the applicable Business Practice Manual.

4.6.3.4.3 Market and Settlement Processes for a QF Subject to a QF PGA.

For bidding, scheduling, billing, and Settlement purposes regarding the Net Scheduled QF Self-provided Load of a Participating Generator that has entered into a QF PGA, measurements of Generation or Demand of the Net Scheduled QF shall be made at the Point of Demarcation. In all other respects, the Generation and Load of the Net Scheduled QF shall be subject to the applicable provisions of the CAISO Tariff regarding bidding, scheduling, billing, and Settlements.

4.6.3.4.4 Operating Requirements for a QF Subject to a QF PGA.

A Participating Generator that has entered into a QF PGA shall abide by CAISO Tariff provisions regarding the CAISO's ability to dispatch or curtail Generation from the Net Scheduled QF(s) listed in its QF PGA. The CAISO shall only dispatch or curtail a Net Scheduled QF of the Participating Generator: (a) to the extent the Participating Generator bids Energy or Ancillary Services from the Net Scheduled QF into the CAISO Markets or the Energy is otherwise available to the CAISO under Section 40, subject to the restrictions on operating orders set forth below; or (b) if the CAISO must dispatch or curtail the Net Scheduled QF in order to respond to an existing or imminent System Emergency or condition that would compromise CAISO Balancing Authority Area integrity or reliability as provided in Sections 7 and 7.6.1.

The CAISO will not knowingly issue an operating order to a Participating Generator that has entered into a QF PGA that: (1) requires a Participating Generator to reduce its Generation below the delineated minimum operating limit, other than in a System Emergency; (2) conflicts with operating instructions provided to the CAISO by the Participating Generator; or (3) results in damage to the Participating Generator's equipment, provided that any such equipment limitation has been provided to the CAISO and incorporated in the Participating Generator's operating instructions provided to the CAISO. If the Participating Generator: (1) receives a Schedule which requires operation below the minimum operating limit, and (2) deviates from that Schedule to continue to operate at the minimum operating limit, it will not be subject to any penalties or sanctions as a result of operating at the minimum operating limit. The Participating Generator's consequences for deviating from Schedules in Real-Time will be governed by the CAISO Tariff.

The CAISO shall have the authority to coordinate and approve Generation Outage schedules for the Generating Unit(s) listed in a QF PGA, in accordance with the provisions of Section 9.

4.6.4 Identification of Generating Units.

Each Participating Generator shall provide data identifying each of its Generating Units and such information regarding the capacity and the operating characteristics of the Generating Unit as may be reasonably requested from time to time by the CAISO. All information provided to the CAISO regarding the operational and technical constraints in the Master File shall be accurate and actually based on physical characteristics of the resources except for the Pump Ramping Conversion Factor, which is configurable.

4.6.5 WECC Requirements.

4.6.5.1 Participating Generator Performance Standard.

Participating Generators shall, in relation to each of their Generating Units, meet all applicable WECC standards including any standards regarding governor response capabilities, use of power system stabilizers, voltage control capabilities and hourly Energy delivery. Unless otherwise agreed by the CAISO, a Generating Unit must be capable of operating at capacity registered in the CAISO Controlled Grid interconnection data, and shall follow the voltage schedules issued by the CAISO from time to time.

4.6.5.2 Reliability Criteria.

Participating Generators shall comply with the requirements of the WSCC Reliability Criteria Agreement, including the applicable WSCC Reliability Criteria set forth in Section IV of Annex A thereof. In the event that a Participating Generator fails to comply, it will be subject to the sanctions applicable to such failure. Such sanctions shall be assessed pursuant to the procedures contained in the WSCC Reliability Criteria Agreement. Each and all of the provisions of the WSCC Reliability Criteria Agreement are hereby incorporated by reference into this Section 4.6.5.2 as though set forth fully herein, and Participating Generators shall for all purposes be considered Participants as defined in that Agreement, and shall be subject to all of the obligations of Participants, under and in connection with the WSCC Reliability Criteria Agreement. The Participating Generators shall copy the CAISO on all reports supplied to the WECC in accordance with Section IV of Annex A of the WSCC Reliability Criteria Agreement.

4.6.5.3 Payment of Sanctions.

Each Participating Generator shall be responsible for payment directly to the WECC of any monetary sanction assessed against that Participating Generator by the WECC pursuant to the WSCC Reliability Criteria Agreement. Any such payment shall be made pursuant to the procedures specified in the WSCC Reliability Criteria Agreement.

4.6.6 Forced Outages.

Procedures equivalent to those set out in Section 9.3 shall apply to all Participating Generators in relation to Forced Outages.

4.6.7 Recordkeeping; Information Sharing.

4.6.7.1 Requirements for Maintaining Records.

Participating Generators shall provide to the CAISO such information and maintain such records as are reasonably required by the CAISO to plan the efficient use and maintain the reliability of the CAISO Controlled Grid.

4.6.7.2 Providing Information to Generators.

The CAISO shall provide to any Participating Generator, upon its request, copies of any operational assessments, studies or reports prepared by or for the CAISO (unless such assessments studies or reports are subject to confidentiality rights or any rule of law that prohibits disclosure) concerning the operations of such Participating Generator's Generating Units, including, but not limited to, reports on major Generation Outages, Available Transfer Capability, and Congestion.

4.6.7.3 Preparation of Reports on Major Incidents.

In preparing any report on a major incident the CAISO shall have due regard to the views of any Participating Generator involved or materially affected by such incident.

4.6.8 Sharing Information on Reliability of CAISO Controlled Grid.

The CAISO and each Participating Generator shall have the obligation to inform each other, as promptly as possible, of any circumstance of which it becomes aware (including, but not limited to, abnormal temperatures, storms, floods, earthquakes, and equipment depletions and malfunctions and deviations from the Registered Data and operating characteristics) that is reasonably likely to threaten the reliability of the CAISO Controlled Grid or the integrity of the Participating Generator's facilities. The CAISO and each Participating Generator shall also inform the other as promptly as possible of any incident of which it becomes aware (including, but not limited to, equipment Outages, over-loads or alarms) which, in the case of a Participating Generator, is reasonably likely to threaten the reliability of the CAISO Controlled Grid or, in the case of the CAISO, is reasonably likely to adversely affect the Participating Generator's facilities. Such information shall be provided in a form and content which is reasonable in all the circumstances and sufficient to provide timely warning to the other party of the potential impact.

4.6.9 Access Right.

A Participating Generator shall, at the request of the CAISO and upon reasonable notice, provide access to its facilities and records (including those relating to communications, telemetry and direct control requirements) as necessary to permit the CAISO or a CAISO approved meter inspector to perform such testing as is necessary (i) to test the accuracy of any meters upon which the Participating Generator's compensation is based, or performance is measured, (ii) to test the Participating Generator's compliance with any performance standards pursuant to Section 4.6.5, or (iii) to obtain information relative to a Forced Outage, or (iv) for Participating Intermittent Resources, to ensure compliance with provisions relating to the Participating Intermittent Resource Export Fee.

4.7 Relationship Between CAISO and Participating Loads.

The CAISO shall only accept Bids for Supply of Energy or Ancillary Services or Submissions to Self-Provide Ancillary Services from Loads if such Loads are those of a Participating Load that has entered into a Participating Load Agreement with the CAISO and which meet standards adopted by the CAISO and published on the CAISO Website. The CAISO shall not accept submitted Bids for Supply of Energy or Ancillary Services from a Participating Load other than through a Scheduling Coordinator.

4.8 Relationship Between CAISO and Eligible Intermittent Resources and Between the CAISO and Participating Intermittent Resources.

The CAISO shall not accept Bids for an Eligible Intermittent Resource other than through a Scheduling Coordinator. Any Eligible Intermittent Resource that is not a Participating Intermittent Resource, or any Participating Intermittent Resource for which Bids are submitted shall be bid and settled as a Generating Unit for the associated Settlement Periods (except that the Forecast Fee shall apply in such Settlement Periods).

4.9 Metered Subsystems.

4.9.1 General Nature of Relationship Between CAISO and MSS.

4.9.1.1 An entity that is determined by the CAISO to qualify as a Metered Subsystem and that undertakes in writing, by entering into a Metered Subsystem Agreement with the CAISO, to comply with all applicable provisions of the CAISO Tariff as specified in that MSS Agreement as they may be amended from time to time, including, without limitation, the applicable provisions of this Section 4.9, shall be considered an MSS Operator and shall have the rights and obligations set forth in this Section 4.9. The CAISO shall not be obligated to accept Bids that would require Energy to be transmitted to or from a Metered Subsystem unless the MSS Agreement of the MSS Operator of the Metered Subsystem has become effective.

4.9.2 Coordination of Operations.

Each MSS Operator shall operate its MSS at all times in accordance with Good Utility Practice and Applicable Reliability Criteria, including WECC and NERC criteria, and in a manner which ensures safe and reliable operation. All information pertaining to the physical state or operation, maintenance and failure of the MSS affecting the operation of the CAISO Balancing Authority Area that is made available to the CAISO by the MSS Operator shall also be made available to Scheduling Coordinators, provided that the CAISO shall provide reasonable notice to the MSS Operator. The CAISO shall not be required to make information available to the MSS Operator other than information that is made available to Scheduling Coordinators.

4.9.3 Coordinating Maintenance Outages of MSS Facilities.

Each MSS Operator shall make appropriate arrangements to coordinate Outages of Generating Units. Each MSS Operator shall make appropriate arrangements to coordinate Outages of transmission facilities forming part of its MSS that will have an effect, or are reasonably likely to have an effect, on any interconnection between the MSS and the system of a Participating TO, prior to the submission by that Participating TO of its Maintenance Outage requirements under Section 9.3. The CAISO will coordinate Outages of other Participating TOs transmission facilities that may affect the MSS.

4.9.4 MSS Operator Responsibilities.

The MSS Operator's MSS Agreement with the CAISO shall obligate the MSS Operator to comply with all provisions of the CAISO Tariff, as amended from time to time, applicable to the UDCs, including, without limitation, the applicable provisions of Section 4.4 and Section 7.7. In addition, recognizing the CAISO's responsibility to promote the efficient use and reliable operation of the CAISO Controlled Grid and the CAISO Balancing Authority Area consistent with the Applicable Reliability Criteria, each MSS Operator shall:

4.9.4.1 operate and maintain its facilities, in accordance with applicable safety and reliability standards, regulatory requirements, applicable operating guidelines, applicable rates, tariffs, statutes and regulations governing their provision of service to their End-Use Customers and Good Utility Practice so as to avoid any material adverse impact on the CAISO Controlled Grid, it being understood that, if the MSS Operator does not so operate and maintain its facilities and the CAISO concludes, after notice is provided to the MSS Operator, that such failure impairs or threatens to impair the reliability of the CAISO Controlled Grid, the CAISO may suspend MSS status, in accordance with this Section 4.9, until the MSS Operator demonstrates the ability and willingness to so operate and maintain its facilities;

4.9.4.2 provide the CAISO Outage Coordination Office each year with a schedule of upcoming maintenance of facilities forming part of the MSS that will affect or is reasonably likely to affect the CAISO Controlled Grid in accordance with Section 9.3.6;

4.9.4.3 coordinate with the CAISO, Participating TOs and Generators to ensure that CAISO Controlled Grid Critical Protective Systems, including relay systems, are installed and maintained in order to function on a coordinated and complementary basis with the protective systems of the MSS, Participating TOs and Generators and notify the CAISO as soon as is reasonably possible of any condition of which it becomes aware that may compromise the CAISO Controlled Grid Critical Protective Systems;

4.9.4.4 be responsible for any Reliability Must-Run Generation and Voltage Support required for reliability of the MSS, including the responsibility for any costs of such Reliability Must-Run Generation, and Voltage Support and may satisfy this requirement through Generating Units owned by the MSS Operator or under contract to the MSS Operator;

4.9.4.5 be responsible for Black Start requirements for reliability of the MSS, however, if the MSS Operator can self-provide this requirement, the MSS Operator shall not pay its pro rata share of the Black Start requirement in accordance with Section 11; and

4.9.4.6 be responsible for Congestion Management and transmission line Outages within or at the boundary of the MSS, and all associated costs of actions the MSS Operator has to take to resolve such Congestion internal to the MSS and not be responsible for Congestion Management elsewhere except to the extent that a Scheduling Coordinator is delivering Energy, Ancillary Services, or RUC Capacity to or from the MSS. An MSS Operator must notify and communicate with the CAISO regarding transmission line Outages to the extent such Outages impact the CAISO Controlled Grid.

4.9.5 Scheduling by or on behalf of a MSS Operator.

All Bids, including but not limited to Self-Schedules, submitted on behalf of an MSS Operator for the delivery of Energy and Ancillary Services to Loads connected to the MSS and for the delivery of Energy and Ancillary Services from Generating Units forming part of the MSS or System Units shall be submitted by a Scheduling Coordinator that complies with all applicable provisions of the CAISO Tariff, which Scheduling Coordinator may be the MSS Operator, provided that the MSS Operator complies with all applicable requirements for Scheduling Coordinators. A Scheduling Coordinator shall separately identify Bids that it submits on behalf of an MSS Operator.

4.9.5.1 Without limiting the foregoing, the Scheduling Coordinator for the MSS must submit gross generation information for the System Unit, Generating Unit, and information regarding imports, exports and Gross Loads to the CAISO in the format and in accordance with the timelines applicable to other Scheduling Coordinators.

4.9.5.2 The Scheduling Coordinator for the MSS will designate, in discrete quantities and with prices for both Ancillary Services and Energy: (1) Bids in the Day-Ahead Market and HASP (including Bids for internal Generation and internal Demand within the MSS), (2) Submissions to Self-Provide Ancillary Services or Bids for Regulation, Spinning Reserve, and Non-Spinning Reserve, capacity and associated Bid for Energy, or (3) any feasible combination thereof.

4.9.5.3 MSS Demand Forecast.

The Scheduling Coordinator for the MSS shall provide CAISO with Demand forecasts of the MSS. To the extent that the Scheduling Coordinator does not provide requisite Demand Forecast for the MSS it represents, the CAISO shall produce a Demand Forecast for each MSS Load Take-Out Point.

4.9.6 System Emergencies.

4.9.6.1 The CAISO has authority to suspend MSS control and direct, via communications with the MSS Operator, the operation of Generating Units within the MSS, including Generating Units that may comprise a System Unit, if such control is necessary to maintain CAISO Controlled Grid reliability.

4.9.6.2 If Load Shedding is required to manage System Emergencies, the CAISO will determine the amount and location of Load to be reduced pursuant to Section 7.7.5.1 and 7.7.5.2. Each MSS Operator shall be responsible for notifying its customers and Generators connected to its system of curtailments and service interruption.

4.9.6.3 System Emergency Reports: MSS Obligations.

4.9.6.3.1 Each MSS Operator shall maintain all appropriate records pertaining to a System Emergency.

4.9.6.3.2 Each MSS Operator shall cooperate with the CAISO in the preparation of an Outage review pursuant to Section 7.7.13.

4.9.7 Coordination of Expansion or Modifications to MSS Facilities.

Each MSS Operator and any Participating TO with which its system is interconnected, if applicable, shall coordinate in the planning and implementation of any expansion or modifications of a MSS's or Participating TO's system that will affect their transmission interconnection, the CAISO Controlled Grid or the transmission services to be required by the MSS Operator. The MSS Operator and any Participating TO with which the MSS is interconnected shall be responsible for coordinating with the CAISO.

4.9.8 Ancillary Services Obligations for MSS.

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

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

4.9.9 [NOT USED]

4.9.10 Information Sharing.

4.9.10.1 System Planning Studies and Forecasts.

The CAISO, the MSS Operator and Participating TOs shall share information such as projected Load growth and system expansions necessary to conduct necessary system planning studies to the extent that these may impact the operation of the CAISO Balancing Authority Area. Each MSS Operator shall provide to the CAISO annually its ten-year forecasts of Demand growth, internal Generation, and expansion of or replacement for any transmission facilities that are part of the MSS that will or may significantly affect any point of interconnection between the MSS and the CAISO Controlled Grid. Such forecasts shall be provided on the date that UDCs are required to submit forecasts to the CAISO under Section 4.4.5.1. Each MSS Operator or each Scheduling Coordinator for an MSS Operator shall also submit weekly and monthly peak Demand Forecasts in accordance with the CAISO's Business Practice Manuals.

4.9.10.2 System Surveys and Inspections.

The CAISO and each MSS Operator shall cooperate with each other in performing system surveys and inspections to the extent these relate to the operation of the CAISO Balancing Authority Area.

4.9.10.3 Reports.

4.9.10.3.1 The CAISO shall make available to each MSS Operator any public annual reviews or reports regarding performance standards, measurements and incentives relating to the CAISO Controlled Grid and shall also make available, upon reasonable notice, any such reports that the CAISO receives from Participating TOs. Each MSS Operator shall make available to the CAISO any public annual reviews or reports regarding performance standards, measurements and incentives relating to the MSS's Distribution System to the extent these relate to the operation of the CAISO Controlled Grid.

4.9.10.3.2 The CAISO and the MSS Operators shall develop an operating procedure to record requests received for Maintenance Outages by the CAISO and the completion of the requested maintenance and turnaround times.

4.9.10.3.3 Each MSS Operator shall promptly provide such information as the CAISO may reasonably request concerning the MSS Operator's operation of the MSS to enable the CAISO to meet its responsibility under the CAISO Tariff to conduct reviews and prepare reports following major Outages. Where appropriate, the CAISO will provide appropriate assurances that the confidentiality of commercially sensitive information shall be protected. The CAISO shall have no responsibility to prepare reports on Outages that affect customers on the MSS, unless the Outage also affects customers connected to the system of another entity within the CAISO Balancing Authority Area. The MSS Operator shall be solely responsible for the preparation of any reports required by any governmental entity or the WECC with respect to any Outage that affects solely customers on the MSS.

4.9.10.3.4 Reliability Information.

Each MSS Operator shall inform the CAISO, and the CAISO shall inform each MSS Operator, in each case as promptly as possible, of any circumstance of which it becomes aware (including, but not limited to, abnormal temperatures, storms, floods, earthquakes, and equipment depletions and malfunctions and deviations from Registered Data and operating characteristics) that is reasonably likely to threaten the reliability of the CAISO Controlled Grid or the integrity of the MSS respectively. Each MSS Operator and the CAISO each shall also inform the other as promptly as possible of any incident of which it becomes aware (including, but not limited to, equipment Outages, over-loads or alarms) which, in the case of the MSS Operator, is reasonably likely to threaten the reliability of the CAISO Controlled Grid, or, in the case of the CAISO, is reasonably likely to adversely affect the MSS. Such information shall be provided in a form and content which is reasonable in all the circumstances, sufficient to provide timely warning to the entity receiving the information of the threat and, in the case of the CAISO, not unduly discriminatory with respect to the CAISO's provision of similar information to other entities.

4.9.10.3.5 Forms.

The CAISO shall, in consultation with MSS Operators, jointly develop and, as necessary, revise, any necessary forms and procedures for collection, study, treatment, and transmittal of system data, information, reports and forecasts.

4.9.10.4 Each MSS Operator shall provide to the CAISO information as provided in Section 36.8.5.2 that enables the CAISO to perform transfers of CRRs to reflect Load Migration in a timely manner as required in Section 36.8.5.

4.9.11 Installation of and Rights of Access to MSS Facilities.

4.9.11.1 Installation of Facilities.

4.9.11.1.1 Meeting Service Obligations.

The CAISO and each MSS Operator shall each have the right, if mutually agreed, on reasonable notice to install or to have installed equipment (including metering equipment) or other facilities on the property of the other, to the extent that such installation is necessary for the installing party to meet its service obligations unless to do so would have a negative impact on the reliability of the service provided by the party owning the property.

4.9.11.1.2 Governing Agreements for Installations.

The CAISO and the MSS Operator shall enter into agreements governing the installation of equipment or other facilities containing customary and reasonable terms and conditions.

4.9.11.2 Access to Facilities.

Each MSS Operator shall grant the CAISO reasonable access to MSS facilities free of charge for purposes of inspection, repair, maintenance, or upgrading of facilities installed by the CAISO on the MSS's system, provided that the CAISO must provide reasonable advance notice of its intent to access MSS facilities. Such access shall not be provided unless the parties mutually agree to the date, time and purpose of each access. Agreement on the terms of the access shall not be unreasonably withheld.

4.9.11.3 Access During Emergencies.

Notwithstanding any provision in this Section 4.9, the CAISO may have access, without giving prior notice, to any MSS Operator's equipment or other facilities during times of a System Emergency or where access is needed in connection with an audit function.

4.9.12 MSS System Unit.

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

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

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

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

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

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

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

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

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

4.9.13 MSS Elections and Participation in CAISO Markets.

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

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

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

4.9.13.1 Gross or Net Settlement.

An MSS Operator has the option to settle with the CAISO on either a gross basis or a net basis for its Load and generating resources. This election shall be made annually for a period consistent with annual CRR Allocation. If the MSS Operator elects net Settlement, then CRRs would be allocated on MSS net Load and the MSS may choose the MSS LAP as its CRR Sink in the first tiers of CRR Allocation. If the MSS Operator elects gross Settlement, then CRRs would be allocated on a gross Load basis and the MSS may not choose the MSS LAPs as its CRR Sink in the first tiers of CRR Allocation.

4.9.13.2 Load-Following or Non Load-Following Election.

The MSS Operator has the option to elect to operate a System Unit of Generating Units in the MSS to follow its Load, provided that: (a) the Scheduling Coordinator for the MSS Operator shall remain responsible for purchases of Energy in accordance with the CAISO Tariff if the MSS Operator does not operate its System Unit or Generating Units and bid or schedule imports into the MSS, to match the metered Demand in the MSS and exports from the MSS; and (b) if the deviation between Generation and imports into the MSS and metered Demand and exports from the MSS exceeds the MSS Deviation Band, then the Scheduling Coordinator for the MSS Operator shall pay the additional amounts specified in Section 11.7. If an MSS Operator elects Load-following and net Settlements, all generating resources

within the MSS must be designated as Load-following resources. If an MSS Operator elects Load-following and gross Settlements, generating resources within the MSS can be designated as either Load-following or non Load-following resources. Consistent with these requirements, the MSS Operator may also modify the designation of generating resources within the MSS within the timing requirements specified for such Master File changes as described in the Business Practice Manuals.

If the MSS Operator has elected gross Settlement and is a Load-following MSS: (i) it must designate in the Master File which of its generating resources are Load-following resources, (ii) it must comply with the additional bidding requirements in Section 30.5.2.5, and (iii) the generation resources designated as Load-following resources cannot set Real-Time prices. However, Load-following resources will be eligible to receive Bid Cost Recovery to ensure that the price paid for Energy dispatched by the CAISO is not less than the MSS Operator's accepted Bid price. Bid Cost Recovery for a Load-following MSS resource is only applicable to generation capacity provided to the CAISO Markets by that MSS resource and is not applicable for the generating capacity that is designated or used by an MSS Operator to follow its own Load.

An MSS Operator may designate RMR Units as Load-following. Load-following RMR Units must be available to the CAISO for Dispatch up to the Maximum Net Dependable Capacity specified in the RMR Contract. Energy delivered in response to an RMR Dispatch shall be accounted for as a delivery from the MSS to the CAISO for the purposes of determining if the MSS Operator followed its metered Demand and exports from the MSS as described in this Section 4.9.13.2 except that Energy from an RMR Unit in a Day-Ahead Schedule can be used for Load-following to satisfy Day-Ahead scheduled Demand like any other non-RMR Unit Load-following resource. If no RMR Dispatch is received for a Load-following RMR Unit, such Load-following RMR Unit may participate in the CAISO Markets as any other non-RMR Unit Load-following resource subject to Section 30.5.2.5.

4.10 Candidate CRR Holder and CRR Holder Registration.

Only entities that are registered and qualified as a Candidate CRR Holder or CRR Holder shall: 1) submit nominations to CRR Allocations; 2) submit Bids to CRR Auctions; and 3) register as a CRR Holder through the Secondary Registration System. In order to be registered and qualified as Candidate CRR Holders or CRR Holders, entities must have met the all of the requirements specified in this Section 4.10.

4.10.1 Procedure to Become a Candidate CRR Holder.

4.10.1.1 Candidate CRR Holder Application.

To become a Candidate CRR Holder, a Candidate CRR Holder applicant must submit a completed written application, as provided in the applicable form posted on the CAISO Website, to the CAISO by mail, or in person. A Candidate CRR Holder applicant may retrieve the application and necessary information from the CAISO Website.

4.10.1.2 CAISO Information.

The CAISO will provide the following information, in its most current form, on the CAISO Website and, upon request by a Candidate CRR Holder applicant, the CAISO will send the requested information by electronic mail:

- (a) the Candidate CRR Holder application form;
- (b) the CAISO Tariff and Business Practice Manuals; and
- (c) an application for an Unsecured Credit Limit for Candidate CRR Holder applicants requesting an Unsecured Credit Limit in lieu of another form of Financial Security.

4.10.1.3 Candidate CRR Holder Applicant Submits Application.

At least sixty (60) days before the proposed commencement of the CRR Allocation or CRR Auction, or the effective date of the CRR transfer through the Secondary Registration System, in which a Candidate CRR Holder desires to participate as applicable, the Candidate CRR Holder applicant must return a completed application form with the non-refundable application fee set by the CAISO Governing Board to cover the application processing costs and the costs of furnishing the CAISO Tariff and other documents.

4.10.1.4 Notice of Receipt.

Within three (3) Business Days of receiving the application, the CAISO will send a written notification to the Candidate CRR Holder applicant that it has received the application and the non-refundable fee.

4.10.1.5 CAISO Review of Application.

Within ten (10) Business Days after receiving an application, the CAISO will notify the Candidate CRR Holder applicant whether the Candidate CRR Holder applicant has fulfilled all necessary information as set forth in Section 4.10.1. If the Candidate CRR Holder applicant fails to fulfill all application requirements within a year from the date that the CAISO acknowledges receipt of the Candidate CRR Holder application, the application will be nullified and the applicant will be required to resubmit a new application in order to reinstate its status as a Candidate CRR Holder applicant.

4.10.1.5.1 Information Requirements.

The Candidate CRR Holder applicant must submit with its application:

- (a) the proposed date for commencement of the CRR Allocation, CRR Auction or Secondary Registration System in which the applicant intends to qualify to participate, which may not be less than sixty (60) days after the date the application was filed, unless waived by the CAISO;
- (b) Financial Security information as set forth in Section 12;
- (c) proof of completion of CRR training or expected completion of CRR training; and
- (d) the prescribed non-refundable application fee.

4.10.1.5.2 Candidate CRR Holder Load Serving Entity Certifications.

A Candidate CRR Holder applicant that intends to obtain CRRs through the CRR Allocation process must certify that it qualifies as a Load Serving Entity as defined in the CAISO Tariff. A Candidate CRR Holder applicant that intends to participate in the CRR Allocation for load it serves located outside the CAISO Balancing Authority Area must certify that it qualifies as that load's load serving entity and prior to actual participation in the CRR Allocation will also be required to fulfill the requirements in Section 36.9.

4.10.1.6 Deficient Application.

In the event that the CAISO has determined that the Candidate CRR Holder application as submitted is deficient the CAISO will send a written notification of the deficiency to the Candidate CRR Holder applicant within ten (10) Business Days of receipt by the CAISO of the application explaining the deficiency and requesting additional information.

4.10.1.6.1 Candidate CRR Holder Applicant's Additional Information.

Once the CAISO requests additional information, the Candidate CRR Holder applicant has five (5) Business Days, or such longer period as the CAISO may agree, to provide the additional material requested by the CAISO.

4.10.1.6.2 No Response from Candidate CRR Holder Applicant.

If the Candidate CRR Holder applicant does not submit additional information within five (5) Business Days or the longer period referred to in Section 4.10.1.6.1, the application may be rejected by the CAISO.

4.10.1.7 CAISO Acceptance or Rejection of an Application.

4.10.1.7.1 Acceptance or Rejection Notification.

- (a) If the CAISO accepts the application, it will send a written notification to the Candidate CRR Holder applicant stating that its application has been accepted.
- (b) If the CAISO rejects the application, the CAISO will send a rejection letter stating one or more of the following grounds:
 - (i.) incomplete information;
 - (ii.) non-compliance with Financial Security requirements; or
 - (iii.) non-compliance with any other CAISO Tariff requirements.

Upon request, the CAISO will provide guidance as to how the Candidate CRR Holder applicant can cure the grounds for the rejection.

4.10.1.7.2 Time for Processing Application.

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

4.10.1.8 Candidate CRR Holder Applicant's Response.

4.10.1.8.1 Candidate CRR Holder Applicant's Acceptance.

If the CAISO accepts the application, the Candidate CRR Holder applicant must return an executed CRR Entity Agreement and any required letter of credit, guaranty, escrow agreement or other form of Financial Security, as applicable.

4.10.1.8.2 Candidate CRR Holder Applicant's Rejection.

4.10.1.8.2.1 Resubmittal.

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

4.10.1.8.2.2 Appeal.

The Candidate CRR Holder applicant may also appeal against the rejection of an application by the CAISO. An appeal must be submitted within twenty (20) Business Days following the CAISO's issuance of a rejection of its application.

4.10.1.9 Final Registration and Qualification of Candidate CRR Holder Applicant.

4.10.1.9.1 Notice of Completed Registration and Qualification of Candidate CRR Holder.

Once the CAISO has accepted a Candidate CRR Holder applicant's application, the CAISO will provide the Candidate CRR Holder applicant with a final written notice to certify that a Candidate CRR Holder applicant has become a Candidate CRR Holder. The CAISO shall issue such final written notice of full registration and qualification as a Candidate CRR Holder after the CAISO has determined that the Candidate CRR Holder applicant has fully satisfied all the following requirements:

- (a) fully executed a CRR Entity Agreement with the CAISO;
- (b) provided its bank account information and arranged for Fed-Wire transfers;
- (c) met the Financial Security requirements of Section 12;
- (d) certified that it has attended required CRR training; and
- (e) obtained and installed any necessary software for communication with the CAISO as necessary.

4.10.1.9.2 Market Notice.

The CAISO shall issue a Market Notice stating the new Candidate CRR Holder status.

4.10.2 Candidate CRR Holder's and CRR Holder's Ongoing Obligations After Registration and Qualification.

4.10.2.1 Candidate CRR Holder and CRR Holder Obligation to Report Changes.

4.10.2.1.1 Obligation to Report a Change in Filed Information.

Each Candidate CRR Holder and CRR Holder has an ongoing obligation to inform the CAISO of any changes to any of the information submitted by it to the CAISO as part of its application to become a Candidate CRR Holder, including any changes to the additional information requested by the CAISO. The applicable Business Practice Manual sets forth the procedures for changing the Candidate CRR Holder or CRR Holder information and timing of notifying the CAISO of such changes.

4.10.2.1.2 Obligation to Report a Material Change in Financial Condition.

The Candidate CRR Holder or CRR Holder that has been granted Unsecured Credit Limit has an ongoing obligation to inform the CAISO within five (5) Business Days of any Material Change in Financial Condition including but not limited to credit rating changes described in Section 12.

4.10.2.2 Failure to Promptly Report a Material Change.

If a Candidate CRR Holder or CRR Holder fails to inform the CAISO of a material change in its information provided to the CAISO including a Material Change in Financial Condition, that may affect the Financial Security of the CAISO, the CAISO may suspend or terminate the Candidate CRR Holder or CRR Holder's rights under the CAISO Tariff in accordance with the terms of Sections 12 and 4.10.4.2, respectively. If the CAISO intends to terminate the Candidate CRR Holder's status, it shall file a notice of termination with FERC in accordance with the terms of the CRR Entity Agreement. Such termination shall be effective upon acceptance by FERC of a notice of termination in accordance with the terms of the CRR Entity Agreement.

4.10.3 Termination of a CRR Entity Agreement.

4.10.3.1 Prior Notice Requirements.

- (a) A CRR Entity Agreement may be terminated by the CAISO on written notice to the Candidate CRR Holder or CRR Holder that is a party to the CRR Entity Agreement in accordance with the terms of the CRR Entity Agreement:
 - (i) if the Candidate CRR Holder or CRR Holder no longer meets the requirements for eligibility set out in Section 4.10 and fails to remedy the default within a period of seven (7) days after the CAISO has given written notice of the default;
 - (ii) if the Candidate CRR Holder or CRR Holder fails to pay any sum under this CAISO Tariff and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default; or
 - (iii) if the Candidate CRR Holder or CRR Holder commits any other default under this CAISO Tariff or any of the Business Practice Manuals which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given it written notice of the default.

- (b) The Candidate CRR Holder or CRR Holder may terminate its CRR Entity Agreement in accordance with the provisions of that agreement.
- (c) Upon termination of the CRR Entity Agreement, Candidate CRR Holders or CRR Holders shall continue to be liable for any outstanding financial or other obligations incurred under the CAISO Tariff as a result of their status as a Candidate CRR Holder or CRR Holder.
- (d) The CAISO shall, following termination of a CRR Entity Agreement and within thirty (30) days of being satisfied that no sums remain owing by the Candidate CRR Holder or CRR Holder under the CAISO Tariff, return or release to the Candidate CRR Holder or CRR Holder, as appropriate, any Financial Security support provided by such Candidate CRR Holder or CRR Holder to the CAISO under Section 12.

4.10.3.2 Suspension of Registration and Qualification.

Pending FERC acceptance of termination of service pursuant to the filing of a notice of termination of the CRR Entity Agreement, the CAISO will suspend the registration and qualification of a Candidate CRR Holder or CRR Holder that has received a notice of termination under the CRR Entity Agreement and the Candidate CRR Holder will not be able to submit nominations in the CRR Allocation or bids in the CRR Auction, or to register as a CRR Holder in the Secondary Registration System.

4.11 RELATIONSHIP BETWEEN CAISO AND SUDCS

4.11.1 General Nature of Relationship Between CAISO and SUDCs.

4.11.1.1 The CAISO shall not be obliged to accept Bids, including Self-Schedules, or Bids for Ancillary Services which would require Energy to be transmitted to or from the Distribution System of a SUDC directly connected to the CAISO Controlled Grid unless the relevant SUDC has entered into a SUDC Operating Agreement. The SUDC Operating Agreement shall require SUDCs to comply with the applicable provisions of this Section 4.11 and any other expressly applicable Sections of this CAISO Tariff and the CAISO Protocols, as they may be amended from time to time. The CAISO shall maintain a pro forma SUDC Operating Agreement available for SUDCs to enter into with the CAISO, as set forth in Appendix B.10.

4.11.1.2 The CAISO shall operate the CAISO Balancing Authority Area and the CAISO Controlled Grid and each SUDC shall operate its Distribution System at all times in accordance with Good Utility Practice and in a manner which ensures safe and reliable operation. The CAISO shall, in respect of its obligations set forth in this Section 4.11, have the right by mutual agreement to delegate certain operational responsibilities to the relevant Participating TO or SUDC pursuant to this Section 4.11. All information made available to SUDCs by the CAISO shall also be made available to Scheduling Coordinators. Any information, pertaining to the physical state, operation, maintenance or failure of the SUDC Distribution System that may cause a material adverse affect to the operation of the CAISO Controlled Grid, that is made available to the CAISO by the SUDC shall also be made available to Scheduling Coordinators upon receipt of reasonable notice.

4.11.2 Coordinating Maintenance Outages of SUDC Facilities.

Each SUDC and the Participating TO with which it is interconnected shall coordinate their Outage requirements with respect to their transmission interconnection facilities prior to the submission by that Participating TO of its maintenance Outage requirements under Section 9.3.

4.11.3 SUDC Responsibilities.

Recognizing the CAISO's duty to ensure efficient use and reliable operation of the CAISO Balancing Authority Area and the CAISO Controlled Grid consistent with the Applicable Reliability Criteria, each SUDC shall:

4.11.3.1 operate and maintain its Distribution System in accordance with applicable reliability standards, statutes and regulations, and Good Utility Practice so as to avoid any material adverse impact on the reliability of the CAISO Balancing Authority Area and the CAISO Controlled Grid;

4.11.3.2 provide the CAISO Outage Coordination Office each year with a schedule of upcoming maintenance on its transmission interconnection facilities with the CAISO Controlled Grid that has a reasonable potential of causing a material adverse impact to the reliability of the CAISO Controlled Grid.

4.11.4 System Emergencies.

4.11.4.1 In the event of a System Emergency, SUDCs shall comply with all directions from the CAISO concerning the management and alleviation of the System Emergency and shall comply with all procedures concerning SUDCs for System Emergencies set out in the individual SUDC Operating Agreements.

4.11.4.2 During a System Emergency, the CAISO and SUDCs shall communicate in accordance with procedures established in individual SUDC Operating Agreements.

4.11.5 Load Reduction.

4.11.5.1 If the CAISO declares a Stage 1 System Emergency, the SUDC shall use any reasonably available local communication infrastructure to request that its customers curtail their electricity usage. The SUDC shall not be called separately in Stage 3 System Emergencies to manually shed Load. Load restoration of any voluntary Load reduction will occur once the CAISO declares that a System Emergency no longer exists.

4.11.5.2 If the Participating TO sheds the SUDC Load associated with the Participating TO's transmission facilities, the Participating TO will provide timely information and work with the SUDC regarding SUDC Load restoration.

4.11.6 System Emergency Reports: SUDC Obligations.

4.11.6.1 Each SUDC shall maintain all appropriate records pertaining to a System Emergency in accordance with the SUDC's then-existing record retention practice or policy, provided the records are kept for a minimum of six (6) years.

4.11.6.2 In accordance with its SUDC Operating Agreement, each SUDC shall provide available information to the CAISO regarding the CAISO's preparation of an Outage review.

4.11.7 Coordination of Expansion or Modifications to SUDC Facilities.

Each SUDC and the Participating TO with which it is interconnected shall coordinate in the planning and implementation of any expansion or modifications of a SUDC's or Participating TO's system that will materially affect the reliability of their transmission interconnection facilities, the CAISO Controlled Grid or the transmission services to be required by the SUDC. The Participating TO shall be responsible for coordinating with the CAISO.

4.11.8 Information Sharing.

4.11.8.1 System Planning Studies.

The CAISO, Participating TOs and SUDCs shall share available information such as projected SUDC Load growth and SUDC system expansions necessary for the CAISO or the Participating TOs to conduct necessary system planning studies to the extent that such SUDC Load growth or SUDC system expansions will materially impact the operation of the CAISO Balancing Authority Area and the CAISO Controlled Grid.

4.11.8.2 System Surveys and Inspections.

The CAISO, each UDC and each SUDC shall cooperate, to the extent economically feasible for the SUDC, in performing system surveys and inspections regarding the operation of the CAISO Balancing Authority Area and the CAISO Controlled Grid.

4.11.8.3 Reports.

4.11.8.3.1 The CAISO shall make available to the SUDCs any public annual reviews or reports regarding performance standards, measurements and incentives relating to the CAISO Balancing Authority Area and the CAISO Controlled Grid and shall also make available, upon reasonable notice, any such reports that the CAISO receives from the Participating TOs. Each SUDC shall make available to the CAISO upon request any public annual reviews or reports regarding performance standards, measurements and incentives relating to the SUDC's Distribution System to the extent these relate to the operation of the CAISO Balancing Authority Area and the CAISO Controlled Grid.

4.11.8.3.2 The CAISO and SUDCs shall develop an operating procedure for the CAISO to record requests received from the SUDC for Maintenance Outages and the completion of the requested maintenance and turnaround times.

4.11.9 Installation of Equipment on and Rights of Access to SUDC Facilities.

4.11.9.1 Installation of Facilities.

The CAISO and the SUDC shall each have the right on reasonable notice to install or to have installed equipment (including metering equipment) or other facilities on the property of the other, to the extent that such installation is necessary for the installing party to meet its service obligations unless to do so would have a negative impact on the reliability of the service provided by the party owning the property. The CAISO and the SUDC shall enter into agreements governing the installation of such equipment or other facilities containing customary, reasonable terms and conditions.

4.11.9.2 Access to Facilities.

The SUDCs shall grant, free of charge, the CAISO reasonable access to SUDC facilities for purposes of inspection, repair, maintenance, or upgrading of facilities installed by the CAISO on the SUDC's system, provided that the CAISO must provide reasonable advance notice of its intent to access SUDC facilities and opportunity for SUDC staff to be present. Such access shall not be provided unless the parties mutually agree to the date, time and purpose of each access. Agreement on the terms of the access shall not be unreasonably withheld.

4.11.9.3 Access During Emergencies.

Notwithstanding any provision in this Section 4.11 the CAISO may have access, without giving prior notice, to any SUDC's equipment or other facilities during times of a System Emergency.

4.11.9.4 Access For Audit Functions.

Notwithstanding any provision in this Section 4.11 the CAISO may have access, without giving prior notice, to any SUDC's equipment or other facilities where the CAISO has a reasonable basis to believe the SUDC has failed to comply with the SUDC Operating Agreement, applicable CAISO Tariff or CAISO Protocol provisions and access is required to conduct an audit to gather relevant facts.

5 [NOT USED]

[Ten Sheet Numbers Reserved for Future Filings.]

6 COMMUNICATIONS.

6.1 Methods of Communications.

6.1.1 Full-Time Communications Facility Requirement.

Each Scheduling Coordinator, Utility Distribution Company, Participating TO, Participating Generator, Balancing Authority (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operator must provide a communications facility manned twenty-four (24) hours a day, seven (7) days a week capable of receiving Dispatch Instructions issued by the CAISO.

6.1.2 Information Transfer from Scheduling Coordinator to CAISO.

Unless otherwise agreed by the CAISO, Scheduling Coordinators who wish to submit Bids into CAISO Markets for Energy or Ancillary Services to the CAISO must submit the information to the CAISO's secure communication system. Scheduling Coordinators that wish to submit Dynamic Schedules or Bids for Ancillary Services to the CAISO must also comply with the applicable requirements of Sections 4.5.4.3, 8.4.5 and 8.4.7.2.1.

6.1.3 Submitting Information to the CAISO's Secure Communication System.

For Scheduling Coordinators submitting information to the CAISO's secure communication system, each such Scheduling Coordinator shall establish a network connection with the CAISO's secure communication system. Link initialization procedures shall be necessary to establish a connection to the CAISO's secure communication system. In order to log in, each Scheduling Coordinator will be furnished a digital certificate by the CAISO.

6.1.3.1 The CAISO will make available data templates and validation rules information that provides a description of the templates which will be utilized to enter data into the CAISO's secure communication system.

6.1.4 Information Transfer from CAISO to Scheduling Coordinator.

Unless otherwise agreed between a Scheduling Coordinator and the CAISO, the CAISO shall furnish scheduling information to Scheduling Coordinators by electronic transfer as described in Section 6. If electronic data transfer is not available, the information may be furnished by facsimile. If it is not possible to communicate with the Scheduling Coordinator using the primary means of communication, an alternate means of communication shall be selected by the CAISO.

6.1.5 Information to be Provided By Connected Entities to the CAISO.

Each Connected Entity shall provide to the CAISO:

- (a) A single and an alternative telephone number and a single and an alternative facsimile number by which the CAISO may contact twenty-four (24) hours a day a representative of the Connected Entity in, or in relation to, a System Emergency; and
- (b) The names or titles of the Connected Entity's representatives who may be contacted at such telephone and facsimile numbers.

6.1.5.1 Each representative specified pursuant to this Section 6.1.5 shall be a person having appropriate experience, qualification, authority, responsibility and accountability within the Connected Entity to act as the primary contact for the CAISO in the event of a System Emergency.

6.1.5.2 The details required under this Section 6.1.5 shall at all times be maintained up to date and the Connected Entity shall notify the CAISO of any changes promptly and as far in advance as possible.

6.2 CAISO's Secure Communication System.

6.2.1 Scheduling Coordinators.

6.2.1.1 Scheduling Coordinators shall arrange access to the CAISO's secure communication system. Scheduling Coordinators shall maintain a secure electronic communication system for receiving Dispatch Instructions that is approved by the CAISO.

6.2.1.2 Details of the technical aspects of the CAISO's secure communication system, including information on how to change mechanisms and back-up procedures for individual Scheduling Coordinator failures, will be made available by the CAISO to Scheduling Coordinators on request. It is assumed that each Scheduling Coordinator has made application for and signed a Scheduling Coordinator Agreement. As such, each Scheduling Coordinator will already be familiar with and have arranged the mechanism, including security arrangements, by which it will initially communicate with the CAISO.

6.2.1.3 Individually Assigned Login Accounts.

The CAISO will provide an interface for data exchange between the CAISO and Scheduling Coordinators who shall each have individually assigned login accounts via digital certificates. Through the use of the security provisions of CAISO's secure communication system, data will be provided by the CAISO to Scheduling Coordinators on a confidential basis (such as Day-Ahead Schedules for individual Scheduling Coordinators). Other CAISO data that is not confidential (such as CAISO Demand Forecasts) will be published on the public access reporting system of the CAISO Website and be available to anyone.

6.2.1.4 Failure or Corruption of the CAISO's Secure Communication System.

The CAISO shall, in consultation with Scheduling Coordinators, make provision for procedures to be implemented in the event of a total or partial failure of the CAISO's secure communication system or the material corruption of data on the CAISO's secure communication system. The CAISO shall ensure that such alternative communications systems are tested periodically.

6.2.1.5 Confidentiality.

All information posted on the CAISO's secure communication system shall be subject to the confidentiality obligations contained in Section 20.

6.2.1.6 Standards of Conduct.

The CAISO and all Market Participants shall comply with their obligations, to the extent applicable, under the standards of conduct set out in 18 C.F.R. §37.

6.2.2 Public Market Information.

6.2.2.1 Non-Discriminatory Access to Information.

The CAISO shall provide non-discriminatory access to information concerning the status of the CAISO Controlled Grid or facilities that affect the CAISO Controlled Grid by posting that information on the CAISO Website, or other similar computer communications device, or by telephone or facsimile in the event of computer systems failure.

6.2.2.2 Open Access Same-Time Information System.

The CAISO shall provide a public access information reporting system, Open Access Same-Time Information System (OASIS), to deliver market operations and grid management information to accommodate users other than Market Participants. OASIS will be accessible to the public via a link on the CAISO Website.

6.3 Communication of Dispatch Instructions.

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

6.3.1 Scheduling Coordinator Responsibility to Pass Dispatch Instructions to Participating Generator or Load.

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

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

6.3.2 Recording of Dispatch Instructions.

The CAISO shall maintain records of all electronic, fax and verbal communications related to a Dispatch Instruction. The CAISO shall maintain a paper or electronic copy of all Dispatch Instructions delivered by fax and all Dispatch Instructions delivered electronically. The CAISO shall record all voice conversations that occur related to Dispatch Instructions on the Dispatch Instruction communication equipment. These records, copies and recordings may be used by the CAISO to audit the Dispatch Instruction, and to verify the response of the Market Participant concerned to the Dispatch Instruction.

6.3.3 Contents of Dispatch Instructions.

Dispatch Instructions shall include, but are not limited to, the following information:

- (a) exchange of operator names;
- (b) specific resource being dispatched;
- (c) specific MW value of the resource being dispatched;
- (d) specific type of instruction (action required);
- (e) time the resource is required to begin initiating the Dispatch Instruction;
- (f) time the resource is required to achieve the Dispatch Instruction;
- (g) time of notification of the Dispatch Instruction; and
- (h) any other information which the CAISO considers relevant.

6.4 Communication of Operating Orders.

The CAISO shall use normal verbal and electronic communication to issue operating orders to the Connected Entity.

6.5 CAISO Communications.

The CAISO will provide a secure communication system to publish confidential information and communicate with Scheduling Coordinators, and OASIS to publish public information.

6.5.1 Communication With Market Participants, Congestion Revenue Rights Participants, and the Public.

6.5.1.1 Market Participants With Non-Disclosure Agreements.

6.5.1.1.1 Annually, the CAISO shall provide information that will include, but is not limited to, the following:

- (a) CRR Full Network Model;
- (b) Constraints and Transmission Interface definitions;
- (c) Load Distribution Factors for each CRR Allocation and CRR Auction that is published prior to the CRR Allocation and CRR Auction; and
- (d) Nominations and/or parameters to be used for modeling in each annual CRR Allocation and CRR Auction processes: Transmission Ownership Rights, Existing Contracts and Converted Rights expected usage, and Merchant Transmission CRRs.

6.5.1.1.2 Monthly, the CAISO shall provide information that will include, but is not limited to, the following:

- (a) CRR Full Network Model;
- (b) Constraints and Transmission Interface definitions;

- (c) Load Distribution Factors for each CRR Allocation and CRR Auction that is published prior to the CRR Allocation or CRR Auction; and
- (d) Nominations and/or parameters to be used for modeling in each monthly CRR Allocation and CRR Auction processes: Transmission Ownership Rights, Existing Contracts and Converted Rights expected usage, and Merchant Transmission CRRs.

6.5.1.2 CRR Participants Without Non-Disclosure Agreements.

6.5.1.2.1 Annually, the CAISO shall provide CRR information specific to that CRR Holder or Candidate CRR Holder as it relates to participation in the annual CRR Allocation or CRR Auction.

6.5.1.2.2 Monthly, the CAISO shall provide CRR information specific to that CRR Holder or Candidate CRR Holder as it relates to participation in the monthly CRR Allocation or CRR Auction.

6.5.1.3 Public Market Information.

6.5.1.3.1 Annually, the CAISO shall publish the following information including, but not limited to:

- (a) Market Clearing Prices for all Aggregated PNodes used in the CRR Auction clearing for on-peak and off-peak;
- (b) CRR Holdings by CRR Holder (including):
 - (i) CRR Source name(s);
 - (ii) CRR Sink name(s);
 - (iii) CRR quantity (MW) for each CRR Source(s) and CRR Sink(s);
 - (iv) CRR start and end dates;
 - (v) Time of use specifications for the CRR(s); and
 - (vi) Whether the CRR is a CRR Option or CRR Obligation.

6.5.1.3.2 Monthly, the CAISO shall publish the following information including, but not limited to:

- (a) Market Clearing Prices for all Aggregated PNodes used in the CRR Auction clearing for on-peak and off-peak;
- (b) CRR Holdings by CRR Holder (including):
 - (i) CRR Source name(s);
 - (ii) CRR Sink name(s);
 - (iii) CRR quantity (MW) for each CRR Source(s) and CRR Sink(s);
 - (iv) CRR start and end dates;
 - (v) Time of use specifications for the CRR(s); and
 - (vi) Whether the CRR is a CRR Option or a CRR Obligation.

6.5.1.3.3 Seasonally, the CAISO shall publish the following information including, but not limited to:

- (a) Set of LDFs that represent typical seasonal on-peak and off-peak values, not used for Settlements, before the new season.

6.5.1.4 Requirements to Obtain the CRR Full Network Model.

The CAISO shall distribute the CRR Full Network Model only to those Market Participants and non-Market Participants that satisfy the following requirements and the related procedures set forth in the Business Practice Manual.

- (a) A Market Participant that is a member of the WECC and that requests the CRR Full Network Model: (i) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website and (ii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the CRR Full Network Model.

- (b) A Market Participant that is not a member of the WECC and that requests the CRR Full Network Model: (i) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, (ii) shall provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the CRR Full Network Model.

- (c) A non-Market Participant that is a member of the WECC and that requests the CRR Full Network Model: (i) shall reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, and (iii) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the CRR Full Network Model.

- (d) A non-Market Participant that is not a member of the WECC and that requests the CRR Full Network Model: (i) shall reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) shall execute the Non-Disclosure Agreement for CRR Full Network Model Distribution that is posted on the CAISO Website, (iii) shall provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iv) shall provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the CRR Full Network Model.

6.5.1.5 Non-Disclosure Agreement.

The CAISO's Non-Disclosure Agreement for CRR Full Network Model Distribution shall be posted on the CAISO Website. This Non-Disclosure Agreement shall provide for the CAISO to receive the costs of litigation, including attorneys' fees, related to the Non-Disclosure Agreement if the CAISO prevails in litigation. Recipients of the CRR Full Network Model may use the CRR Full Network Model and related studies in pleadings to the FERC provided they request confidential treatment of all information subject to the Non-Disclosure Agreement.

6.5.1.6 Obligation to Report Violations of Section 6.5.1.4.

Each Market Participant, non-Market Participant, employee of a Market Participant, employee of a non-Market Participant, consultant, and employee of a consultant to whom the CAISO distributes the CRR Full Network Model shall be obligated to immediately report to the CAISO any violation of the requirements of Section 6.5.1.4.

6.5.2 Communications Prior to the Day-Ahead Market.

6.5.2.1 Communications Regarding the State of the CAISO Controlled Grid.

The CAISO shall use OASIS to provide public information to Market Participants regarding the CAISO Controlled Grid or facilities that affect the CAISO Controlled Grid. Such information may include but is not limited to:

- (a) Future planned Outages of transmission facilities;
- (b) Operational Transfer Capability (OTC); and
- (c) Available Transfer Capability (ATC) for WECC paths and Transmission Interfaces with external Balancing Authority Areas.

6.5.2.2 Communications With Scheduling Coordinators.

6.5.2.2.1 Bid Adder Eligibility.

6.5.2.2.1.1 By the 20th of each month, the CAISO will notify Scheduling Coordinators of Bid Adder eligibility, applicable Bid Adder value for the following month, and Frequently Mitigated Units that are eligible for a Bid Adder.

6.5.2.2.1.2 Scheduling Coordinators shall have one week to review Bid Adder information and provide comment back to the CAISO by the 27th of each month.

6.5.2.2.2 Day-Ahead Market Bid Submittal.

Seven (7) days prior to the target Day-Ahead Market, Scheduling Coordinators can begin submitting Bids for that DAM.

6.5.2.3 Public Market Information.

6.5.2.3.1 Demand Forecasts.

6.5.2.3.1.1 Beginning seven (7) days prior to the target Day-Ahead Market, and updated as necessary, the CAISO will publish the CAISO Forecast of CAISO Demand.

6.5.2.3.1.2 By 6:00 p.m. the day prior to the target Day-Ahead Market, the CAISO will publish the updated CAISO Forecast of CAISO Demand.

6.5.2.3.2 Network and System Conditions.

By 6:00 p.m. the day prior to the target Day-Ahead Market, the CAISO will publish known network and system conditions, including but not limited to OTC and ATC, the total capacity of inter-Balancing Authority Area Transmission Interfaces, and the available capacity.

6.5.2.3.3 Ancillary Services Requirements.

By 6:00 p.m. the day prior to the target Day-Ahead Market, the CAISO will publish forecasted Ancillary Services requirements and regional constraints by AS Region.

6.5.2.3.4 Gas Price Indices.

The CAISO will publish relevant gas price indices when available.

6.5.2.3.5 Extremely Long-Start Unit Commitment.

The CAISO will communicate commitment instructions to Scheduling Coordinators for Extremely Long-Start Resources by 3:00 p.m. two (2) days in advance of the Operating Day through a secure communication system.

6.5.3 Day-Ahead Market Communications.

6.5.3.1 Communications With Scheduling Coordinators.

6.5.3.1.1 Prior to 6:00 a.m., the CAISO will continuously screen Inter-SC Trades of Energy for the DAM submitted by Scheduling Coordinators and will provide feedback to the Scheduling Coordinators about the consistency and validity of these Inter-SC Trades based on information available to the CAISO.

6.5.3.1.2 Between 6:00 a.m. and the end of the Day-Ahead Inter-SC Trade Period, the CAISO performs the validation of Inter-SC Trades of Energy for the DAM and will notify the participants of the status of these Inter-SC Trades.

6.5.3.1.3 Between 5:00 a.m. and 10:00 a.m., the CAISO will provide feedback to Scheduling Coordinators about their validated ETC and TOR quantities, and calculated Default Energy Bids curves provided by Independent Entities, and in addition, default Minimum Load and Start-Up Cost Bid curves for RMR Units, as provided by Independent Entities.

6.5.3.1.4 After the close of the DAM bidding at 10:00 a.m., the CAISO will send a message to the Scheduling Coordinators regarding the outcome of the Bid validation.

6.5.3.1.5 By 1:00 p.m., the CAISO will publish the result of the DAM and the resource will be flagged if it is being dispatched under its RMR Contract. Any such Dispatch shall be deemed an RMR Dispatch Notice under the RMR Contract.

6.5.3.1.6 After the results of the DAM are published by 1:00 p.m., the CAISO performs the Inter-SC Trade of Energy post-market validation and communicates the results back to the applicable Scheduling Coordinator.

6.5.3.1.7 The results of the Day-Ahead Market will be published by 1:00 p.m. and will include:

- (a) Unit Commitment status for resources committed in the IFM;
- (b) Day-Ahead Schedules and prices;
- (c) Day-Ahead AS Awards and prices;
- (d) RUC Awards and RUC Capacity and resource-specific RUC Prices;
- (e) RUC Start-Up Instructions;
- (f) Start-Up Instructions resulting from the ELC Process;
- (g) Post-market summary of Day-Ahead and Real-Time Energy Schedules, Ancillary Service Awards, RMR Dispatches, and CCR results of RMR Units;
- (h) Day-Ahead final resource Bid mitigation results; and
- (i) Day-Ahead finally qualified Load following capacity.

6.5.3.1.8 All Expected Energy results will be published at one (1) day after the Trading Day and will include post-market Energy accounting results for Settlement calculations.

6.5.3.2 Public Market Information.

6.5.3.2.1 Before 10:00 a.m. one (1) day before the Operating Day) the CAISO will publish updated Outage information regarding the transmission system on OASIS. The updated Outage information will include planned and actual Outage events per Transmission Interface, including Outage description, Outage start time and end time, and rating of the curtailed line.

6.5.3.2.2 The results of the Day-Ahead Market will be published on OASIS by 1:00 p.m. and will include:

- (a) Total Day-Ahead Schedules (MWh) by Generator, Demand and Scheduling Point for the CAISO Balancing Authority Area;
- (b) Total Day-Ahead AS Awards by AS Region;
- (c) RUC Prices by bus PNode, RUC Forecast Demand and Day-Ahead Schedules, for each RUC Zone, plus CAISO total for each Operating Hour, hourly RUC Capacity from Generation, and hourly RUC Capacity from imports;
- (d) Day-Ahead LMP for Energy, including the Energy, MCC and MCL components;
- (e) Day-Ahead ASMP by bus by PNode;
- (f) Day Ahead mitigation indicator;
- (g) CAISO Forecast of CAISO Demand;
- (h) Shadow Prices; and
- (i) Total Day-Ahead system Marginal Cost of Losses in MWh for each Trading Hour of the next Trading Day.

6.5.4 HASP Communications.

The HASP opens at 1:00 p.m. the day before the target Operating Day and Scheduling Coordinators can submit Bids into the HASP as of that time.

6.5.4.1 Communications With Scheduling Coordinators.

6.5.4.1.1 Before one hundred thirty-five (135) minutes before the Trading Hour, the CAISO will continuously screen Inter-SC Trades of Energy for the HASP, Inter-SC Trades of Ancillary Services, and Inter-SC Trades of IFM Load Uplift Obligations submitted by Scheduling Coordinators and will communicate with the Scheduling Coordinators about the consistency and validity of these Inter-SC Trades based on information available to the CAISO.

6.5.4.1.2 Between one hundred thirty-five (135) minutes before the Trading Hour and forty-five (45) minutes before the Trading Hour, the CAISO will perform the pre-market validation check for Inter-SC Trades for the HASP and Inter-SC Trades of Ancillary Services and will provide feedback to the Scheduling Coordinators about the validity of these Inter-SC Trades based on information available to the CAISO.

6.5.4.1.3 At approximately seventy-five (75) minutes before the Trading Hour, the CAISO will send a message to the Scheduling Coordinators regarding the outcome of the Bid validation.

6.5.4.1.4 In between two hundred seventy (270) minutes before the Trading Hour and the top of the Trading Hour, the CAISO will issue RTM Start-Up Instructions for Short Start Units consistent with the resource's Start-Up Time.

6.5.4.1.5 No later than forty (40) minutes before the Trading Hour, on an hourly basis, the CAISO will publish via the secure communication system the following:

- (a) HASP Intertie Schedules and LMPs; and
- (b) HASP AS Awards and ASMPs

6.5.4.1.6 No later than thirty (30) minutes before the Trading Hour, on an hourly basis, the CAISO will publish via the secure communication system the following:

- (a) HASP Advisory Schedules;
- (b) HASP AS Awards; and
- (c) HASP final resource Bid mitigation results.

6.5.4.1.7 At approximately thirty (30) minutes before the Trading Hour, the CAISO performs the Inter-SC Trade of Energy post-market validation and sends the results back to the applicable Scheduling Coordinators.

6.5.4.1.8 After thirty (30) minutes before the Trading Hour, on an hourly basis, the CAISO will publish via the secure communication system the following:

- (a) Advisory Resource-Specific Settlement Interval LMPs, and
- (b) Resource-Specific ASMPs.

6.5.4.2 Public Market Information.

6.5.4.2.1 By one hundred five (105) minutes before the Trading Hour the CAISO will publish information regarding Outages on the transmission system on OASIS that will be used for HASP Schedules and Congestion Management.

6.5.4.2.2 At thirty (30) minutes before the Trading Hour, on an hourly basis, the CAISO will publish on OASIS the following:

- (a) HASP Intertie Schedules;
- (b) Total HASP Advisory Schedules (MWh) by Scheduling Point;
- (c) HASP AS Awards by Scheduling Point;
- (d) HASP LMPs for Scheduling Points;
- (e) HASP advisory LMPs by PNode and APNode;
- (f) HASP Intertie ASMP for AS by bus PNode;
- (g) HASP advisory ASMP for AS by bus PNode;
- (h) HASP Shadow Prices; and
- (i) Total HASP system losses in MWh for the next Operating Hour.

6.5.5 Real-Time Market Communications.

The CAISO shall issue Dispatch Instructions to Scheduling Coordinators determined pursuant to the RTM throughout any given day.

6.5.5.1 Communications with Scheduling Coordinators.

Communications between the CAISO and Scheduling Coordinators shall take place via the CAISO's secure communication system to a dedicated terminal at the Scheduling Coordinator's scheduling center. If there is a failure of electronic communications with a Scheduling Coordinator, then, at the CAISO's discretion, the Scheduling Coordinator may communicate by facsimile. Communication by facsimile requires verbal approval by the CAISO.

6.5.5.1.1 Every fifteen (15) minutes, the CAISO will communicate via the secure communication system Start-Up and Shut-Down Instructions and Real-Time AS Awards to internal resources.

6.5.5.1.2 Every five (5) minutes for Target T+10, the CAISO will send Dispatch Instructions via the secure communication system. The Dispatch Instruction will be flagged if a resource is being dispatched under its RMR Contract.

6.5.5.2 Public Market Information.

6.5.5.2.1 Every hour the CAISO shall post via OASIS information regarding the status of the RTM. This information shall include but is not limited to the following:

- (a) Mitigation indicator.

6.5.5.2.2 Every fifteen (15) minutes the CAISO shall post via OASIS information regarding the status of the RTM. This information shall include but is not limited to the following:

- (a) Total Real-Time AS Awards by Region; and
- (b) Real-Time ASMPs by bus.

6.5.5.2.3 Every ten (10) minutes the CAISO shall post via OASIS information regarding the status of the RTM. This information shall include but is not limited to the following:

- (a) Settlement Interval LMPs.

6.5.5.2.4 Every five (5) minutes the CAISO shall post via OASIS information regarding the status of the RTM. This information shall include but is not limited to the following:

- (a) CAISO Forecast of CAISO Demand;
- (b) Total Real-Time dispatched Energy and Demand on a 24-hour delayed basis;
- (c) Real-Time Dispatch Interval LMP;
- (d) Real-Time system losses; and
- (e) Actual Operating Reserve.

6.5.6 Market Bid Information.

6.5.6.1 Public Market Information.

6.5.6.1.1 The following information shall be published on OASIS 180 days following the applicable Trading Day, with the exclusion of the information that is specific to Scheduling Coordinators:

- (a) AS market Bids;
- (b) Energy market Bids; and
- (c) RUC market Bids.

6.5.6.1.2 Within seven (7) days after the Trading Day, the CAISO will publish via OASIS all Start-Up Costs and Minimum Load Costs for CAISO committed resources.

7 SYSTEM OPERATIONS UNDER NORMAL AND EMERGENCY OPERATING CONDITIONS.

7.1 CAISO Control Center Operations.

7.1.1 Maintain CAISO Control Center.

The CAISO shall maintain a WECC approved Balancing Authority Area and control center to direct the operation of all facilities forming part of the CAISO Controlled Grid, including Reliability Must-Run Units, System Resources, and Generating Units providing Ancillary Services. The Primary CAISO Control Center shall have Operational Control over:

- (a) all transmission lines greater than 230 kV and associated station equipment on the CAISO Controlled Grid;
- (b) all Interconnections; and
- (c) all 230 kV and lower voltage transmission lines and associated station equipment identified in the CAISO Register as that portion of the CAISO Controlled Grid located in the Pacific Gas and Electric Company PTO Service Territory.

7.1.2 Maintain Back-up Control Facility.

The CAISO shall maintain back-up control facilities remote from the Primary CAISO Control Center sufficient to enable the CAISO to continue to direct the operation of the CAISO Controlled Grid, Reliability Must-Run Units, System Resources and Generating Units providing Ancillary Services in the event of the Primary CAISO Control Center becoming inoperable. The Backup CAISO Control Center shall have Operational Control over all 230 kV and lower voltage transmission lines and associated station equipment identified in the CAISO Register as that portion of the CAISO Controlled Grid located in the Southern California Edison Company and San Diego Gas & Electric Company PTO Service Territories.

7.1.3 CAISO Control Center Authorities.

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

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

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

7.2 Operating Reliability Criteria.

The CAISO shall exercise Operational Control over the CAISO Controlled Grid in compliance with all Applicable Reliability Criteria. The Applicable Reliability Criteria are the standards established by NERC, WECC and Local Reliability Criteria and include the requirements of the Nuclear Regulatory Commission (NRC) all as modified from time to time.

7.2.1 Reliability Coordinator.

The CAISO shall be the WECC Reliability Coordinator for the CAISO Controlled Grid. As Reliability Coordinator, the CAISO, in conjunction with the other WECC Reliability Coordinators, will be responsible for the stable and reliable operation of the Western Interconnection in accordance with the WECC Regional Security Plan.

As Reliability Coordinator, the CAISO may direct activities as appropriate to curtail Schedules, dispatch Generation or impose transfer limitations as necessary to relieve grid Congestion, mitigate potential overloads or eliminate operation outside of existing Nomogram criteria.

7.2.2 Authority of the CAISO as a WECC Reliability Coordinator.

As a the Reliability Coordinator, the CAISO shall have all the authority prescribed to such entities by the WECC, as amended from time to time, that shall including but not be limited to the following:

- (a) The Reliability Coordinator has the final authority to direct operations before, during and after problems or disturbances that have regional impacts. The WECC Security Monitoring plans include collaboration with sub-regional Reliability Coordinators and Balancing Authorities to determine actions for anticipated problems. If there is insufficient time, or mutual concurrence is not reached, the Reliability Coordinator is authorized to direct actions and the Balancing Authorities must comply.

- (b) In the event of any situation occurring which is outside those problems already identified in the list of known problems, the Reliability Coordinator shall have the responsibility and authority to implement whatever measures are necessary to maintain System Reliability. Those actions include but are not limited to; Interchange curtailment, Generation Dispatch adjustment (real power, reactive power and voltage), transmission configuration adjustments, Special Protection System activation, Load curtailment and any other action deemed necessary to maintain System Reliability.
- (c) The Reliability Coordinator shall also have the responsibility and authority to take action in its WECC sub-region for problems in another sub-region that it may help resolve. This must be accomplished at the request of and in coordination with the Reliability Coordinators of the other WECC sub-regions.

7.3 Transmission Planning Authority.

7.3.1 The CAISO shall exercise Operational Control over the CAISO Controlled Grid to meet planning and Operating Reserve criteria no less stringent than those established by WECC and NERC as those standards may be modified from time to time, and Local Reliability Criteria that are in existence on the CAISO Operations Date and have been submitted to the CAISO by each Participating TO pursuant to Section 2.2.1(v) of the TCA. All Market Participants and the CAISO shall comply with the CAISO Reliability Criteria, standards, and procedures.

7.3.2 The CAISO Governing Board may establish planning guidelines more stringent than those established by NERC and WECC as needed for the secure and reliable operation of the CAISO Controlled Grid. The CAISO may revise the Local Reliability Criteria subject to and in accordance with Section 5 of the TCA.

7.3.3 NAESB Standards.

The following standards of the Wholesale Electric Quadrant (WEQ) of the North American Energy Standards Board (NAESB) are incorporated by reference:

- Coordinate Interchange (WEQ-004, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Purpose, Applicability, and Standards 004-0 through 004-13, and 004-A through 004-D;
- Area Control Error (ACE) Equation Special Cases Standards (WEQ-005, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Purpose, Applicability, and Standards 005-0 through 005-3.1.3, and 005-A;
- Inadvertent Interchange Payback (WEQ-007, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Purpose, Applicability, and Standards 007-0 through 007-2, and 007-A; and
- Manual Time Error Correction – Time Error Initiation (WEQ-006-4, Version 000, with minor corrections applied on October 17, 2206).

The CAISO has obtained a waiver of the following NAESB WEQ standards:

- Business Practices for Open Access Same-Time Information Systems (OASIS) (WEQ-001, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Standards 001-0.2 through 001-0.8, 001-2.0 through 001-9.6.2, 001-9.8 through 001-10.8.6, and Examples 001-8.3-A, 001-9.2-A, 001-10.2-A, 001-9.3-A, 001-10.3-A, 001-9.4.1-A, 001-10.4.1-A, 001-9.4.2-A, 001-10.4.2-A, 001-9.5-A, 001-10.5-A, 001-9.5.1-A, and 001-10.5.1-A;

- Business Practices for Open Access Same-Time Information Systems (OASIS) Standards & Communication Protocols (WEQ-002, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Standards 002-1 through 002-5.10; and
- Open Access Same-Time Information Systems (OASIS) Data Dictionary (WEQ-003, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Standard 003-0.

WECC has obtained a waiver of the following NAESB WEQ standard on its own behalf and on behalf of the Balancing Authority Areas in the Western Interconnection, including the CAISO:

- Manual Time Error Correction (WEQ-006, Version 000, January 15, 2005, with minor corrections applied on March 25, 2005, and additional numbering added October 3, 2005) including Purpose, Applicability, and Standards 006-0 through 006-12.

7.4 General Standard of Care.

When the CAISO is exercising Operational Control of the CAISO Controlled Grid, the CAISO and Market Participants shall comply with Good Utility Practice.

7.5 Routine Operation of the CAISO Controlled Grid.

The CAISO shall operate the CAISO Controlled Grid in accordance with the standards described in Section 7.2 and within the limit of all applicable Nomograms and established operating limits and procedures.

7.5.1 CAISO Controlled Facilities.

7.5.1.1 General.

The CAISO shall have Operational Control of all transmission lines and associated station equipment that have been transferred to the CAISO Controlled Grid from the Participating TOs as listed in the CAISO Register.

7.5.2 Clearing Equipment for Work.

The clearance procedures of the CAISO and the relevant UDC and Participating TO must be adhered to by all parties, to ensure the safety of all personnel working on CAISO Controlled Grid transmission lines and equipment. In accordance with Section 9.3, no work shall start on any equipment or line which is under the Operational Control of the CAISO unless final approval has first been obtained from the appropriate CAISO Control Center. Prior to starting the switching to return any line or equipment to service the CAISO shall confirm that all formal requests to work on the cleared line or equipment have been released.

7.5.3 Equipment De-energized for Work.

In some circumstances, System Reliability requirements may require a recall capability that can only be achieved by allowing work to proceed with the line or equipment de-energized only (i.e. not cleared and grounded). Any personnel working on such de-energized lines and equipment must take all precautions as if the line or equipment were energized. Prior to energizing any such lines or equipment de-energized for work, the CAISO shall confirm that all formal requests to work on the de-energized line or equipment have been released.

7.5.4 Hot-Line Work.

The CAISO has full authority to approve requests by Participating TOs to work on energized equipment under the Operational Control of the CAISO, and no such work shall be commenced until the CAISO has given its approval.

7.5.5 Intertie Switching.

The CAISO and the appropriate single point of contact for the relevant Participating TO and the adjacent Balancing Authority Area shall coordinate during the de-energizing or energizing of any Interconnection.

7.5.6 Operating Voltage Control Equipment.

7.5.6.1 Operating Voltage Control Equipment Under CAISO Control.

The CAISO will direct each Participating TO's single point of contact in the operation of voltage control equipment that is under the CAISO's Operational Control.

7.5.6.2 Operating Voltage Control Equipment Under UDC Control.

Each UDC must operate voltage control equipment under UDC control in accordance with existing UDC voltage control guidelines.

7.5.6.3 Special CAISO Voltage Control Requirements.

The CAISO may request a Participating TO via its single point of contact or a UDC via its single point of contact to operate under special voltage control requirements from time to time due to special system conditions.

7.6 Normal System Operations.

7.6.1 Actions for Maintaining Reliability of CAISO Controlled Grid.

The CAISO shall obtain the control over Generating Units that it needs to control the CAISO Controlled Grid and maintain reliability by ensuring that sufficient Energy and Ancillary Services are procured through the CAISO Markets. When the CAISO responds to events or circumstances, it shall first use the generation control it is able to obtain from the Energy and Ancillary Services Bids it has received to

respond to the operating event and maintain reliability. Only when the CAISO has used the Energy and Ancillary Services that are available to it under such Energy and Ancillary Services Bids which prove to be effective in responding to the problem and the CAISO is still in need of additional control over Generating Units, shall the CAISO assume supervisory control over other Generating Units. It is expected that at this point, the operational circumstances will be so severe that a Real-Time system problem or emergency condition could be in existence or imminent.

Each Participating Generator shall take, at the direction of the CAISO, such actions affecting such Generator as the CAISO determines to be necessary to maintain the reliability of the CAISO Controlled Grid. Such actions shall include (but are not limited to):

- (a) compliance with Dispatch Instructions including instructions to deliver Energy and Ancillary Services in Real-Time pursuant to the AS Awards, Day-Ahead Schedules and HASP Intertie Schedules, and HASP AS Awards;
- (b) compliance with the system operation requirements set out in this Section 7;
- (c) notification to the CAISO of the persons to whom an instruction of the CAISO should be directed on a 24-hour basis, including their telephone and facsimile numbers; and
- (d) the provision of communications, telemetry and direct control requirements, including the establishment of a direct communication link from the control room of the Generator to the CAISO in a manner that ensures that the CAISO will have the ability, consistent with this CAISO Tariff, to direct the operations of the Generator as necessary to maintain the reliability of the CAISO Controlled Grid, except that a Participating Generator will be exempt from CAISO requirements imposed in accordance with this subsection (d) with regard to any Generating Unit with a rated capacity of less than ten (10) MW, unless that Generating Unit is certified by the CAISO to provide Ancillary Services.

7.7 Management of System Emergencies.

7.7.1 System Emergency.

When, in the judgment of the CAISO, the System Reliability of the CAISO Controlled Grid is in danger of instability, voltage collapse or under-frequency caused by transmission or Generation trouble in the CAISO Balancing Authority Area, or events outside of the CAISO Balancing Authority Area that could result in a cascade of events throughout the WECC grid, the CAISO will declare a System Emergency. This declaration may include a notice to suspend the Day-Ahead Market, HASP and Real-Time Markets, authorize full use of Black Start Generating Units, initiate full control of manual Load Shedding, and authorize the curtailment of Curtailable Demand (even though not scheduled as an Ancillary Service). The CAISO will reduce the System Emergency declaration to a lower alert status when it is satisfied, after conferring with Reliability Coordinators within the WECC, that the major contributing factors have been corrected, and all involuntarily interrupted Demand is back in service (except interrupted Curtailable Demand selected as an Ancillary Service). This reduction in alert status will reinstate the competitive markets if they have been suspended.

7.7.2 Emergency Procedures.

In the event of a System Emergency, the CAISO shall take such action as it considers necessary to preserve or restore stable operation of the CAISO Controlled Grid. The CAISO shall act in accordance with Good Utility Practice to preserve or restore reliable, safe and efficient service as quickly as reasonably practicable. The CAISO shall keep system operators in adjacent Balancing Authority Areas informed as to the nature and extent of the System Emergency in accordance with WECC procedures and, where practicable, shall additionally keep the Market Participants within the Balancing Authority Area informed.

7.7.2.1 Declarations of System Emergencies.

The CAISO shall, when it considers that conditions giving rise to a System Emergency exist, declare the existence of such System Emergency. A declaration by the CAISO of a System Emergency shall be binding on all Market Participants until the CAISO announces that the System Emergency no longer exists.

7.7.2.2 Responsibilities of UDCs and MSSs Operators During a System Emergency.

In the event of a System Emergency, UDCs shall comply with all directions from the CAISO concerning the management and alleviation of the System Emergency and shall comply with all procedures concerning System Emergencies set out in this CAISO Tariff, the Business Practice Manuals, and the Operating Procedures, and each MSS Operator shall comply with all directions from the CAISO concerning the avoidance, management and alleviation of the System Emergency and shall comply with all procedures concerning System Emergencies set forth in the CAISO Tariff, Business Practice Manuals and Operating Procedures. During a System Emergency, the CAISO and UDCs shall communicate through their respective control centers and in accordance with procedures established in individual UDC Operating Agreements, and the CAISO and the MSS Operator shall communicate through their respective control centers and in accordance with procedures established in the MSS Agreement.

7.7.2.3 Responsibilities of Generating Units, System Units and System Resources During System Emergencies.

All Generating Units, System Units and System Resources that are owned or controlled by a Participating Generator are (without limitation to the CAISO's other rights under this CAISO Tariff) subject to control by the CAISO during a System Emergency and in circumstances in which the CAISO considers that a System Emergency is imminent or threatened. The CAISO shall, subject to this Section 7, have the authority to instruct a Participating Generator to bring its Generating Unit on-line, off-line, or increase or curtail the output of the Generating Unit and to alter scheduled deliveries of Energy and Ancillary Services

7.7.3.2 System Warning.

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

7.7.4 Intervention in CAISO Market Operations.

The CAISO may intervene in the operation of the CAISO Markets and set the Administrative Price, if the CAISO determines that such intervention is necessary in order to prevent, contain or correct a System Emergency as follows.

- (1) The CAISO will not intervene in the operation of the Day-Ahead Market unless there has been a total or major collapse of the CAISO Controlled Grid and the CAISO is in the process of restoring it. The CAISO shall, where reasonably practicable, utilize Ancillary Services which it has the contractual right to instruct and which are capable of contributing to containing or correcting the actual, imminent or threatened System Emergency prior to issuing instructions to a Participating Generator under Section 7.7.2.3. In the event that the CAISO has exhausted all Economic Bids in the IFM, the CAISO shall use the scheduling priorities listed in Section 31.4 to clear the IFM.

- (2) Before any such intervention the CAISO must (in the following order):
 - (a) dispatch all Supply Bids offered or available to it regardless of price (including all Energy Bids and Ancillary Services Bids);
 - (b) dispatch all interruptible Loads made available by UDCs to the CAISO in accordance with the relevant agreements with UDCs;
 - (c) dispatch or curtail all price-responsive Demand that has been bid into the Day-Ahead Market and exercise its rights under all Load curtailment contracts available to it;
 - (d) exercise Load Shedding to curtail Demand on an involuntary basis to the extent that the CAISO considers necessary.
- (3) The Administrative Price in relation to each of the markets for Imbalance Energy and Ancillary Services shall be set at the applicable price in the Settlement Period immediately preceding the Settlement Period in which the intervention took place.
- (4) The intervention will cease as soon as the CAISO has restored all Demand that was curtailed on an involuntary basis.

7.7.5 Emergency Guidelines.

The CAISO shall issue guidelines for all Market Participants to follow during a System Emergency. These guidelines shall be consistent with the specific obligations of Scheduling Coordinators and Market Participants referenced in Sections 7.7.10, 7.7.11, 7.7.2, 7.7.2.3 and 7.7.4(1). All Market Participants shall respond to CAISO Dispatch Instructions with an immediate response during System Emergencies.

7.7.5.1 The CAISO shall in accordance with this Section 7.7.5 implement the Electrical Emergency Plan in consultation with the UDCs, the MSS Operators, or other entities, at the CAISO's discretion, when Energy reserve margins are forecast to be at the levels specified in the plan.

7.7.5.2 Each UDC and MSS Operator will notify its End-Use Customers connected to the UDC's or the MSS's Distribution System of any voluntary curtailments notified to the UDC or to the MSS Operator by the CAISO pursuant to the provisions of the EEP.

7.7.6 Periodic Tests of Emergency Procedures.

The CAISO shall develop and administer periodic unannounced tests of System Emergency procedures. Such tests shall be designed to ensure that the CAISO Market Participants are capable of promptly and efficiently responding to imminent or actual System Emergencies.

7.7.7 Prioritization Schedule for Shedding and Restoring Load.

On an annual basis, the CAISO shall, in consultation with Market Participants and subject to the provisions of Section 3, develop a prioritization schedule for Load Shedding should a System Emergency require such action. The prioritization schedule shall also establish a sequence for the restoration of Load in the event that multiple Scheduling Coordinators or Market Participants are affected by service interruptions and Load must be restored in blocks. For Load shed in accordance with Section 7.7.11.4.2, the prioritization schedule will only include those UDCs or MSS Operators that have Scheduling Coordinators that have failed to submit Bids with sufficient resources to meet the Load in the UDC or MSS Service Area. For Load shed in accordance with Section 7.7.11.4.3, the prioritization schedule will include all UDCs and MSS Operators.

7.7.8 Under Frequency Load Shedding (UFLS).

7.7.8.1 Each UDC's UDCOA with the CAISO and each MSS Agreement through which the MSS Operator undertakes to the CAISO to comply with the provisions of the CAISO Tariff shall describe the UFLS program for that UDC or for that MSS. The CAISO and UDC or the CAISO and the MSS Operator shall review the UFLS program periodically to ensure compliance with Applicable Reliability Criteria.

7.7.8.2 The CAISO shall perform periodic audits of each UDC's UFLS system and of each MSS's UFLS system to verify that the system is properly configured for each UDC or MSS.

7.7.8.3 The CAISO will use its reasonable endeavors to ensure that UFLS is coordinated among the UDCs and MSSs so that no UDC bears a disproportionate share of the CAISO's UFLS program.

7.7.8.4 In compiling its UFLS program, the CAISO, at its discretion, may also coordinate with other entities, and review and audit their UFLS programs and systems as described in this Section 7.7.8.

7.7.9 [NOT USED]

7.7.10 Further Obligations Relating to System Emergencies.

The CAISO and Participating TOs shall comply with their obligations in Section 9 of the TCA.

7.7.11 Use of Load Curtailment Programs.

7.7.11.1 Use of UDC's Existing Load Curtailment Programs.

As an additional resource for managing System Emergencies, the CAISO will, subject to Section 3, notify the UDCs when the conditions to implement their Load curtailment programs have been met in accordance with their terms. The UDCs will exercise their best efforts, including seeking any necessary regulatory approvals, to enable the CAISO to rely on their curtailment rights at specified levels of Operating Reserve. Each UDC shall by not later than October 1 of each year advise the CAISO of the capabilities of its Load curtailment programs for the forthcoming year, and the conditions under which those capabilities may be exercised, and shall give the CAISO as much notice as reasonably practicable of any change to such programs.

7.7.11.2 Load Curtailment.

A Scheduling Coordinator may specify that Loads will be reduced at specified prices or, pursuant to a Participating Load Agreement, offer the right to exercise Load curtailment to the CAISO as an Ancillary Service or utilize Load curtailment itself (by way of self-provision of Ancillary Services) as Non-Spinning Reserve. The CAISO, at its discretion, may require direct control over such Curtailable Demand to assume response capability for managing System Emergencies. However, non-firm Loads shall not be eligible to provide Curtailable Demand if they are receiving incentives for interruption under existing programs approved by a Local Regulatory Authority, unless: a) participation in the CAISO's Ancillary Services markets is specifically authorized by such Local Regulatory Authority, and b) there exist no contingencies on the availability, nor any unmitigated incentives encouraging prior curtailment, of such interruptible Load for Dispatch as Curtailable Demand as a result of the operation of such existing program. The CAISO may establish standards for automatic communication of curtailment instructions to implement Load curtailment as a condition for accepting any offered Load curtailment as an Ancillary Service.

7.7.11.3 The CAISO shall have the authority to direct a UDC or an MSS Operator to disconnect Load from the CAISO Controlled Grid if necessary to avoid an anticipated System Emergency or to regain Operational Control over the CAISO Controlled Grid during an actual System Emergency. The CAISO shall direct the UDC or the MSS Operator to shed Load in accordance with the prioritization schedule developed pursuant to Section 7.7.7. When CAISO Controlled Grid conditions permit restoration of Load, the CAISO shall restore Load according to the prioritization schedule developed pursuant to Section 7.7.7. The MSS Operator shall restore Load internal to the MSS.

7.7.11.4 Load Shedding.

7.7.11.4.1 A portion of the CAISO forecast of Balancing Authority Area Load for each Trading Day will be allocated to each UDC or MSS Service Area. The CAISO will aggregate each Scheduling Coordinator's Day-Ahead Schedules to Load in each UDC or MSS Service Area and will compare those aggregated Load Schedules to the CAISO Balancing Authority Area Load forecast of metered Demand for that UDC or MSS Service Area to determine if the Load in the UDC or MSS Service Area has a resource deficiency based on the Day-Ahead Schedules.

7.7.11.4.2 If the CAISO forecasts in advance of the HASP that Load curtailment will be necessary due to a resource deficiency, the CAISO will identify any UDC or MSS Service Area that is resource deficient. The CAISO will provide notice to all Scheduling Coordinators if one or more UDC or MSS is deficient. If Load curtailment is required to manage a System Emergency associated with insufficient HASP Schedules of resources, the CAISO will determine the amount and location of Load to be curtailed and will allocate a portion of that required Load curtailment to each UDC or MSS Operator whose Service Area has been identified, based on HASP Schedules, as being resource-deficient based on the ratio of its resource deficiency to the total Balancing Authority Area resource deficiency. Each UDC or MSS Operator shall be responsible for notifying its customers and Generators connected to its system of curtailments and service interruptions.

7.7.11.4.3 If a Load curtailment is required to manage System Emergencies, in any circumstances other than those described in Section 7.7.11.4.2, the CAISO will determine the amount and location of Load to be reduced and to the extent practicable, will allocate a portion to each UDC based on the ratio of its Demand (at the time of the Balancing Authority Area annual peak for the previous year) to total Balancing Authority Area annual peak Demand for the previous year taking into account system considerations and the UDC's curtailment rights under their tariffs. Each UDC or MSS Operator shall be responsible for notifying its customers and Generators connected to its system of curtailments and service interruption.

7.7.12 Curtailment Under Emergency and Non-Emergency Conditions.

7.7.12.1 Emergency Conditions.

To the extent practicable, the CAISO shall allocate necessary curtailments of Existing Rights or non-Converted Rights under emergency conditions in accordance with the instructions submitted by the Responsible PTO pursuant to Section 16. If circumstances prevent the CAISO's compliance with such instructions, the CAISO shall allocate such curtailments in a non-discriminatory manner consistent with Good Utility Practice.

7.7.12.2 Non-Emergency Conditions.

Unless otherwise specified by the Responsible PTO in the instructions that it submits to the CAISO under Section 16, the CAISO will allocate any necessary curtailments under non-emergency conditions, pro rata, among holders of Existing Rights, at particular Scheduling Points and/or on particular contract paths, in the order of: (1) non-firm, (2) each priority of conditional firm, and (3) each priority of firm rights. Priorities for firm and conditional firm transmission service are indicated using the TRTC Instructions as described in Section 16.

7.7.13 System Emergency Reports and Sanctions.

7.7.13.1 Review of Major Outages.

The CAISO with the cooperation of any affected UDC shall jointly perform a review following a major Outage that affects at least ten (10) percent of the Load served by the Distribution System of a UDC or any Outage that results in major damage to the CAISO Controlled Grid or to the health and safety of personnel. The review shall address the cause of the Outage, the response time and effectiveness of emergency management efforts, and whether the operation, maintenance or scheduling practices of the CAISO, any Participating TOs, Eligible Customers, UDCs or Participating Generators enhanced or undermined the ability of the CAISO to maintain or restore service efficiently and in a timely manner.

7.7.13.2 Provide Information to Review Outages.

Participating TOs, Participating Generators, Eligible Customers, Scheduling Coordinators and UDCs shall promptly provide information requested by the CAISO to review Outages pursuant to Section 7.7.13.1 and to prepare Outage reports. The CAISO shall seek the views of any affected Participating TOs, Participating Generators, Eligible Customers, Scheduling Coordinator or UDCs and allow such affected Participating TOs, Participating Generators, Eligible Customers, Scheduling Coordinators or UDCs to comment on any issues arising during the preparation of a report. All findings and reports arising from the CAISO's review shall be shared with Participating TOs, Participating Generators, Eligible Customers and UDCs.

7.7.13.3 Imposing Sanctions.

If the CAISO finds that the operation and maintenance practices of any Participating TOs, Participating Generators, Eligible Customers, or UDCs prolonged the response time or contributed to the Outage, the CAISO may impose sanctions on the responsible Participating TOs, Participating Generators, Eligible Customers, or UDCs provided that no sanction shall be imposed in respect of actions taken in compliance with the CAISO's instructions or pursuant to a Remedial Action Scheme. The CAISO shall develop and file with FERC a schedule of such sanctions. Any dispute concerning whether sanctions should be imposed under this Section shall be resolved through the CAISO ADR Procedures. The schedule of sanctions filed with FERC (including categories and levels of sanctions) shall not be subject to the CAISO ADR Procedures. The CAISO shall publish on the CAISO Website details of all instances in which a sanction has been imposed.

7.7.14 CAISO Facilities and Equipment.

7.7.14.1 CAISO Facility and Equipment Outages.

The CAISO has installed redundant control centers, communication systems and computer systems. Most, but not necessarily all, equipment problems or failures should be transparent to Market Participants. This Section 7.7.14.1 addresses some situations when Market Participants could be affected, but it is impossible to identify and plan for every type of equipment problem or failure. Real-Time situations will be handled by the Real-Time CAISO dispatchers. The CAISO control room in Folsom is the Primary CAISO Control Center and the CAISO control room in Alhambra is the Backup CAISO Control Center.

7.7.14.2 CAISO's Secure Communication System Unavailable.

7.7.14.2.1 Unavailable Critical Functions of CAISO's Secure Communication System.

During a total disruption of the CAISO's secure communication system several critical functions of the CAISO will not be available including:

- (a) the CAISO's scheduling infrastructure computer systems will not be able to communicate with Scheduling Coordinators to receive any type of updated Bid or Schedule information;
- (b) the CAISO's scheduling infrastructure computer systems will not be able to communicate Congestion Management information and Schedule changes to the Scheduling Coordinators; and
- (c) the CAISO will not be able to communicate general information, including emergency information, to any Market Participants.

7.7.14.2.2 Communications during Unavailability of CAISO's Secure Communication System.

During any period of CAISO's secure communication system unavailability, the CAISO shall:

- (a) make all reasonable efforts to keep Market Participants aware of current CAISO Controlled Grid status using voice communications;
- (b) use the most recent set of Day-Ahead Schedules, RUC Schedules, AS Awards, HASP Intertie Schedules, and Dispatch Instructions for each Scheduling Coordinator for the current and all future Settlement Periods and/or Trading Days until the CAISO's secure communication system is restored; and
- (c) attempt to take critical Bids, including ETC and TOR Self-Schedules changes, from Scheduling Coordinators via voice communications as time and personnel availability allows.

7.7.14.2.3 Primary CAISO Control Center – Loss of all Voice Communications.

In the event of loss of all voice communication at the Primary CAISO Control Center, the Primary CAISO Control Center will use alternate communications to notify the Backup CAISO Control Center of the loss of voice communications. The Backup CAISO Control Center will post information on the situation on the CAISO's secure communication system. Additional voice notifications will be made as time permits.

Once voice communications have been restored to the Primary CAISO Control Center, the CAISO will post this information on the CAISO's secure communication system.

7.7.14.2.4 Primary CAISO Control Center – Control Center Completely Unavailable.

In the event that the Primary CAISO Control Center becomes completely unavailable, the Primary CAISO Control Center will use alternate communications to notify the Backup CAISO Control Center that the Primary CAISO Control Center is unavailable. The Backup CAISO Control Center will post information on the situation on the CAISO's secure communication system. Additional voice notifications will be made as time permits.

The Backup CAISO Control Center will post confirmation on the CAISO's secure communication system that all computer systems are functioning normally (if such is the case) and take complete control of the CAISO Controlled Grid. The Backup CAISO Control Center will notify the single point of contact at the transmission operations center of Pacific Gas and Electric Company by direct voice communication of the situation.

Once the Primary CAISO Control Center is again available, all functions will be transferred back, and the Primary CAISO Control Center will notify all Market Participants via the CAISO's secure communication system.

7.7.14.2.5 Primary CAISO Control Center - CAISO Energy Management System (EMS) Unavailable.

Should an outage occur to the redundant EMS computer systems in the Primary CAISO Control Center, an auto transfer should occur to transfer EMS operation to the redundant EMS back up computers at the Backup CAISO Control Center. Due to the severity of a total CAISO EMS computer outage, the Primary CAISO Control Center will post information on the CAISO's secure communication system that the Primary CAISO Control Center EMS computer is unavailable and that EMS control has been transferred to the Backup CAISO Control Center.

When the Primary CAISO Control Center EMS computer is restored, the Backup CAISO Control Center will initiate a transfer back of the EMS system to the Primary CAISO Control Center. The Primary CAISO Control Center will post information on the restored EMS computer system status on the CAISO's secure communication system.

7.7.14.2.6 Backup CAISO Control Center – Loss of all Voice Communications.

In the event of a loss of all voice communications at the Backup CAISO Control Center, the Backup CAISO Control Center will use alternate communications to notify the Primary CAISO Control Center of the loss of voice communications. The Primary CAISO Control Center will post information on the situation via the CAISO's secure communication system. Additional voice notifications will be made as time permits. Once voice communications have been restored to the Backup CAISO Control Center, the Primary CAISO Control Center will post this information on the CAISO's secure communication system.

7.7.14.2.7 Backup CAISO Control Center – Control Center Completely Unavailable.

In the event that the Backup CAISO Control Center becomes completely unavailable, the Backup CAISO Control Center will use alternate communications to notify the Primary CAISO Control Center that the Backup CAISO Control Center is unavailable. The Primary CAISO Control Center will post information on the situation on the CAISO's secure communication system. Additional voice notifications will be made as time permits.

The Primary CAISO Control Center will post confirmation on the CAISO's secure communication system that all computer systems are functioning normally (if such is the case) and take complete control of the CAISO Controlled Grid. The Primary CAISO Control Center will notify the grid control center of Southern California Edison Company by direct voice communications of the situation.

Once the Backup CAISO Control Center is again available, all functions will be transferred back, and the Backup CAISO Control Center will notify all Market Participants via the CAISO's secure communication system.

7.7.14.2.8 Use of IOUs' Energy Control Center Computers.

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

7.8 Management of Overgeneration Conditions.

The CAISO's management of Overgeneration relates only to Real-Time. In the event that Overgeneration conditions occur during Real-Time, the CAISO will direct the Scheduling Coordinators to take the steps described in this Section 7.8 and Scheduling Coordinators shall implement CAISO directions without delay. Overgeneration in Real-Time will be mitigated by the CAISO as follows; provided that the CAISO Operator will have the discretion, if necessary to avoid a System Emergency, to eliminate one or more of the following steps.

7.8.1 Commencing one hour prior to the start of the Settlement Period, the CAISO will, based on available Bids issue Dispatch Instructions to Scheduling Coordinators to reduce Generation and imports for the next Operating Hour.

7.8.2 To the extent that there are insufficient Bids available for the Operating Hour to fully mitigate the Overgeneration condition, the CAISO will notify Scheduling Coordinators of the projected amount of Overgeneration to be mitigated in that hour.

7.8.3 In addition to the action taken under 7.8.2, the CAISO will, if it considers it necessary to maintain the reliable operation of the CAISO Balancing Authority Area, offer Energy for sale on behalf of Scheduling Coordinators to adjacent Balancing Authorities at the estimated LMP or, if the CAISO considers it necessary, at a price established by the CAISO on behalf of Scheduling Coordinators, to be paid to adjacent Balancing Authorities.

7.8.4 To the extent that the steps described in Sections 7.8.1 through 7.8.3 fail to mitigate Overgeneration, the CAISO will instruct Scheduling Coordinators to reduce either Generation, or imports, or both. The amount of the reduction for each Scheduling Coordinator will be calculated pro rata based on the product of the total required reduction in Generation and imports (or increase in exports) and the ratio of its Demand to the total Demand in the CAISO Balancing Authority Area.

7.8.5 To the extent that the above steps fail to fully mitigate the Overgeneration, the CAISO will issue mandatory Dispatch Instructions for specific reductions in Generating Unit output and external imports and all relevant Scheduling Coordinators shall be obligated to comply with such Dispatch Instructions.

7.8.6 Any costs incurred by the CAISO in implementing Section 7.8.3 shall be reimbursed to the CAISO by Scheduling Coordinators based upon the extent to which they supplied Energy, in metered amounts, greater than the Generation and imports dispatched by the CAISO as provided in the Day-Ahead Schedule or in response to Dispatch Instructions and consumed Energy, in metered amounts, less than the Demand scheduled, as a proportion of the total amount of such excess or shortfall among all Scheduling Coordinators.

8. ANCILLARY SERVICES.

8.1 Scope.

The CAISO shall be responsible for ensuring that there are sufficient Ancillary Services available to maintain the reliability of the CAISO Controlled Grid consistent with WECC and NERC Reliability Standards, WECC Reliability Criteria, and other WECC and NERC criteria. The CAISO's Ancillary Services requirements may be self-provided by Scheduling Coordinators as further provided in the Business Practice Manuals. Those Ancillary Services which the CAISO requires to be available but which are not being self-provided will be competitively procured by the CAISO from Scheduling Coordinators in the Day-Ahead Market, the Hour-Ahead Scheduling Process (the hourly HASP Ancillary Service Awards) and the RTM consistent with Section 8.3. The provision of Ancillary Services from the Interties with interconnected Balancing Authority Areas is limited to Ancillary Services bid into the competitive procurement processes in the IFM, HASP and RTM. The CAISO will not accept Submissions to Self-Provide Ancillary Services that are imports to the CAISO Balancing Authority Area over the Interties with interconnected Balancing Authority Areas, except from Dynamic System Resources certified to provide Ancillary Services or if provided pursuant to ETCs, TORs or Converted Rights. The CAISO will calculate payments for Ancillary Services supplied by Scheduling Coordinators and charge the cost of Ancillary Services to Scheduling Coordinators based on their Ancillary Service Obligations.

For purposes of this CAISO Tariff, Ancillary Services are: (i) Regulation Up and Regulation Down, (ii) Spinning Reserve, (iii) Non-Spinning Reserve, (iv) Voltage Support, and (v) Black Start capability.

These services will be procured as stated in Section 8.3.5. Bids for Non-Spinning Reserve may be submitted by Scheduling Coordinators for Curtailable Demand as well as for Generation. Identification of specific services in this CAISO Tariff shall not preclude development of additional interconnected operation services over time. The CAISO and Market Participants will seek to develop additional categories of these unbundled services over time as the operation of the CAISO Controlled Grid matures or as required by regulatory authorities.

8.2 Ancillary Services Standards.

All Ancillary Services shall meet the CAISO's Ancillary Services standards.

8.2.1 Determination of Ancillary Service Standards.

The CAISO shall set the required standard for each Ancillary Service necessary to maintain the reliable operation of the CAISO Controlled Grid. Ancillary Services standards shall be based on WECC Minimum Operating Reliability Criteria (MORC), NERC and CAISO Controlled Grid reliability requirements. The CAISO, in conjunction with the relevant reliability council (WECC), shall develop these Ancillary Services standards to determine reasonableness, cost effectiveness, and adherence to NERC and WECC standards. The standards developed by the CAISO shall be used as a basis for determining the quantity and type of each Ancillary Service which the CAISO requires to be available. These requirements and standards apply to all Ancillary Services whether self-provided or procured by the CAISO.

8.2.2 Time-frame For Revising Ancillary Service Standards.

The CAISO shall periodically undertake a review of the CAISO Controlled Grid operation to determine any revision to the Ancillary Services standards to be used in the CAISO Balancing Authority Area. At a minimum the CAISO shall conduct such reviews to accommodate revisions to WECC and NERC standards. The CAISO may adjust the Ancillary Services standards temporarily to take into account, among other things variations in system conditions, Real-Time Dispatch constraints, contingencies, and voltage and dynamic stability assessments. Where practicable, the CAISO will provide notice, via the CAISO Website, of any temporary adjustments to Ancillary Service standards by 6:00 p.m. two (2) days ahead of the Operating Day to which the adjustment will apply. Periodic reviews by the CAISO may

include, but are not limited to: (a) analysis of the deviation between actual and forecast Demand; (b) analysis of patterns of unplanned Generating Unit Outages; (c) analysis of compliance with NERC and WECC criteria and Reliability Standards; (d) analysis of operation during system disturbances; (e) analysis of patterns of shortfalls between Day-Ahead Schedules and actual Generation and Demand; and (f) analysis of patterns of unplanned transmission Outages.

8.2.3 Quantities of Ancillary Services Required and Use of Ancillary Services Regions.

For each of the Ancillary Services, the CAISO shall determine the quantity and location of the Ancillary Service which is required using Ancillary Service Regions as described in Section 8.3.3. For each of the Ancillary Services, the CAISO shall determine the required locational dispersion in accordance with CAISO Controlled Grid reliability requirements. The Ancillary Services provided must be under the direct Dispatch control of the CAISO on a Real-Time Dispatch Interval basis. The CAISO shall determine the quantities it requires as provided for in Sections 8.2.3.1 to 8.2.3.3.

8.2.3.1 Regulation Service.

The CAISO shall maintain sufficient Generating Units immediately responsive to AGC in order to provide sufficient Regulation service to allow the CAISO Balancing Authority Area to meet WECC and NERC control performance criteria by continuously balancing Generation to meet deviations between actual and scheduled Demand and to maintain Interchange Schedules. The quantity of Regulation Down and Regulation Up capacity needed for each Settlement Period of the Day-Ahead Market and the HASP, and in each fifteen (15) minute period in Real-Time shall be determined by the CAISO as a percentage of the applicable CAISO Forecast of CAISO Demand for the Day-Ahead, HASP, and Real-Time Markets. The CAISO's determination is based upon its need to meet the WECC and NERC control performance criteria.

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

8.2.3.2 Spinning and Non-Spinning Reserves.

The CAISO shall maintain minimum contingency Operating Reserve made up of Spinning Reserve and Non-Spinning Reserve in accordance with WECC MORC criteria equal to (a) five percent (5%) of the Demand to be met by Generation from hydroelectric resources (excluding the Demand covered by firm purchases from outside the CAISO Balancing Authority Area) plus seven percent (7%) of the Demand to be met by Generation from other resources (excluding the Demand covered by firm purchases from outside the CAISO Balancing Authority Area), or (b) the single largest Contingency, if this is greater. The CAISO from time to time may determine to use more stringent criteria. In determining the procurement of Operating Reserves, the CAISO will estimate the amount of Operating Reserves associated with firm imports of Energy and will include such estimates in determining the amount of Operating Reserves to be procured in the IFM and HASP and the scheduled imports in RTM. The Spinning Reserve component of Operating Reserve shall be no less than one-half the Operating Reserve required for each Settlement Period of the Day-Ahead Market, each hour in the HASP, and in each fifteen (15) minute period in Real-Time. When the level of Operating Reserve is determined by Demand, the CAISO shall not maintain Operating Reserve with respect to Demand covered by firm purchases from outside the CAISO Balancing Authority Area. In determining its Operating Reserve requirements, the CAISO will estimate the amount of Operating Reserves associated with firm imports of Energy and will include such estimates in determining the Operating Reserve requirements in the IFM, HASP, and RTM. In addition, the CAISO shall maintain Operating Reserve equal to the total amount of: (i) Demand covered by Interruptible Imports scheduled by Scheduling Coordinators for any hour and, (ii) on-demand obligations of Scheduling Coordinators (i.e., the demand obligations to other entities or Balancing Authority Areas that the Scheduling Coordinator is to provide from resources within the CAISO Controlled Grid). Such additional

Operating Reserve is the responsibility of the Scheduling Coordinator either scheduling Interruptible Imports or with on demand obligations and such additional Operating Reserve must be self-provided from the CAISO by Scheduling Coordinators from generation capacity that for the Operating Hour in question has not been paid a RUC Availability Payment, has not received an RMR Dispatch, and is not satisfying a Resource Adequacy Capacity obligation to serve CAISO Balancing Authority Area Load. The specific resource self providing the additional Operating Reserve must have sufficient unloaded capacity available based on Energy and Ancillary Service Schedules in HASP. When the on-demand obligation is called upon to deliver Energy, the CAISO will schedule such Energy and also simultaneously Dispatch the identified resource supporting the on-demand obligation for the same quantity of Energy. Operating Reserves includes both Spinning and Non-Spinning Reserves.

8.2.3.3 Voltage Support.

The CAISO shall determine on an hourly basis for each day the quantity and location of Voltage Support required to maintain voltage levels and reactive margins within WECC and NERC criteria using a power flow study based on the quantity and location of scheduled Demand. The CAISO shall issue daily voltage schedules (Dispatch Instructions) to Participating Generators, Participating TOs and UDCs, which are required to be maintained for CAISO Controlled Grid reliability. All other Generating Units shall comply with the power factor requirements set forth in contractual arrangements in effect on the CAISO Operations Date, or, if no such contractual arrangements exist and the Generating Unit exists within the system of a Participating TO, the power factor requirements applicable under the Participating TO's TO Tariff or other tariff on file with the FERC.

All Participating Generators shall maintain the CAISO specified voltage schedule at the transmission interconnection points to the extent possible while operating within the power factor range specified in

their interconnection agreements or, for Regulatory Must-Take Generation, Regulatory Must-Run Generation and Reliability Must-Run Generation, consistent with existing obligations. For Generating Units that do not operate under one of these agreements, the minimum power factor range will be within a band of 0.90 lag (producing VARs) and 0.95 lead (absorbing VARs) power factors. Participating Generators with Generating Units existing at the CAISO Operations Date that are unable to meet this operating power factor requirement may apply to the CAISO for an exemption. Prior to granting such an exemption, the CAISO shall require the Participating TO or UDC to whose system the relevant Generating Units are interconnected to notify it of the existing contractual requirements for Voltage Support established prior to the CAISO Operations Date for such Generating Units. Such requirements may be contained in CPUC Electric Rule 21 or the Interconnection Agreement with the Participating TO or UDC. The CAISO shall not grant any exemption under this Section from such existing contractual requirements. The CAISO shall be entitled to instruct Participating Generators to operate their Generating Units at specified points within their power factor ranges. Participating Generators shall receive no compensation for operating within these specified ranges.

If the CAISO requires additional Voltage Support, it shall procure this either through Reliability Must-Run Contracts or, if no other more economic sources are available, by instructing a Generating Unit to move its MVar output outside its mandatory range. Only if the Generating Unit must reduce its MW output in order to comply with such an instruction will it be compensated in accordance with Section 8.5.6.2.

All Loads directly connected to the CAISO Controlled Grid shall maintain reactive flow at grid interface points within a specified power factor band of 0.97 lag to 0.99 lead. Loads shall not be compensated for the service of maintaining the power factor at required levels within the bandwidth. A UDC interconnecting with the CAISO Controlled Grid at any point other than a Scheduling Point shall be subject to the same power factor requirement.

The power factor for both the Generating Units and Loads shall be measured at the interconnection point with the CAISO Controlled Grid. The CAISO will develop and will be authorized to levy penalties against Participating Generators, UDCs or Loads whose Voltage Support does not comply with the CAISO's requirements. The CAISO will establish voltage control standards with UDCs and the operators of other Balancing Authority Areas and will enter into operational agreements providing for the coordination of actions in the event of a voltage problem occurring.

Wheeling Through and Wheeling Out transactions may also be subject to a reactive charge as developed by the CAISO. If the CAISO shall determine that a reactive charge should be payable at a future date, it shall, subject to FERC acceptance and approval, publish annually the Voltage Support obligations and applicable charges for Wheeling Through and Wheeling Out transactions at Scheduling Points. The obligations shall be predetermined by the CAISO based on the estimated amount of the Wheeling Through and Wheeling Out transactions each year.

8.2.3.4 Black Start Capability.

The CAISO shall determine the amount and location of Black Start Generation it requires through contingency studies that are used as the basis of the CAISO's emergency plans. The studies shall specify:

- (a) the initiating disturbance;
- (b) the magnitude of the Outage, including the extent of the Outage (local area, CAISO Controlled Grid, or WECC), the assumed status of Generation after the initiating disturbance, the status of interconnections, the system Demand level at the time of the disturbance, the interconnection support, and assumptions regarding the availability of support from other utilities to help restore Generation and Demand;
- (c) the Generator performance including a percentage of Black Start units (to be determined by the CAISO) which are expected to fail to start, and;
- (d) expected transmission system damage.

The CAISO shall also specify the following Load restoration performance goals:

- (i) Black Start unit startup and connection times;
- (ii) CAISO Controlled Grid restoration times; and
- (iii) Load restoration times.

Scheduling Coordinators shall provide the CAISO with their Load restoration time requirements for any Loads that provide emergency services.

8.2.3.4.1 Black Start Units.

The CAISO will select Black Start capacity in locations where adequate transmission capacity can be made readily available (assuming no transmission damage) to connect the Black Start Generating Unit to the station service bus of a Generating Unit designated by the CAISO. Black Start Generating Units:

- (a) must be located in the CAISO Balancing Authority Area;
- (b) may be located anywhere in the CAISO Balancing Authority Area provided that the Black Start resource is capable of meeting the CAISO performance requirements for starting and interconnection to the CAISO Controlled Grid; but
- (c) must be dispersed throughout the CAISO Balancing Authority Area.

8.2.3.4.2 Black Start Services.

- (a) All Participating Generators with Black Start Generating Units must satisfy technical requirements specified by the CAISO.
- (b) The CAISO shall from time to time undertake performance tests, with or without prior notification.

- (c) The CAISO shall have the sole right to determine when the operation of Black Start Generating Units is required to respond to conditions on the CAISO Controlled Grid.
- (d) If the CAISO has intervened in the market for Energy and/or Ancillary Services pursuant to Section 7.7.4, the price paid by the CAISO for Black Start services shall be sufficient to permit the relevant Participating Generator to recover its costs over the period that it is directed to operate by the CAISO.
- (e) If a Black Start Generating Unit fails to achieve a Black Start when called upon by the CAISO, or fails to pass a performance test administered by the CAISO, the Market Participant that has contracted to supply Black Start service from the Generating Unit shall re-pay to the CAISO any reserve payment(s) that it has received since the administration of the last performance test or the last occasion upon which it successfully achieved a Black Start when called upon by the CAISO, whichever is the shorter period.

8.2.3.5 Ancillary Service Substitution.

The CAISO, whenever possible, will increase its purchases of an Ancillary Service that can substitute for another Ancillary Service, when doing so is expected to reduce its total cost of procuring Ancillary Services while meeting reliability requirements. The substitution described in this section can only occur with the purchase of bid-in Ancillary Services; substitution may not involve Self-Provided Ancillary Services. The CAISO will make such adjustments in accordance with the following principles:

- (a) The Regulation requirement must be satisfied only by Regulation Bids for resources qualified to provide Regulation;
- (b) Additional Regulation Up capacity can be used to satisfy requirements for Spinning Reserve, or Non-Spinning Reserve;

- (c) Regulation Up and Spinning Reserve requirements must be collectively satisfied by the combination of Regulation Up and Spinning Reserve Bids. Spinning Reserve and Regulation may be provided as separate services from the same Generating Unit, provided that the sum of Spinning Reserve and Regulation Up provided is not greater than the maximum Ramp Rate of the Generating Unit (MW/minute) times ten (10);
- (d) Additional Regulation Up and Spinning Reserve capacity can be used to satisfy requirements for Non-Spinning Reserve.
- (e) Regulation Up, Spinning Reserve, and Non-Spinning Reserve requirements must be collectively satisfied by the combination of Regulation Up, Spinning Reserve and Non-Spinning Reserve Bids; and
- (f) Total MW purchased from the Regulation Up, Spinning Reserve, and Non-Spinning Reserve markets will not be changed by this Section 8.2.3.5; and
- (g) Regulation Energy resulting from Regulation that substituted for another Ancillary Service continues to be treated as Regulation Energy regardless of for what service it substituted.

8.3 Procurement of Ancillary Services, Certification and Testing Requirements for Providers of Ancillary Services, and Time-frame For Contracting for Ancillary Services.

8.3.1 Procurement of Ancillary Services.

The CAISO shall operate competitive Day-Ahead, HASP, and Real-Time Markets to procure Ancillary Services. The Security Constrained Unit Commitment (SCUC) and Security Constrained Economic Dispatch (SCED) applications used in the Integrated Forward Market (IFM), HASP, and the Real-Time Market (RTM) shall calculate optimal resource commitment, Energy, and Ancillary Services Awards and Schedules at least cost to End-Use Customers consistent with maintaining System Reliability. Any

Scheduling Coordinator representing Generating Units, System Units, Loads or imports of System Resources may submit Bids into the CAISO's Ancillary Services markets provided that it is in possession of a current certificate for the Generating Units, System Units, imports of System Resources or Loads concerned. Regulation Up, Regulation Down, and Operating Reserves necessary to meet CAISO requirements not met by self-provision will be procured by the CAISO as described in this CAISO Tariff. The amount of Ancillary Services procured in the IFM and HASP and in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand plus HASP Intertie Schedule for the Operating Hour net of (i) Self-Provided Ancillary Services from Generating Units internal to the CAISO Balancing Authority Area and Dynamic System Resources certified to provide Ancillary Services and (ii) Ancillary Services self-provided pursuant to an ETC, TOR or Converted Right. The CAISO will manage both CAISO procured and Self-Provided Ancillary Services as part of the Real-Time Dispatch. In the Day-Ahead Market, the CAISO procures one-hundred percent (100%) of its Ancillary Service requirements based on the Day-Ahead Demand Forecast net of Self-Provided Ancillary Services. After the Day-Ahead Market, the CAISO procures additional Ancillary Services needed to meet system requirements from: (a) imports or System Resources in the HASP, and (b) Generation internal to the CAISO Balancing Authority Area in the Real-Time Market. The amount of Ancillary Services procured in the HASP and in the Real-Time Market is based upon the CAISO Forecast of CAISO Demand for the Operating Hour net of Self-Provided Ancillary Services.

The CAISO procurement of Ancillary Services from imports or System Resources in the HASP is for the entire Operating Hour. The procurement of Ancillary Services from Generation internal to the CAISO Balancing Authority Area for the Real-Time Market is for a fifteen (15) minute time period. The CAISO's procurement of Ancillary Services from imports or System Resources in the HASP and from Generating Units for the Real-Time Market is based on the Ancillary Service Bids submitted in the HASP.

As of the CAISO Operations Date, the CAISO will contract for long-term Voltage Support service with owners of Reliability Must-Run Units under Reliability Must-Run Contracts. Black Start capability will initially be procured by the CAISO through individual contracts with Scheduling Coordinators for Reliability Must-Run Units and other Generating Units which have Black Start capability. These requirements and standards apply to all Ancillary Services whether self-provided or procured by the CAISO.

8.3.2 Procurement Not Limited to CAISO Balancing Authority Area.

The CAISO will procure Spinning Reserves and Non-Spinning Reserves from Generating Units operating within the CAISO Balancing Authority Area and from imports of System Resources. Scheduling Coordinators are allowed to bid Regulation from resources located outside the CAISO Balancing Authority Area by dynamically scheduling such resources. Each System Resource used to bid Regulation must comply with the Dynamic Scheduling Protocol in Appendix X. When bidding to supply Ancillary Services in the IFM, HASP or RTM, imports compete for use of Intertie transmission capacity when the requested use is in the same direction, e.g., imports of Ancillary Services compete with Energy on Interties in the import direction and exports of Ancillary Services (i.e., on demand obligations) compete with Energy on Interties in the export direction. To the extent there is Congestion, imports of Ancillary Services will pay Congestion costs in the IFM, HASP and RTM markets pursuant to Section 11.

8.3.3 Ancillary Service Regions and Regional Limits.

The CAISO will procure Ancillary Services using Ancillary Service Regions and Ancillary Service Sub-Regions. There are two Ancillary Services Regions and eight Ancillary Service Sub-Regions. The two Ancillary Service Regions are the System Region (i.e., the CAISO Balancing Authority Area) and the Expanded System Region (i.e., the System Region and Intertie Scheduling Points with adjacent

Balancing Authority Areas). As defined by a Business Practice Manual, the eight identified Ancillary Service Sub-Regions are (1) the South of Path 15 Sub-Region, (2) the Expanded South of Path 15 Sub-Region, (3) the South of Path 26 Sub-Region, (4) the Expanded South of Path 26 Sub-Region, (5) the North of Path 15 Sub-Region, (6) the Expanded North of Path 15 Sub-Region, (7) the North of Path 26 Sub-Region, and (8) the Expanded North of Path 26 Sub-Region. The eight Ancillary Service Sub-Regions are embedded within either the System Region or the Expanded System Region. The CAISO may use Ancillary Service Sub-Regions within the System Region or the Expanded System Region to ensure appropriate distribution of the Ancillary Services procured for the CAISO Balancing Authority Area. The definition of the Expanded System Region, the System Region, and the eight Sub-Regions shall apply collectively to the following Ancillary Services: Regulation Up, Regulation Down, Spinning Reserves and Non-Spinning Reserves.

8.3.3.1 Use of Ancillary Service Regions and Ancillary Service Regional Limits.

Within the Expanded System Region, the System Region, and the Sub-Regions, the CAISO may establish limits on the amount of Ancillary Services that can be provided from each region or can be provided within each region. When used, these Ancillary Service Regional Limits identify either a maximum or a minimum (or both a maximum and a minimum) amount of Ancillary Services to be obtained within the region. The minimum Ancillary Service limit in the Expanded System Region shall be the quantities of each Ancillary Service required to meet the WECC and NERC requirements for the CAISO Balancing Authority Area. The CAISO may establish a restriction on the amount of Ancillary Services to be procured from outside the CAISO Balancing Authority Area by establishing a minimum limit for the System Region.

8.3.3.2 Criteria For Use of Ancillary Service Regions and Sub-Regions.

The CAISO's use of an Ancillary Service Sub-Region occurs when the CAISO establishes a minimum or maximum limit for that Sub-Region. The CAISO's use of minimum and maximum procurement limits for Ancillary Services help to ensure that the Ancillary Services required in the CAISO Balancing Authority Area are dispersed appropriately throughout the CAISO Balancing Authority Area and accurately reflect the system topology and deliverability needs. The factors the CAISO will look to in determining whether to establish or change minimum or maximum limits, include but are not limited to, the following: (a) the CAISO Forecast of CAISO Demand, (b) the location of Demand within the Balancing Authority Area, (c) information regarding network and resource operating constraints that affect the deliverability of Ancillary Services into or out of an Ancillary Service Region, (d) the locational mix of generating resources, (e) generating resource Outages, (f) historical patterns of transmission and generating resource availability, (g) regional transmission limitations and Constraints, (h) transmission Outages, (i) Available Transfer Capability, (j) DA Schedules or HASP Intertie Schedules, (k) whether any Ancillary Services provided from System Resources requiring a NERC tag fail to have a NERC tag, and (l) other factors affecting System Reliability. Ancillary Services procured within a Sub-Region count toward satisfying the Ancillary Service requirements for the System Region or the Expanded System Region.

8.3.3.3 Notice to Market Participants.

Pursuant to Section 6.5.2.3.3, the CAISO will publish forecasted Ancillary Service requirements, regional constraints, and the minimum and/or maximum Ancillary Service Regional Limits for the Ancillary Service Regions and any Sub-Regions by 6:00p.m. prior to the Day-Ahead Market (two days prior to the Operating Day). After the completion of the DAM for a given Trading Day, the CAISO will publish the limits that were used in the DAM. If prior to the close of the HASP for a Trading Hour the CAISO makes a substantial change to a minimum and/or maximum limit for an Ancillary Service Region or Sub-Region, it

will issue a Market Notice as soon as reasonably practicable after the occurrence of the circumstances that led to the change. After the close of the HASP for a Trading Hour, the CAISO will publish the limits that were used in the HASP.

8.3.3.4 Establishment of New Ancillary Service Regions or Sub-Regions.

The CAISO will consider adjusting the boundaries of the existing Ancillary Service Regions or creating a new Ancillary Service Region through a stakeholder process if: (a) there is a persistent difficulty in obtaining an appropriate distribution of Ancillary Services in the CAISO Balancing Authority Area using market procurement mechanisms, and (b) adjusting the boundaries of the existing Ancillary Service Regions or creating a new Ancillary Service Region would reduce the persistent difficulty in obtaining an appropriate distribution of Ancillary Services in the CAISO Balancing Authority Area using market procurement mechanisms. Factors that would affect the CAISO's determination to consider adjusting the boundaries of the existing Ancillary Service Regions or creating a new Ancillary Service Region include, but are not limited to operational reliability needs, the pattern of the growth of Demand in the CAISO Balancing Authority Area, the addition of new generating resources, the retirement of existing generating resources, the addition of new transmission facilities, changes in regional transmission limitations, changes in Available Transfer Capability, and extended transmission or generating resource Outages. If the CAISO considers adjusting the boundaries of the existing Ancillary Service Regions or creating a new Ancillary Service Region, the CAISO will conduct an analysis to determine whether the adjustments being considered create market power issues in either the new Ancillary Service Regions being considered or the pre-existing Ancillary Service Regions. The CAISO's analysis will be included in the stakeholder process and stakeholders will be able to comment on any new market power mitigation measures proposed for the CAISO's procurement of Ancillary Services.

8.3.3.5 Use of the Full Network Model and Procurement of Ancillary Services.

The Full Network Model and the SCUC application optimize the provision of Ancillary Services and Energy in order to meet Ancillary Service requirements and Energy requirements. The Full Network Model incorporates Transmission Losses and models and enforces all network constraints, which are reflected in the Ancillary Services Awards as well as the other results from each of the CAISO Market Processes. The Ancillary Service requirements, the definition of Ancillary Service Regions and Ancillary Service Sub-Regions, and any minimum or maximum limit that is used within an Ancillary Service Region or Ancillary Service Sub-Region are all inputs to the Full Network Model and are incorporated into the CAISO Market Processes.

8.3.4 Certification and Testing Requirements.

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

from resources including Loads, Generating Units, and System Units, which have been certified and tested by the CAISO using the process defined in Part D of Appendix K. Black Start capability may only be provided from Generating Units which have been certified and tested by the CAISO using the process defined in Part E of Appendix K. CAISO certification to provide Ancillary Services may be revoked by the CAISO under the provisions of this CAISO Tariff, including Appendix K.

8.3.5 The CAISO shall procure Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve on a daily, hourly and Real-Time basis in the IFM, HASP and RTM respectively. The CAISO shall procure Ancillary Services on a longer-term basis pursuant to Section 42.1.3 if necessary to meet Reliability Criteria. The CAISO Governing Board must approve all long-term contracts. The CAISO shall contract for Voltage Support annually (or for such other period as the CAISO may determine is economically advantageous) and on a daily or hourly basis as required to maintain System Reliability. The CAISO shall contract annually (or for such other period as the CAISO may determine is economically advantageous) for Black Start Generation.

8.3.6 Market-Based Prices.

Public utilities under the FPA must submit Bids for Ancillary Services capped at FERC authorized cost-based rates unless and until FERC authorizes different pricing. Public utilities under the FPA shall seek FERC Ancillary Services rate approval on bases consistent with the CAISO time-frame for contracting for each Ancillary Service (hourly rate for some Ancillary Services, annual rate or otherwise for other Ancillary Services) so that cost-based Bids and market-based Bids for each service shall be on comparable terms. All other entities may use market-based rates not subject to any restrictions apart from those found in this CAISO Tariff. Public utilities under the FPA which have not been approved to bid at market-based rates will not be paid above their cost-based Bid for the Ancillary Service concerned even if the relevant Market Clearing Price is higher.

8.3.7 Bidding Requirements, Including Submission to Self-Provide an Ancillary Service.

Scheduling Coordinators may submit Bids or Submissions to Self-Provide an Ancillary Service consistent with the rules specified in Section 30 and any further requirements in this Section 8.3.7. Scheduling Coordinators may submit Bids or Submissions to Self-Provide an Ancillary Service from resources located within the CAISO Balancing Authority Area or Dynamic System Resources certified to provide Ancillary Services, submit Bids for Ancillary Services from resources located outside the CAISO Balancing Authority Area, or specify Inter-SC Trades of Ancillary Services. Ancillary Services in the Day-Ahead Market, in the HASP, and in the Real-Time Market are comprised of the following: Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve. Each Generating Unit (including Physical Scheduling Plants), System Unit, Participating Load, or System Resource for which a Scheduling Coordinator wishes to submit Ancillary Service Bids must meet the requirements set forth in this CAISO Tariff. The same resource capacity may be offered into more than one CAISO Ancillary Service auction at the same time. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Service can be submitted up to seven (7) days in advance. Ramp Rates will be only used by the CAISO for procuring capacity associated with the specific Ancillary Services. The CAISO will issue Real-Time Dispatch Instructions in the Real-Time Market for the Energy associated with the awarded capacity based upon the applicable Operational Ramp Rate submitted with the single Energy Bid Curve in accordance with Section 30.10. There is no ability to procure Ancillary Services for export. To the extent a Scheduling Coordinator has an on-demand obligation to serve loads outside the CAISO Balancing Authority Area, it can do so provided that (1) it is using export transmission capacity available in Real-Time, and (2) the resource capacity providing Energy to satisfy the on-demand obligation is not under an RMR Contract or Resource Adequacy Capacity obligation, and has not been paid a RUC Availability Payment for the Trading Hour.

8.3.7.1 Requirement for Imports of Spinning or Non-Spinning Reserves.

Scheduling Coordinators may submit Bids for imports of Spinning Reserve, or Non-Spinning Reserve from System Resources located outside the CAISO Balancing Authority Area including Dynamic System Resources, where technically feasible and consistent with WECC criteria; and provided that such Scheduling Coordinators have certified to the CAISO their ability to deliver the service to the point of interchange with the CAISO Balancing Authority Area (including with respect to their ability to make changes, or cause such changes to be made, to Interchange Schedules during any interval of a Settlement Period at the discretion of the CAISO).

8.3.7.2 Requirement for Imports of Regulation.

Scheduling Coordinators may bid imports of Regulation from System Resources located outside the CAISO Balancing Authority Area, where technically feasible and consistent with WECC criteria by dynamic scheduling; provided that the operator of the Balancing Authority Area in which the System Resources are located has entered into an agreement with the CAISO for interconnected Balancing Authority Area operations; and provided that such Scheduling Coordinator and the operator of the Balancing Authority Area in which the resources are located have been certified by the CAISO as to their ability to dynamically adjust Interchange Schedules based on control signals issued by the CAISO anytime during a Settlement Period at the discretion of the CAISO. Such certification shall include a demonstration of their ability to support the dynamic Interchange of Regulation service based on CAISO control signals received on dedicated communications links (either directly or through EMS computers) for CAISO computer control and telemetry to provide this function in accordance with CAISO standards and procedures posted on the CAISO Website.

8.3.8 Procurement of Voltage Support.

As of the CAISO Operations Date, the CAISO will contract for Voltage Support service with the owners of Reliability Must-Run Units. Payments for public utilities under the FPA shall be capped at the FERC authorized cost-based rates unless and until FERC authorizes different pricing. The CAISO shall pay owners of Reliability Must-Run Units for long-term Voltage Support through their Scheduling Coordinators.

In addition, any Participating Generator who is producing Energy shall, upon the CAISO's specific request, provide reactive energy output outside the Participating Generator's Voltage Support obligation defined in Section 8.2.3.3.

The CAISO shall select Participating Generator's Generating Units which have been certified for Voltage Support to provide this additional Voltage Support. Subject to any locational requirements, the CAISO shall select the least costly Generating Units from a computerized merit order stack to back down to produce additional Voltage Support in each location where Voltage Support is needed.

The CAISO shall pay to the Scheduling Coordinator for that Participating Generator the opportunity cost of reducing Energy output to enable reactive energy production. This opportunity cost shall be:

Max {0, LMP - Generating Unit Bid price} x reduction in Energy output (MW).

If necessary, the CAISO shall develop a regulatory cost-based determination of marginal operating cost to be used in place of the Generating Unit Bid price.

8.3.9 Black Start Capability and Energy Output.

As of the CAISO Operations Date, the CAISO will contract for Black Start capability and Energy with owners of Reliability Must-Run Units and Black Start Generators. Public utilities under the FPA will be paid rates capped at the FERC authorized cost base rates unless and until FERC authorizes different pricing.

The CAISO shall pay owners of Reliability Must-Run Units for Black Start Energy output through their Scheduling Coordinators. The CAISO shall pay Black Start Generators for Black Start Energy output directly.

8.4 Technical Requirements for Providing Ancillary Services.

All Generating Units, System Units, Participating Loads and System Resources providing Ancillary Services shall comply with the technical requirements set out in Sections 8.4.1 to 8.4.3 below relating to their operating capabilities, communication capabilities and metering infrastructure. No Scheduling Coordinator shall be permitted to submit a Bid to the CAISO for the provision of an Ancillary Service from a Generating Unit, System Unit, Participating Load or System Resource, or to provide a Submission to Self-Provide an Ancillary Service from a Generating Unit, System Unit, Participating Load, or Dynamic System Resource, unless the Scheduling Coordinator is in possession of a current certificate issued by the CAISO confirming that the Generating Unit, System Unit, Participating Load or System Resource complies with the CAISO's technical requirements for providing the Ancillary Service concerned.

Scheduling Coordinators can apply for Ancillary Services certificates in accordance with the requirements for considering and processing such applications in Appendix K and the CAISO's Operating Procedures. The CAISO shall have the right to inspect Generating Units, Participating Loads or the individual resources comprising System Units and other equipment for the purposes of the issue of a certificate and periodically thereafter to satisfy itself that its technical requirements continue to be met. If at any time the CAISO's technical requirements are not being met, the CAISO may withdraw the certificate for the Generating Unit, System Unit, Participating Load or System Resource concerned.

8.4.1 Operating Characteristics Required to Provide Ancillary Services.

Each Generating Unit, System Unit, Participating Load or System Resource for which a Scheduling Coordinator wishes to submit a Bid to provide Ancillary Services must comply with the requirements for the specific Ancillary Service as set forth in Appendix K and the Business Practice Manual. The

requirements in Appendix K and the Business Practice Manuals include Ancillary Service control, capability and availability standards. The requirements also involve the following operating characteristics:

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

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

8.4.1.1 Regulation.

A Generating Unit offering Regulation must have the following operating characteristics and technical capabilities:

- (a) it must be capable of being controlled and monitored by the CAISO Energy Management System (EMS) by means of the installation and use of a standard CAISO direct communication and direct control system, a description of which and criteria for any temporary exemption from which, the CAISO shall publish on the CAISO Website;

- (b) it must be capable of achieving at least the Ramp Rates (increase and decrease in MW/minute) stated in its Bid for the full amount of Regulation capacity offered;
- (c) the Regulation capacity offered must not exceed the maximum Ramp Rate (MW/minute) of that unit times a value within a range from a minimum of ten (10) minutes to a maximum of thirty (30) minutes, which value shall be specified by the CAISO and published on the CAISO Website;
- (d) the Generating Unit to CAISO Control Center telemetry must in a manner meeting CAISO standards include indications of whether the Generating Unit is on or off AGC at the Generating Unit terminal equipment;
- (e) the Generating Unit must be capable of the full range of movement within the amount of Regulation capability offered without manual Generating Unit operator intervention of any kind; and
- (f) each Participating Generator must ensure that the CAISO EMS control and related SCADA equipment for its generating facility are operational throughout the time period during which Regulation is required to be provided.

8.4.1.2 Voltage Support.

A Generating Unit providing Voltage Support must be under the control of generator automatic voltage regulators throughout the time period during which Voltage Support is required to be provided. A Generating Unit may be required to operate underexcited (absorb reactive power) at periods of light system Demand to avoid potential high voltage conditions, or overexcited (produce reactive power) at periods of heavy system Demand to avoid potential low voltage conditions.

8.4.2 Ancillary Service Control Standards.

The providers of Ancillary Services under this Tariff must comply with the following control standards:

- (a) Regulation. The Area Control Error will be calculated by the CAISO Energy Management System. Control signals will be sent from the CAISO EMS to raise or lower the output of Generating Units or System Resources providing Regulation when ACE exceeds the allowable CAISO Balancing Authority Area dead band for ACE;
- (b) Spinning Reserve and Non-Spinning Reserve. Each provider of Spinning Reserve or Non-Spinning Reserve must be capable of receiving a Dispatch Instruction within one (1) minute from the time the CAISO Control Center elects to Dispatch the Spinning Reserve resource or Non-Spinning Reserve resource and must ensure that its resource can be at the Dispatched operating level within ten (10) minutes after issue of the Dispatch Instruction;
- (c) Voltage Support. Generating Units providing Voltage Support must have automatic voltage regulators which can correct the bus voltages to be within the prescribed Voltage Limits and within the machine capability in less than one (1) minute; and
- (d) Black Start. (i) Voice Communications: each supplier of Black Start capability must ensure that normal and emergency voice communications are available to permit effective Dispatch of the Black Start capability; (ii) CAISO Confirmation: No Load served by the Black Start Generating Unit or by any designated Generating Unit or by any transmission facility used for Black Start service may be restored until the CAISO has confirmed that the need for such service has passed.

8.4.3 Ancillary Service Capability Standards.

The providers of Ancillary Services under this CAISO Tariff must comply with the following capability standards:

- (a) Spinning Reserve and Non-Spinning Reserve Capability. Each Generating Unit or external import of a System Resource scheduled to provide Spinning Reserve and each resource providing Non-Spinning Reserve must be capable of converting the full capacity reserved to Energy production within ten (10) minutes after the issue of the Dispatch Instruction by the CAISO, and of maintaining that output or scheduled Interchange for at least two (2) hours.
- (b) Black Start. Each Black Start Generating Unit must be able to start up with a dead primary and station service bus within ten (10) minutes of issue of a Dispatch Instruction by the CAISO requiring a Black Start. Each Black Start Generating Unit must provide sufficient reactive capability to keep the energized transmission bus voltages within emergency Voltage Limits over the range of no load to full load. Each Black Start Generating Unit must be capable of sustaining its output for a minimum period of twelve (12) hours from the time when it first starts delivering Energy.

8.4.4 Ancillary Service Availability Standards.

The providers of Spinning Reserve and Non-Spinning Reserve under this CAISO Tariff must comply with the following availability standards. Each Participating Generator shall ensure: (i) that its Generating Units scheduled to provide Spinning Reserve and Non-Spinning Reserve are available for Dispatch throughout the Settlement Period for which they have been scheduled; and (ii) that its Generating Units scheduled to provide Spinning Reserve are responsive to frequency deviations throughout the Settlement Period for which they have been scheduled.

8.4.5 Communication Equipment.

Unless otherwise authorized by the CAISO, all Scheduling Coordinators wishing to submit an Ancillary Service Bid must have the capability to submit to and receive information from the CAISO's secure communication system. In addition, they must be capable of receiving Dispatch Instructions electronically and they must provide the CAISO with a telephone number, or fax number through which Dispatch Instructions for each Generating Unit, System Unit, Load and System Resource may be given if necessary. The CAISO will determine which method of communication is appropriate; provided that the CAISO will consult with the Scheduling Coordinator, if time permits, and will consider the method of communication then utilized by such Scheduling Coordinator; provided further, that the CAISO shall make the final determination as to the additional communication methods. Participating Generators, owners or operators of Loads, and operators of System Units or System Resources whose resources are scheduled, bid in or under contract, shall ensure that there is a twenty-four (24) hour personal point of contact with the CAISO for the Generating Unit, System Unit, Load or System Resource. A Participating Generator or provider of Curtailable Demand wishing to offer any Ancillary Service must provide a direct ring down voice communications circuit (or a dedicated telephone line available twenty-four (24) hours a day every day of the year) between the control room operator for the Generating Unit or Curtailable Demand providing the Ancillary Service and the CAISO Control Center. Each Participating Generator must also provide an alternate method of voice communications with the CAISO from the control room in addition to the direct communication link required above. Operators of Dynamic System Resources from which Dynamic Schedules or Bids are submitted to the CAISO shall provide communications links meeting CAISO standards for dynamic imports from System Resources. Participating Generators and operators of System Units providing Regulation shall also provide communication links meeting CAISO standards for direct digital control. Operators of System Resources providing Regulation shall provide communications links meeting CAISO standards for imports of Regulation. If any communication system

becomes unavailable, the relevant Participating Generators, operators of System Units, Loads and System Resources and the CAISO shall take immediate action to identify the cause of the interruption and to restore the communication system. A Scheduling Coordinator that has provided a Submission to Self-Provide an Ancillary Service, or has submitted a Bid to provide or contracted for Ancillary Services, shall ensure that the Generating Unit, System Unit, Load or System Resource concerned is able to receive and implement Dispatch Instructions.

8.4.6 Metering Infrastructure.

All Participating Generators, owners or operators of Loads and operators of System Units or System Resources which a Scheduling Coordinator wishes to bid to provide Ancillary Services shall have the metering infrastructure for the Generating Units, System Units, Loads or System Resources concerned which complies with requirements to be established by the CAISO relating to:

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

8.4.6.1 Additional Requirements for Black Start Units.

A Participating Generator who wishes to offer Black Start must ensure that the requirements set out in Appendix D are met in relation to the Generating Units from which Black Start will be offered.

8.5 Time Frame for Submitting and Evaluating Ancillary Services Bids.

All Ancillary Services Bids must be submitted pursuant to the rules provided in Section 30.5.

8.6 Obligations for and Self-Provision of Ancillary Services.

8.6.1 Ancillary Service Obligations.

Each Scheduling Coordinator shall be assigned a share of the total Regulation Down, Regulation Up, Spinning Reserve, and Non-Spinning Reserve requirements by the CAISO, as set forth in Sections 11.10.2, 11.10.3 and 11.10.4, (i.e., a share of the total requirements for each Ancillary Service in the Day-Ahead Market, HASP, and the Real-Time Market). Any references in this CAISO Tariff to Regulation shall be read as referring to Regulation Up or Regulation Down.

8.6.2 Right to Self-Provide.

Each Scheduling Coordinator may choose to self-provide all, or a portion, of its Regulation Up, Regulation Down, Spinning Reserve, and Non Spinning Reserve obligations in the Day-Ahead Market, and, to the extent needed to satisfy CAISO's additional requirement, HASP and Real-Time Market from resources eligible for self-provision. The right to self-provide Ancillary Services from capacity that is under a contractual obligation to provide Energy, including but not limited to capacity subject to an RMR Contract and local Resource Adequacy Resources, shall be conditional; self-provision of Ancillary Services from such capacity will only be permitted to the extent that capacity is not needed for Energy as a result of the MPM-RRD process described in this CAISO Tariff. To self-provide Ancillary Services a Scheduling Coordinator must provide the CAISO with a Submission to Self-Provide an Ancillary Service. Both Ancillary Service Bids and Submissions to Self-Provide an Ancillary Service can be provided to the CAISO for the same Ancillary Service and for the same hour in the same market.

Prior to evaluating Ancillary Service Bids, the CAISO will determine whether Submissions to Self-Provide Ancillary Services are feasible with regard to resource operating characteristics and regional constraints and are qualified to provide the Ancillary Services in the markets for which they were submitted.

If the total Submissions to Self-Provide Ancillary Services exceed the maximum regional requirement for the relevant Ancillary Service in an Ancillary Service Region, the submissions that would otherwise be accepted by the CAISO as feasible and qualified will be awarded on a pro-rata basis among the suppliers offering to self-provide the Ancillary Service up to the amount of the requirement. If a regional constraint imposes a limit on the total amount of Regulation Up, Spinning Reserve, and Non-Spinning Reserve, and the total self-provision of these Ancillary Services in that region exceeds that limit, Self-Provided AS are qualified pro rata from higher to lower quality service in three tiers: Regulation Up first, followed by Spinning Reserve, and then by Non-Spinning Reserve. Following this process, unless a higher quality Self-Provided Ancillary Service in a constrained region is fully qualified, the pro rata allocation in the subsequent lower quality Self-Provided Ancillary Service for that region will be nil. Submissions to Self-Provide Ancillary Services in excess of the maximum regional requirement for the relevant Ancillary Service in an Ancillary Service Region will not be accepted and qualified by the CAISO as Self-Provided Ancillary Services.

The CAISO shall schedule Self-Provided Ancillary Services in the Day-Ahead Market and the RTM and Dispatch Self-Provided Ancillary Services in the Real-Time. To the extent that a Scheduling Coordinator self-provides Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve, the CAISO shall correspondingly reduce the quantity of the Ancillary Services it procures from Bids submitted in the Day-Ahead Market, HASP, and the Real-Time Market. To the extent a Scheduling Coordinator's Self-Provided Ancillary Service for a particular Ancillary Service is greater than the Scheduling Coordinator's obligation for that particular Ancillary Service in a Settlement Interval, the Scheduling Coordinator will receive the user rate for the Self-Provided Ancillary Service for the amount of the Self-Provided Ancillary Service in excess of the Scheduling Coordinator's obligation.

Scheduling Coordinators may trade Ancillary Services so that any Scheduling Coordinator may reduce its Ancillary Services Obligation through purchase of Ancillary Services capacity from another Scheduling Coordinator, or self-provide in excess of its obligation to sell Ancillary Services to another Scheduling Coordinator.

8.6.3 Services Which May Be Self-Provided.

The CAISO shall permit Scheduling Coordinators to self-provide the following Ancillary Services:

- (a) Regulation Up;
- (b) Regulation Down;
- (c) Spinning Reserve; and
- (d) Non-Spinning Reserve.

Submissions to Self-Provide Ancillary Services for Regulation Up and Regulation Down capacity will be rejected if the Energy Bid provided in the submission is outside of the resource's Regulating Range. The CAISO may from time to time add other Ancillary Services to this list as it considers appropriate.

8.6.4 Time Frame for Informing CAISO of Self-Provision.

8.6.4.1 Day-Ahead Schedule.

At the Day-Ahead Market, Scheduling Coordinators shall be required to submit information on Self-Provided Ancillary Services within the time frame stated in Section 30. Failure to submit the required information within the stated time frame for any hour shall lead to the self-provision for that hour being declared invalid by the CAISO.

8.6.4.2 HASP.

In the HASP, Scheduling Coordinators shall be required to submit information on Self-Provided Ancillary Services within the time frame stated in Section 30.1. Failure to submit the required adjusted information within the stated time frame shall lead to the self-provision being declared invalid by the CAISO.

8.6.4.2.3 Information To Be Submitted By Scheduling Coordinators For Each Service.

Scheduling Coordinators electing to self-provide Ancillary Services shall submit the information for each Self-Provided Ancillary Service as described in Section 30.

In the event of an Ancillary Service Inter-SC Trade, the Scheduling Coordinators who are parties to that trade must comply with requirements in Section 28.2.

8.6.4.4 Acceptance of Self-Provided Ancillary Service Submissions.

The CAISO will refuse to accept a Submission to Self-Provide an Ancillary Service to the extent it fails to meet the requirements contained in this CAISO Tariff. In particular, Self-Provided Ancillary Services must satisfy the following conditions:

- (a) the Scheduling Coordinator has a current certificate of technical eligibility for the Generating Units, System Units, Loads or System Resources selected for the Ancillary Services in question;
- (b) to the extent not provided under (a), the Generating Units, System Units, Loads and System Resources have the instrumentation, communication and metering equipment necessary to permit the CAISO to dispatch the offered Ancillary Services and verify that the services have been provided;
- (c) the Bid information provided by the Scheduling Coordinator is deemed to be valid in accordance with Appendix E and other provisions of the CAISO Tariff; and
- (d) the Generating Units, System Units, Loads or System Resources meet the CAISO's locational requirements for the Ancillary Services.

8.7 Scheduling of Units to Provide Ancillary Services.

The CAISO shall provide Scheduling Coordinators with Ancillary Services Awards for the Day-Ahead, HASP and Real-Time Markets. The CAISO shall notify each Scheduling Coordinator no later than 1:00 p.m. of the day prior to the Operating Day of their Ancillary Service Awards and Ancillary Service Schedules for the Day-Ahead Market; no later than one (1) hour prior to the Operating Hour of their Ancillary Services Schedules for Ancillary Services from imports or System Resources in the HASP; and no later than fifteen (15) minutes prior to the Operating Hour in the Real-Time Market. Where long-term contracts are involved, the information may be treated as standing information for the duration of the contract.

Once the CAISO has given Scheduling Coordinators notice of the Day-Ahead Market, HASP and Real-Time Market Ancillary Service Awards and Ancillary Service Schedules, these awards and Schedules represent binding commitments made in the markets between the CAISO and the Scheduling Coordinators concerned, subject to any amendments issued as described above.

8.8 Black Start.

- (a) Black Start shall meet the standards specified for Black Start in this CAISO Tariff and Appendix K; and
- (b) the CAISO will dispatch Black Start Generating Units as required in accordance with the applicable Black Start agreement.

8.9 Verification, Compliance Testing, and Audit of Ancillary Services.

Availability of contracted and Self-Provided Ancillary Services and RUC Capacity shall be verified by the CAISO by unannounced testing of Generating Units, Loads and System Resources, by auditing of response to CAISO Dispatch Instructions, and by analysis of the appropriate Meter Data, or Interchange Schedules. The CAISO may test the capability of any Generating Unit, System Unit, System Resource, external import of a System Resource, Participating Load, or reactive device providing Ancillary Services or RUC Capacity. Participating Generators, owners or operators of Participating Loads, operators of

System Units or System Resources, owners or operators of reactive devices and Scheduling Coordinators shall notify the CAISO immediately whenever they become aware that an Ancillary Service or RUC Capacity is not available in any way. All Participating Generators, owners or operators of Loads, operators of System Units or System Resources and owners or operators of reactive devices shall check, monitor and/or test their system and related equipment routinely to assure availability of the committed Ancillary Services and RUC Capacity. These requirements apply to Ancillary Services whether the Ancillary Services are contracted or self-provided. For a duration specified by the CAISO, the CAISO may suspend the technical eligibility certificate of a Scheduling Coordinator for a Generating Unit, System Unit, Load or System Resource, which repeatedly fails to perform. The CAISO shall develop measures to discourage repeated non-performance on the part of both bidders and self-providers.

8.9.1 Compliance Testing for Spinning Reserve.

Compliance testing for Spinning Reserve is addressed in Section 8.10.2.

8.9.2 Compliance Testing for Regulation.

The CAISO may test the capability of any Generating Unit or System Resource providing Regulation by using the CAISO EMS to move that Generating Unit's or System Resource's output over the full range of its Regulation capacity within a ten-minute period.

8.9.3 Compliance Testing for Non-Spinning Reserve.

8.9.3.1 Compliance Testing of a Generating Unit, System Unit or System Resource.

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

measure the response of the Generating Unit, System Unit or external import of a System Resource to determine compliance with its stated capabilities.

8.9.3.2 Compliance Testing of Curtailable Demand.

The CAISO may test the Non-Spinning Reserve capability of a Load providing Curtailable Demand by issuing unannounced Dispatch Instructions requiring the operator of the Load to report the Curtailable Demand of that Load actually being served by the operator at the time of the instruction. No Load will be disconnected as part of the test.

8.9.4 Compliance Testing for Voltage Support.

8.9.4.1 Compliance Testing of a Generating Unit.

The CAISO may test the Voltage Support capability of a Generating Unit by issuing unannounced Dispatch Instructions requiring the Generating Unit to adjust its power factor outside the specified power factor band of 0.90 lag to 0.95 lead, but within the limits of the Generating Unit capability curve.

8.9.4.2 Compliance Testing of Other Reactive Devices.

The CAISO may test the Voltage Support capability of other reactive devices (shunt capacitors, static var compensators, and synchronous condensers) by issuing unannounced Dispatch Instructions requiring operation of such devices.

8.9.5 Compliance Testing for Black Start.

The CAISO may test the Black Start capability of a Generating Unit by unannounced tests, which may include issuing Dispatch Instructions to start and synchronize the resource, testing of all communications circuits, simulating switching needed to connect the Black Start Generating Unit to the transmission system, and testing the features unique to each facility that relate to Black Start service.

8.9.6 Compliance Testing for RUC Capacity.

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

8.9.7 Consequences of Failure to Pass Compliance Testing.

8.9.7.1 Notification of Compliance Testing Results.

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

8.9.7.2 Penalties for Failure to Pass Compliance Testing.

The Scheduling Coordinator whose resource fails a compliance test shall be subject to the financial penalties provided for in the CAISO Tariff. In addition, the CAISO shall institute the sanctions described in Section 8.9.16.

8.9.8 Performance Audits for Standard Compliance.

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

8.9.9 Performance Audit for Regulation.

The CAISO will audit the performance of a Generating Unit providing Regulation by monitoring its response to CAISO EMS control or, in the case of an external import of a System Resource providing Regulation, by monitoring the dynamic Interchange response to CAISO EMS control around its Set Point within its rated MW/minute capability over the range of Regulation capacity scheduled for the current Settlement Period.

8.9.10 Performance Audit for Spinning Reserve.

The CAISO will audit the performance of a Generating Unit or external import of a System Resource providing Spinning Reserve by auditing its response to Dispatch Instructions and by analysis of Meter Data associated with the Generating Unit. Such audits may not necessarily occur on the hour. A Generating Unit providing Spinning Reserve shall be evaluated on its ability to respond to a Dispatch Instruction, move at the MW/minute capability stated in its Bid, reach the amount of Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO, and respond to system frequency deviations outside the allowed frequency deadband. An external import of a System Resource providing Spinning Reserve shall be evaluated on

its ability to respond to a Dispatch Instruction, move at the MW/minute capability stated in its Bid, reach the amount of Spinning Reserve capacity scheduled for the current Settlement Period within ten (10) minutes of issue of the Dispatch Instruction by the CAISO.

8.9.11 Performance Audit for Non-Spinning Reserve.

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

8.9.12 Performance Audit for Voltage Support.

The CAISO will audit the performance of a resource providing Voltage Support by auditing of its response to Dispatch Instructions, and by analysis of Meter Data associated with the resource. A resource

providing Voltage Support shall be evaluated on its ability to provide reactive support over the stated power factor range of the resource, provide reactive support within the prescribed time periods, and demonstrate the effective function of automatic voltage control equipment for the amount of Voltage Support under the control of the CAISO for the current Settlement Period.

8.9.13 Performance Audit for Black Start.

The CAISO will audit the performance of a Black Start Generating Unit by analysis of Meter Data and other records to determine that the performance criteria relating to the Black Start from that Black Start Generating Unit were met when required.

8.9.14 Performance Audit for RUC Capacity.

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

8.9.15 Consequences of Failure to Pass Performance Audits.

8.9.15.1 Notification of Performance Audit Results.

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

8.9.15.2 Penalties for Failure to Pass Performance Audit.

The Scheduling Coordinator for a provider of RUC Capacity or an Ancillary Service whose resource fails a performance audit shall be subject to the financial penalties provided for in the CAISO Tariff. In addition the sanctions described in Section 8.10 shall come into effect.

8.9.16 Sanctions for Poor Performance.

8.9.16.1 Warning Notice.

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

8.9.16.2 Scheduling Coordinator's Option to Test.

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

8.9.16.3 Duration of Warning Notice.

A warning notice shall continue in effect until:

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

8.9.16.4 Second failure.

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

8.10 Periodic Testing of Units.

The CAISO shall periodically conduct unannounced tests of resources providing RUC Capacity or Ancillary Services. For RUC Capacity the unannounced tests will confirm the ability of the resource to respond to a Dispatch Instruction, start within the designated time delay, move at the MW/minute capability stated in its Bid, reach the amount of RUC Capacity scheduled for the Settlement Period concerned and sustain operation at this level for a sufficient time to assure availability over the specified period. For Ancillary Services the unannounced tests will confirm the ability of such resources to meet the applicable Ancillary Service standard for performance and control. The CAISO may test Generating Units, System Units, Loads and System Resources in the manner described herein. The frequency of testing shall be within such timeframes as are reasonable under all the circumstances. Scheduling Coordinators shall manage the resulting Energy output if notification of testing permits the Energy to be included in a Bid. If a Generating Unit, System Unit, Load, or System Resource fails to meet requirements in a test under this section, the CAISO shall notify the relevant Participating Generator, owner or operator of Loads, System Units or System Resources, or Scheduling Coordinator of such failure as soon as reasonably practicable after the completion of the test. Failure to meet requirements shall lead to the penalties described in Section 8.10.7.

8.10.1 Regulation Up and Regulation Down Reserves.

The CAISO shall continuously monitor the response of a Generating Unit, System Unit, or System Resource to the CAISO's Regulation instructions in order to determine the resource is under direct control of CAISO's Automatic Generation Control system and complies with CAISO's Dispatch Instructions.

8.10.2 Spinning Reserve.

The CAISO shall test the Spinning Reserve capability of a Generating Unit, System Unit or System Resource by issuing unannounced Dispatch Instructions requiring the Generating Unit, System Unit or System Resource to ramp up to its ten (10) minute capability. The CAISO shall measure the response of the Generating Unit, System Unit or System Resource to determine compliance with requirements. Such tests may not necessarily occur on the hour. The Scheduling Coordinator for the Generating Unit, System Unit or System Resource shall be paid pursuant to Section 11.5.6.

8.10.3 Non-Spinning Reserve.

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

8.10.4 Voltage Support.

The CAISO shall monitor a Generating Unit's response to Voltage Support instructions in order to determine compliance with Dispatch Instructions.

8.10.5 Black Start.

The CAISO may test the Black Start capability of a Generating Unit by issuing unannounced Dispatch Instructions requiring the Generating Unit to start on a Black Start basis. The CAISO shall measure the response of the Generating Unit to determine compliance with the terms of the Black Start contract. The Scheduling Coordinator or Black Start Generator as stated in Section 11.10.1.5 for the Generating Unit shall be paid the Generating Unit's contract price for the output under the Black Start test.

8.10.6 RUC Capacity.

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

8.10.7 Penalties for Failure to Pass Tests.

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

be made in the calculation of payments to the Scheduling Coordinator, provided that any such penalty shall be reduced to reflect any adjustment made over the duration of the committed period under Section 8.10.8 or Section 31.5.7.

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

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

8.10.8 Rescission of Payments for Undispatchable, Unavailable, and Undelivered Ancillary Service Capacity.

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

8.10.8.1 Rescission of Payments for Undispatchable Ancillary Service Capacity.

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

8.10.8.2 Rescission of Payments for Unavailable Ancillary Service Capacity.

If the CAISO determines that a Scheduling Coordinator has supplied Uninstructed Imbalance Energy to the CAISO during a Settlement Interval from the capacity of a Generating Unit, Participating Load, System Unit or System Resource that is obligated to supply Spinning Reserve or Non-Spinning Reserve to the CAISO, payments to the Scheduling Coordinator for the Ancillary Service capacity used to supply Uninstructed Imbalance Energy shall be eliminated to the extent of the deficiency, in accordance with the provisions of Section 11.10.9.2.

8.10.8.3 Rescission of Payments for Undelivered Ancillary Service Capacity.

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

8.10.8.4 [NOT USED]

8.10.8.5 [NOT USED]

8.10.8.6 Rescission of Payments for Regulation Up and Regulation Down Capacity.

Payment for Regulation Up and Regulation Down Capacity will be rescinded, in accordance with the provisions of Section 11.10.9, if the resource providing Regulation Up and Regulation Down capacity: (i) is off Regulation or off Automatic Generation Control, (ii) is not running, (iii) is not providing sufficient Regulating Range, (iv) is generating outside the Regulating Range, (v) has a Regulating Range that overlaps with its Forbidden Operating Regions, or (vi) has telemetry equipment that is not available.

8.10.8.7 [NOT USED]

8.10.8.8 [NOT USED]

8.11 Temporary Changes to Ancillary Services Penalties.

8.11.1 Application and Termination.

The temporary change, respecting Ancillary Services penalties, set out in Section 8.11.2 shall continue in effect until such time as the Chief Executive Officer of the CAISO issues a Notice of Full-Scale Operations, posted on the CAISO Website, at <http://www.CAISO.com>, or such other internet address as the CAISO may publish from time to time, specifying the date on which this Section 8.11 shall cease to apply, which date shall be not less than seven (7) days after the Notice of Full-Scale Operations is issued.

8.11.2 For so long as this Section 8.11.2 remains in effect, Scheduling Coordinators shall not be liable for the penalties specified in Sections 8.10.7 and 8.10.8 if, as a result of limitations associated with the CAISO's Congestion Management software, the scheduled output of the resource from which the Scheduling Coordinator has committed to provide an Ancillary Service is adjusted by the CAISO to a level that conflicts with the Scheduling Coordinator's Ancillary Service capacity commitments, thereby resulting in a failed availability test.

9. OUTAGES.

9.1 Coordination and Approval for Outages.

The CAISO shall have authority to coordinate and approve Outages and returns to service of all facilities comprised in the CAISO Controlled Grid and Reliability Must-Run Units in accordance with Section 9.3.

The CAISO will coordinate and approve Maintenance Outages and coordinate responses to Forced Outages of all transmission facilities in the CAISO Controlled Grid and Reliability Must-Run Units in accordance with this Section 9. Any scheduled Outages that are cancelled by CAISO Real-Time operations due to system requirements must be rescheduled with the CAISO Outage Coordination Office in accordance with Section 9.3.

9.2 Responsibility for Authorized Work on Facilities.

The CAISO shall have authority to approve requests by Participating TOs to work on all energized transmission equipment under the Operational Control of the CAISO.

9.3 Coordination of Outages and Maintenance.

9.3.1 CAISO Outage Coordination Office.

The CAISO Outage Coordination Office shall be established by the CAISO and shall coordinate and approve Maintenance Outages of: (i) all facilities that comprise the CAISO Controlled Grid and (ii) Participating Generators. The CAISO shall additionally coordinate and approve Outages required for new construction and for work on de-energized and live transmission facilities (e.g., relay maintenance or insulator washing) and associated equipment. The CAISO Outage Coordination Office will be operational Monday through Friday, except holidays. The Outage Coordination Office is located in Folsom. Each office and the areas of responsibility of that office are detailed in the most recent version of the applicable CAISO Operating Procedures, which are posted on the CAISO Website.

9.3.1.1 Coordinating Maintenance Outages of UDC Facilities.

Each UDC and the Participating TO with which it is interconnected shall coordinate their Outage requirements that will have an effect on their transmission interconnection prior to the submission by that Participating TO of its Maintenance Outage requirements under Section 9.3.

9.3.1.2 Coordinating Maintenance Outages of CDWR-SWP Participating Generating Units.

The provisions of Section 9.3 shall apply to CDWR-SWP Participating Generating Units. The submission by CDWR-SWP of an Outage schedule, Outage request, or request to change or cancel an Approved Maintenance Outage, and the CAISO's treatment of Outage schedules and requests relating to CDWR-SWP Participating Generating Units, shall be in accordance with Section 9.3, except as otherwise provided in Section 9.3.1.2.1.

9.3.1.2.1 Coordinating Maintenance Outages of CDWR-SWP.

- (a) In each Outage schedule, Outage request, and request to change or cancel an Approved Maintenance Outage that CDWR-SWP submits to the CAISO for a CDWR-SWP Participating Generating Unit, CDWR-SWP will state whether CDWR-SWP has determined that the proposed maintenance work, and/or the timing of the Outage, is necessary in order for CDWR-SWP to:
 - (i) Comply with various federal and state legal and regulatory requirements that govern stream flow, water temperature, water quality and quantity, flood control space, after-bay, reservoir, or lake elevation, and other environmental and wildlife constraints ("CDWR-SWP Statutory Compliance Outage"); or
 - (ii) Maintain reliable operations of critical water infrastructure and not impair its ability to satisfy water delivery or conservation requirements ("CDWR-SWP Water System Reliability Outage").

- (b) CDWR-SWP will identify each CDWR-SWP Statutory Compliance or Water System Reliability Outage by designating the Outage with an appropriate cause code in the Outage schedule, Outage request, or request to change or cancel an Approved Maintenance Outage and will provide a description of the requirement or constraint. If the designation of an Outage changes, or the Outage no longer meets the criteria of Section 9.3.1.2.1(a)(i) or (ii), CDWR-SWP will notify the CAISO about this change in status as soon as practical but no more than one (1) Business Day after it occurs.
- (c) The CAISO will not deny, cancel, or reschedule a CDWR-SWP Statutory Compliance or Water System Reliability Outage that CDWR-SWP submits to the CAISO in an Outage schedule, Outage request, or request to change or cancel an Approved Maintenance Outage, provided that the Outage request is timely, designates the Outage as a CDWR-SWP Statutory Compliance or Water System Reliability Outage by an appropriate cause code and includes a description of the requirement or constraint.
- (d) The CAISO may contact CDWR-SWP to inquire whether the timing of a CDWR-SWP Statutory Compliance or Water System Reliability Outage can be changed. CDWR-SWP may agree to the change or, after making best efforts to accommodate the change, may notify the CAISO that the change is not feasible as determined by CDWR-SWP in its sole discretion due to the described requirement or constraint. In the event that CDWR-SWP determines that changing the timing of the Outage is not feasible due to the described requirement or constraint, the CAISO will not deny, cancel, or reschedule that CDWR-SWP Statutory Compliance or Water System Reliability Outage.

- (e) The CAISO will process any Outage that CDWR-SWP submits in an Outage schedule, Outage request, or request to change or cancel an Approved Maintenance Outage, that is not timely, does not contain a cause code identifying the Outage as a CDWR-SWP Statutory Compliance or Water System Reliability Outage or does not include a description of the requirement or constraint, under the otherwise applicable provisions of Section 9.3 and CAISO Operating Procedures.

9.3.2 Requirement for Approval.

An Operator shall not take: (i) facilities that comprise the CAISO Controlled Grid or (ii) Generating Units of Participating Generators out of service for the purposes of planned maintenance or for new construction or other work except as approved by the CAISO Outage Coordination Office. The information relating to each Maintenance Outage submitted by a Participating Generator in accordance with Section 9.3.5 or by a Participating TO in accordance with Section 9.3.5 constitutes a request for a long-range Maintenance Outage and is not considered an Approved Maintenance Outage until the CAISO has notified the Participating Generator of such approval pursuant to Section 9.3.6 or the Participating TO pursuant to Section 9.3.6.

9.3.3 Requests for Outages in Real-Time Operation.

Requests for Outages of: (i) facilities that comprise the CAISO Controlled Grid or (ii) Generating Units of Participating Generators in Real-Time operation shall be made by the Operator to the CAISO Control Center. The CAISO will not approve any Outage request made within seventy-two (72) hours of the requested Outage start time unless: (i) the requested Outage could not have been reasonably foreseen and scheduled through the Outage coordination process provided in Section 9.3; and (ii) the requested Outage will not compromise CAISO Controlled Grid reliability.

9.3.4 Single Point of Contact.

Requests for approvals and coordination of all Maintenance Outages (consistent with Section 9.3.1) will be through a single point of contact between the CAISO Outage Coordination Office and each Operator. The Operator shall provide in its initial request and specify from time to time the identification of the single point of contact along with primary and alternate means of communication pursuant to the detailed procedures referred to in Section 9.3.6.

9.3.5 Method of Communications.

The primary method of communication from an Operator to the CAISO with regard to maintenance and Outage planning will be as described in the Operating Procedure on the CAISO Website and in the applicable Business Practice Manual. Emergency capabilities, to be used only as a back-up if the primary communication method is unavailable, will include:

- (a) voice;
- (b) fax; and
- (c) electronic (E-mail, FTP file, etc.).

9.3.5.1 Confirmation.

When fax or electronic communication is utilized, confirmation from the CAISO must be received by the Operator to validate the receipt of the request.

9.3.5.2 Communication of Approval or Rejection.

The CAISO shall use the same methods in communicating the approval or rejection of an Outage request or approval of a request to change an Approved Maintenance Outage to the relevant Operator.

9.3.5.2.1 Information regarding planned Outages for resources providing Regulatory Must-Take Generation shall be provided to the CAISO Outage Coordination Office by the Participating TO or UDC having an existing contract with such resource or by a Participating Generator. Information provided will be that obtained by the Participating TO, UDC or a Participating Generator pursuant to the terms of the existing agreement with the Regulatory Must-Take Generation resource or as requested by the CAISO. Scheduling and approvals of Maintenance Outages for resources providing Regulatory Must-Take Generation shall continue to be coordinated as detailed in the applicable contract with the Participating TO or UDC, provided the owner of the Regulatory Must-Take Generation resource has not executed a Participating Generator Agreement or QF PGA. If the owner of a Regulatory Must-Take Generation resource has executed a Participating Generator Agreement or QF PGA, it shall comply with Section 9.3.5 and other provisions applicable to Participating Generators.

9.3.6 Maintenance Outage Planning.

Each Operator shall, by not later than October 15 each year, provide the CAISO with a proposed schedule of all Maintenance Outages it wishes to undertake in the following year. The proposed schedule shall include all of the Operator's transmission facilities that comprise the CAISO Controlled Grid and Generating Units subject to a Participating Generator Agreement (including its Reliability Must-Run Units). In the case of a Participating TO's transmission facilities, that proposed schedule shall be developed in consultation with the UDCs interconnected with that Participating TO's system and shall take account of each UDC's planned maintenance requirements. The nature of the information to be provided and the detailed Maintenance Outage planning procedure shall be established by the CAISO.

This information shall include:

The following information is required for each Generating Unit of a Participating Generator:

- (a) the Generating Unit name and Location Code;
- (b) the MW capacity unavailable;
- (c) the scheduled start and finish date for each Outage; and
- (d) where there is a possibility of flexibility, the earliest start date and the latest finish date, along with the actual duration of the Outage once it commences.

The following information is required for each transmission facility:

- (a) the identification of the facility and location;
- (b) the nature of the proposed Maintenance Outage;
- (c) the preferred start and finish date for each Maintenance Outage; and
- (d) where there is a possibility of flexibility, the earliest start date and the latest finish date, along with the actual duration of the Outage once it commences.

Either the CAISO, pursuant to Section 9.3.7, or an Operator, subject to Section 9.3.6.11, may at any time request a change to an Approved Maintenance Outage. An Operator may, as provided in Section 9.3.6.3, schedule with the CAISO Outage Coordination Office a Maintenance Outage on its system, subject to the conditions of Sections 9.3.6.4.1, 9.3.6.8, and 9.3.6.9.

9.3.6.1 Quarterly Updates.

9.3.6.1.1 Each Participating Generator will provide the CAISO with quarterly updates of its long-range Outage schedule referred to in Section 9.3.6 for Generating Units and System Units by the close of business on the fifteenth (15th) day of each January, April, and July. These updates must identify known changes to any previously planned Generating Unit Outages and any additional Outages anticipated over the next twelve (12) months from the time of this report. In this report, each Participating Generator must include all known planned Outages for the following twelve (12) months.

9.3.6.1.2 Each Participating TO will provide the CAISO with quarterly updates of the data provided under Section 9.3.6 by close of business on the fifteenth (15th) day of each January, April, and July.

These updates must identify known changes to any previously planned CAISO Controlled Grid facility Maintenance Outages and any additional Outages anticipated over the next twelve (12) months from the time of the report. As part of this update, each Participating TO must include all known planned Outages for the following twelve (12) months.

9.3.6.2 90 Day Look Ahead.

In addition to changes made at quarterly Outage submittals, each Participating Generator shall notify the CAISO in writing of any known changes to a Generating Unit or System Unit Outage scheduled to occur within the next ninety (90) days and may submit changes to its planned Maintenance Outage schedule at any time. Participating Generators must obtain the approval of the CAISO Outage Coordination Office in accordance with Section 9. Such approval may be withheld only for reasons of System Reliability or security.

9.3.6.3 Timeframe for Scheduling Generation and Transmission Outages.

9.3.6.3.1 72 Hours Ahead for Generating Units.

An Operator may, upon seventy-two (72) hours advance notice (or within the notice period in the Operating Procedures posted on the CAISO Website), schedule with the CAISO Outage Coordination Office a Maintenance Outage for a Generating Unit, subject to the conditions of Sections 9.3.6.4.1, 9.3.6.8 and 9.3.6.9.

9.3.6.3.2 For Transmission Facilities.

Except for Outages that may have a significant effect upon CRR revenue adequacy, an Operator may, upon seventy-two (72) hours advance notice (or within the notice period in the Operating Procedures posted on the CAISO Website), schedule with the CAISO Outage Coordination Office a Maintenance

Outage for transmission facilities on its system, subject to the conditions of Sections 9.3.6.4.1, 9.3.6.8 and 9.3.6.9. For Outages that may have a significant effect upon CRR revenue adequacy, an Operator may, upon thirty (30) days notice in advance of the first day of the month the Outage is proposed to be scheduled (or within the notice period in the Operating Procedures posted on the CAISO Website), schedule with the CAISO Outage Coordination Office a Maintenance Outage for transmission facilities on its system, subject to the conditions of Sections 9.3.6.4.1, 9.3.6.8 and 9.3.6.9.

9.3.6.4 Changes to Planned Maintenance Outages.

A Participating TO may submit changes to its planned Maintenance Outage information at any time, provided, however, that if the Participating TO cancels an Approved Maintenance Outage after 5:00 a.m. of the day prior to the day upon which the Outage is scheduled to commence and the CAISO determines that the change was not required to preserve System Reliability, the CAISO may disregard the availability of the affected facilities in determining the availability of transmission capacity in the Day-Ahead Market. The CAISO will, however, notify Market Participants and reflect the availability of transmission capacity in the HASP and Real-Time Market as promptly as practicable.

9.3.6.4.1 The CAISO Outage Coordination Office shall evaluate whether the requested Maintenance Outage or change to an Approved Maintenance Outage is likely to have a detrimental effect on the efficient use and reliable operation of the CAISO Controlled Grid or the facilities of a Connected Entity. The CAISO may request additional information or seek clarification from Participating Generators or Participating TOs of the information submitted in relation to a planned Generating Unit and System Unit Outage or a planned Maintenance Outage. This information may be used to assist the CAISO in prioritizing conflicting requests for Outages.

9.3.6.5 CAISO Analysis of Generating Unit Outage Plans.

9.3.6.5.1 Calculation of Aggregate Generating Capacity.

The CAISO will use the long-range Generating Unit or System Unit Outage schedule referenced in Section 9.3.6 and, as appropriate, additional approved Outage requests scheduled to start within ninety (90) days, to calculate the aggregate Generation capacity projected to be available in the following time frames:

- (a) on an annual and quarterly basis, the CAISO will calculate the aggregate weekly peak Generation capacity projected to be available during each week of the following year and quarter, respectively; and
- (b) on a monthly basis, the CAISO will calculate the aggregate daily peak Generation capacity projected to be available during the month.

9.3.6.6 Withdrawal or Modification of Request.

The Operator of a Participating Generator or a Participating TO's Operator may withdraw a request at any time prior to actual commencement of the Outage. The Operator of a Participating Generator or Participating TO's Operator may modify a request at any time prior to receipt of any acceptance or rejection notice from the CAISO Outage Coordination Office or pursuant to Sections 9.3.8.1, 9.3.8.2 and 9.3.8.3, but the CAISO Outage Coordination Office shall have the right to reject such modified request for reasons of System Reliability, system security or market impact, because of the complexity of the modifications proposed, or due to insufficient time to assess the impact of such modifications.

9.3.6.7 Each Participating Generator or Participating TO which has scheduled a planned Maintenance Outage pursuant to Section 9.3.4 must schedule and receive approval of the Outage from the CAISO Outage Coordination Office prior to initiating the Approved Maintenance Outage. The CAISO

Outage Coordination Office will review the Maintenance Outages to determine if any one or a combination of Maintenance Outage requests relating to CAISO Controlled Grid facilities, Generating Units or System Units may cause the CAISO to violate the Applicable Reliability Criteria. This review will take consideration of factors including, but not limited to, the following:

- (a) forecast peak Demand conditions;
- (b) other Maintenance Outages, previously Approved Maintenance Outages, and anticipated Generating Unit Outages;
- (c) potential to cause Congestion;
- (d) impacts on the transfer capability of Interconnections; and
- (e) impacts on the market.

9.3.6.8 The CAISO Outage Coordination Office shall acknowledge receipt of each request to confirm or approve a Maintenance Outage for a Generating Unit, System Unit, or Physical Scheduling Plant. Where the CAISO Outage Coordination Office reasonably determines that the requested Maintenance Outage or the requested change to an Approved Maintenance Outage, when evaluated together with existing Approved Maintenance Outages, is not likely to have a detrimental effect on the efficient use and reliable operation of the CAISO Controlled Grid, the CAISO shall authorize the Maintenance Outage or change to the Approved Maintenance Outage, and shall so notify the requesting Operator and other entities who may be directly affected.

9.3.6.9 Where, in the reasonable opinion of the CAISO Outage Coordination Office, the requested Maintenance Outage or requested change to an Approved Maintenance Outage is likely to have a detrimental effect on the efficient use and reliable operation of the CAISO Controlled Grid, the CAISO Outage Coordination Office may reject the requested Maintenance Outage or requested change to Approved Maintenance Outage. If in the CAISO's determination, any of the Maintenance Outages

would cause the CAISO to violate the Applicable Reliability Criteria, the CAISO will notify the relevant Operator, and the Operator will then revise the proposed Maintenance Outage and inform the CAISO of the proposed changes. The CAISO Outage Coordination Office shall, in a rejection notice, identify the CAISO's reliability, security and market concerns which prompt the rejection and suggest possible remedies or schedule revisions which might mitigate any such concerns. The CAISO Outage Coordination Office may provide each Operator in writing with any suggested amendments to those Maintenance Outage requests rejected by the CAISO Outage Coordination Office. Any such suggested amendments will be considered as a CAISO maintenance request and will be approved in accordance with the process set forth in Section 9.3.7. The determination of the CAISO Outage Coordination Office shall be final and binding on the Operator. If, within fourteen (14) days of having made its determination, the Operator requests the CAISO Outage Coordination Office to provide reasons for its determination, it shall do so as soon as is reasonably practicable. The CAISO will give reasons for informational purposes only and without affecting in any way the finality or validity of the determination.

9.3.6.10 Failure to Meet Requirements.

Any request to consider maintenance that does not meet the notification requirements contained in Sections 9.3.8.2 and 9.3.8.3 will be rejected without further consideration, unless Section 9.3.10 applies.

9.3.6.11 Cancellation of Approved Maintenance Outage.

In the event an Operator of facilities forming part of the CAISO Controlled Grid cancels an Approved Maintenance Outage after 5:00 a.m. of the day prior to the day upon which the Outage is scheduled to commence and the CAISO determines that the change was not required to preserve System Reliability, the CAISO may disregard the availability of the affected facilities in determining the availability of transmission capacity in the Day-Ahead Market, provided, however, that the CAISO will, as promptly as practicable, notify Market Participants and reflect the availability of the affected facilities in determining the availability of transmission capacity in the HASP and Real-Time Market.

9.3.7 Maintenance Outage Requests by the CAISO.

The CAISO Outage Coordination Office may at any time request a Maintenance Outage or a change to an Approved Maintenance Outage from an Operator if, in the opinion of the CAISO Outage Coordination Office, the requested Maintenance Outage or change is required to secure the efficient use and reliable operation of the CAISO Controlled Grid. In addition, the CAISO Outage Coordination Office may, by providing notice no later than 5:00 a.m. of the day prior to the day upon which the Outage is scheduled to commence, direct the Operator to cancel an Approved Maintenance Outage, when necessary to preserve or maintain System Reliability or, with respect to Reliability Must-Run Units or facilities that form part of the CAISO Controlled Grid, to avoid unduly significant market impacts that would arise if the Outage were to proceed as scheduled. The Operator, acting in accordance with Good Utility Practice, shall comply with the CAISO's direction and the provisions of Sections 9.3.7.1 and 9.3.7.2 shall apply. The CAISO shall give notice of any such direction to Market Participants prior to the deadline for submission of Day-Ahead Market Bids for the day on which the Outage was to have commenced. For purposes of this section and Section 9.3.3, an "unduly significant market impact" means an unplanned event or circumstance (e.g., unseasonable weather, a Forced Outage of a facility, or other occurrence) that adversely affects the competitive nature and efficient workings of the CAISO Markets, and is of such severity that a prudent Operator would not have scheduled a Maintenance Outage of its facility if the unplanned event or circumstance could have been anticipated.

9.3.7.1 The Operator may: (1) refuse the request; (2) agree to the request; or (3) agree to the request subject to specific conditions. The Operator, acting in accordance with Good Utility Practice, shall make every effort to comply with requests by the CAISO Outage Coordination Office. In the event that the Operator refuses the CAISO's request, it shall provide to the CAISO Outage Coordination Office written justification for its position within seventy-two (72) hours.

9.3.7.2 In response the CAISO Outage Coordination Office may: (1) overrule any refusal of a Maintenance Outage or a change to an Approved Maintenance Outage by an Operator, in which case the CAISO Outage Coordination Office determination shall be final; (2) accept any changes or conditions proposed by the Operator, in which case the Maintenance Outage request or the request to change an Approved Maintenance Outage shall be deemed to be amended accordingly; or (3) reject the change or condition, in which case the CAISO Outage Coordination Office and the Operator shall determine if acceptable alternative conditions or changes can be agreed. If the Operator and the CAISO Outage Coordination Office cannot agree on acceptable alternative conditions or changes to the CAISO Outage Coordination Office's request for a Maintenance Outage or change to an Approved Maintenance Outage, the CAISO Outage Coordination Office determination shall be final. If the Operator and the CAISO Outage Coordination Office cannot agree on acceptable alternative conditions or changes to the CAISO Outage Coordination Office's request for a Maintenance Outage or change to an Approved Maintenance Outage, the CAISO may notify the FERC of the dispute and take any other steps that are within its authority to maintain the reliability of the CAISO Controlled Grid.

9.3.7.3 The CAISO will compensate the applicable Participating TO or Participating Generator for any direct and verifiable costs that such Participating TO or Participating Generator incurs as a result of the CAISO's cancellation of an Approved Maintenance Outage pursuant to this Section 9.3.7. For purposes of this section, direct costs include verifiable labor and equipment rental costs that have been incurred by the applicable Participating TO or Participating Generator solely as a result of the CAISO's cancellation of the Approved Maintenance Outage. Each Participating TO or Participating Generator must make a reasonable effort to avoid incurring any such direct costs through such measures as, but not limited to, the prompt cancellation of all contractual arrangements with third parties related to the Approved Maintenance Outage.

9.3.7.4 The amount used to compensate each applicable Participating TO and Participating Generator, as described in Section 9.3.7.3, shall be charged to the Scheduling Coordinators in proportion to their metered Demand (including exports) during the Settlement Period(s) of the originally scheduled Outage.

9.3.8 The CAISO Outage Coordination Office shall provide notice to the Operator of the approval or disapproval of any requested Maintenance Outage. Additionally, the CAISO Outage Coordination Office shall notify any Connected Entity that may in the reasonable opinion of the CAISO Outage Coordination Office be directly affected by an Approved Maintenance Outage. The content of and procedures for such notice shall be established by the CAISO.

9.3.8.1 Data Required.

The Operator of a Generating Unit owned or controlled by a Participating Generator shall submit to the CAISO pursuant to Sections 9.3.4 and 9.3.5.2.1 its request to confirm the schedule of a planned Maintenance Outage or to change the schedule of a planned Maintenance Outage. Such request must be made to the CAISO Outage Coordination Office by no later than 11:30 a.m. three (3) working days prior to the starting date of the proposed Outage (or as specified on the CAISO Website). Likewise, all Participating TOs shall submit a formal request to confirm or change an Approved Maintenance Outage with respect to any CAISO Controlled Grid facility to the CAISO Outage Coordination Office in accordance with Sections 9.3.8.2 and 9.3.8.3.

Such schedule confirmation request shall specify the following:

- (a) the Generating Unit or System Unit name and Location Code, or the identification of the transmission system element(s) to be maintained including location;
- (b) the nature of the maintenance to be performed;
- (c) the date and time the Outage is to begin;
- (d) the date and time the Outage is to be completed;

- (e) the time required to terminate the Outage and restore the Generating Unit to normal capacity or the transmission system to normal operation;
- (f) identification of primary and alternate telephone numbers for the Operator's single point of contact; and
- (g) in the case of a request for a change to an Approved Maintenance Outage, the date and time of the original Approved Maintenance Outage.

9.3.8.2 Three (3) Day Prior Notification.

Any request to confirm an Approved Maintenance Outage that may affect the transfer capability of any part of the CAISO Controlled Grid must be submitted no later than 11:30 a.m. at least three (3) working days prior to the starting date of the Approved Maintenance Outage (or as posted on the CAISO Website). This Section applies to facilities as described on the CAISO Website and in the applicable Business Practice Manual.

Failure to submit a request for an Outage by the proper time may mean a delay in approval from the CAISO or may cause that Outage to be designated as a Forced Outage based on the nearness of the request to the requested Outage date.

9.3.8.3 One (1) Day Prior Notification.

Any request to confirm or change the schedule for an Approved Maintenance Outage requiring only one (1) day notice (as detailed on the CAISO Website) must be submitted no later than 11:30 am at least one (1) day prior to the starting date of the Outage (or as specified on the CAISO Website). Failure to submit a request for an Outage by the proper time may mean a delay in approval from the CAISO or may cause that Outage to be designated as a Forced Outage.

9.3.8.4 Priority of Outage Requests.

Outage requests which are listed in the long-range maintenance schedules submitted to and approved by the CAISO will be given a priority in the scheduling and approval of Outage requests over those which have not been listed.

9.3.8.5 Delay.

The CAISO Outage Coordination Office may delay its approval of an Approved Maintenance Outage schedule if sufficient or complete information is not received by the CAISO Outage Coordination Office within the time frames provided in Sections 9.3.8.2 and 9.3.8.3.

9.3.9 Final Approval, Delay and Withholding.

On the day on which an Approved Maintenance Outage is scheduled to commence, the Operator shall contact the CAISO Control Center for final approval of the Maintenance Outage. No Maintenance Outage shall commence without such final approval (including the time of release, in hours and minutes) being obtained from the CAISO Control Center whose decision shall be final. The CAISO Outage Coordination Office may delay its approval of a scheduled Maintenance Outage for a Participating Generator if sufficient or complete information is not received by the CAISO Outage Coordination Office within the time frames set forth in Section 9.3.8.1. The CAISO Control Center shall have the authority to withhold a Final Approval for an Approved Maintenance Outage for reasons of System Reliability, security or system status of the CAISO Controlled Grid or market impact. The CAISO Control Center shall immediately notify the relevant Operator of its intention to withhold the Final Approval. The Generator Maintenance Outage or CAISO Controlled Grid facility Maintenance Outage will then be rescheduled pursuant to this CAISO Tariff.

9.3.10 Forced Outages.

9.3.10.1 Coordination of all Forced Outages (consistent with Sections 9.3.4 and 9.3.5.2.1) will be through the single point of contact between the Operator and the CAISO Control Center.

9.3.10.2 Each Participating TO shall report any change or potential change in equipment status of the Participating TO's transmission assets turned over to the control of the CAISO or in equipment that affects transmission assets turned over to the control of the CAISO immediately upon discovery to the CAISO (this will include line and station equipment, line protection, Remedial Action Schemes and communication problems, etc.). Each Participating TO shall also keep the CAISO immediately informed upon discovery as to any change or potential change in the Participating TO's transmission system that could affect the reliability of the CAISO Controlled Grid. This would include, but is not limited to, adverse weather conditions, fires, bomb threats, system failures, etc. To the extent possible, the CAISO shall reflect all transmission Outages in the Integrated Forward Market, HASP, and Real-Time Market.

9.3.10.3 Any Operator, upon identification of a situation likely to result in a Forced Outage within the next twenty-four (24) hours unless immediate corrective action is taken, where such action requires the removing from service or reducing the maximum output capability of a Generating Unit by ten (10) MW or more from the value most recently recorded in SLIC, or removing a transmission facility from service, shall communicate directly with the CAISO Control Center. All such notifications of Forced Outages shall be communicated to the CAISO Control Center with as much notice as possible in order that the necessary security analysis and CAISO Controlled Grid assessments may be performed. If prior notice of a Forced Outage cannot be given, the Operator shall notify the CAISO of the Forced Outage within thirty (30) minutes after it occurs. Any Operator, upon identification of a situation likely to result in a Forced Outage but of a nature not requiring a removal from service until some time more than twenty-four (24) hours in the future will be subject to the provisions of Section 9 with respect to any necessary Outage except the requirements imposing time limits for notification will be waived and the request will be expedited by the CAISO provided notice is given as soon as possible.

9.3.10.3.1 If prior notice of a Forced Outage cannot be given, the Operator of a Generating Unit is required to notify the CAISO within thirty (30) minutes after discovering any change in the maximum output capability of at least ten (10) MW or five percent (5%) of the value registered in the Master File, whichever is greater, from the value registered in SLIC that lasts for fifteen (15) minutes or longer.

9.3.10.4 The CAISO Control Center shall coordinate any operational changes necessary to accommodate a Forced Outage and Market Participants shall comply with the CAISO's instructions given for that purpose.

9.3.10.5 All Forced Outages shall be communicated by the CAISO Control Center to Operators likely to be affected by the Outage using the same procedures adopted for Maintenance Outage coordination procedures.

9.3.10.6 With respect to Forced Outages of Generating Units that result in a reduction in maximum output capability that lasts fifteen (15) minutes or longer of 40 MW or more below the value registered in the Master File and ten percent (10%) of the value registered in the Master File, the Operator shall provide to the CAISO an explanation of the Forced Outage, including a description of the equipment failure or other cause and a description of all remedial actions taken by the Operator, and the estimated return time, within two (2) Business Days from discovery of the Forced Outage. Upon request of the CAISO, Operators, and where applicable, Eligible Customers, Scheduling Coordinators, UDCs and MSS Operators promptly shall provide information requested by the CAISO to enable the CAISO to review the changes made to the maximum output capability or to provide further information relative to the explanation of the Forced Outages submitted by the Operator and to prepare reports on Forced Outages. If the CAISO determines that any Forced Outage may have been the result of gaming or other questionable behavior by the Operator, the CAISO shall submit a report describing the basis for its

determination to the FERC. The CAISO shall consider the following factors when evaluating the Forced Outage to determine if the Forced Outage was the result of gaming or other questionable behavior by the Operator: 1) if the Forced Outage coincided with certain market conditions such that the Forced Outage may have influenced market prices or the cost of payments associated with Exceptional Dispatches; 2) if the Forced Outage coincided with a change in the Bids submitted for any units or resources controlled by the Operator or the Operator's Scheduling Coordinator; 3) if the CAISO had recently rejected a request for an Outage for, or to Shut-Down, the Generating Unit experiencing the Forced Outage; 4) if the timing or content of the notice of the Forced Outage provided to the CAISO was inconsistent with subsequent reports of or the actual cause of the Outage; 5) if the Forced Outage or the duration of the Forced Outage was inconsistent with the history or past performance of that Generating Unit or similar Generating Units; 6) if the Forced Outage created or exacerbated Congestion; 7) if the Forced Outage was extended with little or no notice; 8) if the Operator had other alternatives to resolve the problems leading to the Forced Outage; 9) if the Operator took reasonable action to minimize the duration of the Forced Outage; or 10) if the Operator failed to provide the CAISO an explanation of the Forced Outage within two (2) Business Days or failed to provide any additional information or access to the generating facility requested by the CAISO within a reasonable time.

9.3.10.7 Other Balancing Authority Areas.

The CAISO Outage Coordination Office shall make all reasonable efforts to coordinate Outages involving other Balancing Authority Areas or affecting an Intertie, import or export capability not under the Operational Control of the CAISO to the extent that they may affect the reliability of the CAISO Controlled Grid.

9.4 Outage Coordination For New Facilities.

9.4.1 Coordination by CAISO.

The procedure to energize and place in service any new or relocated piece of equipment, connected to the CAISO Controlled Grid, must be set out by the Operator or Connected Entity in a written procedure and coordinated by the CAISO Outage Coordination Office.

9.4.2 Types of Work Requiring Coordination.

The types of work which the CAISO will coordinate includes any new addition, replacement or modification to the CAISO Controlled Grid, including:

- (a) transmission lines forming part of the CAISO Controlled Grid;
- (b) equipment including circuit breakers, transformers, disconnects, reactive devices, wave traps, forming part of the CAISO Controlled Grid;
- (c) Generating Unit Interconnections; and
- (d) protection and control schemes, including RAS, SCADA, EMS, or AGC.

9.4.3 Uncomplicated Work.

When line rearrangements and/or station equipment work is uncomplicated and easily understood, the CAISO Outage Coordination Office may determine that the work can be accomplished using Outages approved in accordance with Section 9.3.6. The CAISO Outage Coordination Office will make this determination in coordination with the respective requesting Operator or Connected Entity.

9.4.4 Special Procedures for More Complex Work.

9.4.4.1 Responsibility for Preparation.

In cases to which 9.4.3 does not apply, it is the responsibility of the requesting Operator or Connected Entity to prepare a written procedure to enable the CAISO to approve Outages in a manner that enables the necessary work to proceed. The CAISO Outage Coordination Office must approve the procedure.

9.4.4.2 Information to be Provided to the CAISO.

The written procedure must be received by the CAISO Outage Coordination Office a minimum of four (4) weeks prior to the start of procedure. Adequate drawings will be attached to the procedure to help clarify the work being performed and the Outages that will be required to complete the work must be specified. The procedure shall include all of the information referred to on the CAISO Website.

9.4.4.3 Approval of the Procedure.

Upon receipt of the procedure and drawings referred to in Section 9.4.4.2, the CAISO Outage Coordination Office will review the procedure and notify the Operator or Connected Entity of any required modifications. The CAISO Outage Coordination Office may, at its discretion, require changes to and more detail to be inserted in the procedure. The requesting Operator or Connected Entity will consult with other entities likely to be affected and will revise the procedure, following any necessary or appropriate discussions with the CAISO to reflect the requirements of the CAISO. Following the CAISO approval, an approved copy of the procedure will then be transmitted to the Operator or Connected Entity and the other entities likely to be affected.

9.4.4.4 Changes to Procedure.

Once the procedure is approved by the CAISO Outage Coordination Office any modifications to the procedure will require the requesting Operator or Connected Entity to notify the CAISO Outage Coordination Office with as much lead time as possible of the recommended changes. The modified procedure will then have to be approved by the CAISO Outage Coordination Office in accordance with Section 9.4.4.2 and 9.4.4.3.

9.4.4.5 Approval of Work Requiring Coordination.

No work can begin pursuant to any approved procedure unless approved by the CAISO Outage Coordination Office.

9.5 Records.

The CAISO and all Operators shall develop procedures to keep a record of Approved Maintenance Outages as they are implemented and to report the completion of Approved Maintenance Outages. Such records are available for inspection by Operators and Connected Entities at the CAISO Outage Coordination Office. Only those records pertaining to the equipment or facilities owned by the relevant Operator or Connected Entity will be made available for inspection at the CAISO Outage Coordination Office, and such records will only be made available provided notice is given in writing to the CAISO fifteen (15) days in advance of the requested inspection date.

9.6 Facility Owner.

The facility owner shall remain solely and directly responsible for the performance of all maintenance work, whether on energized or de-energized facilities, including all activities related to providing a safe working environment.

10 METERING.

10.1 General Provisions.

10.1.1 Role of the CAISO.

The CAISO is responsible for establishing and maintaining the Revenue Meter Data Acquisition and Processing System (RMDAPS) and the Settlement Quality Meter Data Systems (SQMDS). RMDAPS will acquire Revenue Quality Meter Data for use in the CAISO's Settlement and billing process, and SQMDS acquires Scheduling Coordinators' Settlement Quality Meter Data. The CAISO is also responsible for the following for CAISO Metered Entities:

- (a) setting standards and procedures for the registration, certification, auditing, testing and maintenance of revenue quality meters and Meter Data servers; and
- (b) establishing procedures for the collection, security, validation and estimation of Meter Data.

10.1.2 Meter Data Retention by the CAISO.

The CAISO will maintain a record of all Revenue Quality Meter Data and Settlement Quality Meter Data provided to it, as well as the Settlement Quality Meter Data it produces, for a period of 18 months on site at the CAISO's facilities and for a period of 10 years in the CAISO's archive storage facilities. The CAISO will, on reasonable notice, provide a Scheduling Coordinator with access to Meter Data or Settlement Quality Meter Data provided that the Scheduling Coordinator requesting access represented the entity for which that data was provided at the time the data was provided to the CAISO.

10.1.3 Netting.

10.1.3.1 Permitted Netting.

CAISO Metered Entities and Scheduling Coordinators may, when providing Meter Data to the CAISO, net MWh values for Generating Unit output and auxiliary Load equipment electrically connected to that Generating Unit at the same point provided that the Generating Unit is on-line and is producing sufficient output to serve all of that auxiliary Load equipment. For example, where a Generating Unit's auxiliary Load equipment is served via a distribution line that is separate from the switchyard to which the Generating Unit is connected, that Generating Unit and auxiliary Load equipment will not be considered to be electrically connected at the same point.

10.1.3.2 Prohibited Netting.

CAISO Metered Entities or Scheduling Coordinators may not net values for Generating Unit output and Load. CAISO Metered Entities or Scheduling Coordinators that serve third party Load connected to a Generating Unit's auxiliary system must add that third party Load to the Generating Unit's output. The CAISO Metered Entity may add that third party Load to the Generating Unit's output either by means of a hard wire local meter connection between the metering systems of the third party Load and the Generating Unit or by requesting the CAISO to use RMDAPS to perform the addition. Scheduling Coordinators representing Scheduling Coordinator Metered Entities that serve third party Load connected to the auxiliary system of a Generating Unit must ensure that those Scheduling Coordinator Metered Entities add the Energy consumed by such third parties to that Generating Unit's output so as to ensure proper settlement of that Generating Unit's gross output. The CAISO Metered Entity or the Scheduling Coordinator must ensure that the third party Load has Metering Facilities that meet the standards referred to in this Section 10 and the Business Practice Manuals.

10.1.3.3 Permitted Netting for a QF with a QF PGA and Other QF Metering Requirements.

A Generating Unit that is a QF and that qualifies as Regulatory Must-Take Generation is subject to the revenue metering requirements set forth in the Existing QF Contract for the QF and is not subject to the revenue metering requirements of Section 10. A QF Generating Unit not operating under the terms of an Existing QF Contract is subject to the metering requirements of Section 10 prohibiting the net metering of Generation and Load, except if it is subject to a QF PGA. A Generating Unit that is a QF and that operates under the terms of a QF PGA is eligible for net metering treatment. Notwithstanding Section 10.1.3.2, a Participating Generator with a QF PGA may net the value for the Generation produced by each Net Scheduled QF listed in its QF PGA and the value for the Demand of the Self-provided Load that is (i) served by the Net Scheduled QF and (ii) electrically located on the same side of the Point of Demarcation. The Participating Generator with a QF PGA may satisfy the provisions of Section 10 for the installation of revenue metering by installing Metering Facilities at the Point of Demarcation; provided that the installed Metering Facilities satisfy the technical, functional, and performance requirements for Metering Facilities set forth in Section 10 and the applicable Business Practice Manual.

10.1.4 Meter Service Agreements.

A CAISO Metered Entity shall enter into a Meter Service Agreement for CAISO Metered Entities with the CAISO. A Scheduling Coordinator representing a Scheduling Coordinator Metered Entity shall enter into a Meter Service Agreement for Scheduling Coordinators. If a CAISO Metered Entity is also a Scheduling Coordinator, it shall be treated as a CAISO Metered Entity for the purposes of this Section 10 and will be required to enter into a Meter Service Agreement for CAISO Metered Entities. A CAISO Metered Entity will not be required to enter into a Meter Service Agreement for Scheduling Coordinators unless it represents any Scheduling Coordinator Metered Entities. A Meter Service Agreement for Scheduling Coordinators entered into by a CAISO Metered Entity shall only apply to those Scheduling Coordinator Metered Entities that the CAISO Metered Entity represents; the Meter Service Agreement for Scheduling Coordinators shall not apply to the CAISO Metered Entity other than in its capacity as Scheduling Coordinator for those Scheduling Coordinator Metered Entities.

10.1.5 Access to Meter Data.

The CAISO has complete authority over all rights of access to (and has authority to deny access to) the CAISO's RMDAPS and Settlement Quality Meter Data Systems including servers (where used), interface equipment, and software needed to collect the relevant information for Settlement, billing and related purposes. Each Market Participant acknowledges this CAISO authority as a condition of CAISO Controlled Grid service and participation. For CAISO Metered Entities, authority over the sealing of meters, and all related Metering Facilities, shall reside solely with the CAISO for all CAISO designated Meter Points, regardless of any remote electronic access that a CAISO Metered Entity or its Scheduling Coordinator may have provided to third parties, except as otherwise may be required by law, FERC, any Local Regulatory Authority or other provision of this CAISO Tariff. Meter Data supplied by a CAISO Metered Entity shall be made available by the CAISO to the Scheduling Coordinator representing such CAISO Metered Entity at the time the Meter Data was provided and the other authorized users identified in its Meter Service Agreement for CAISO Metered Entities, but shall not be disclosed to any other third party except as may otherwise be required by law, FERC, any Local Regulatory Authority or other provision of this CAISO Tariff. Meter Data supplied by a Scheduling Coordinator for a Scheduling Coordinator Metered Entity shall be made available by the CAISO to the Scheduling Coordinator representing such Scheduling Coordinator Metered Entity at the time the Meter Data was provided and the other authorized users identified in its Meter Service Agreement for Scheduling Coordinators, but shall not be disclosed to any other third party except as may otherwise be required by law, FERC, any Local Regulatory Authority or other provision of this CAISO Tariff. Access by third parties other than authorized users to Meter Data held by the CAISO shall be coordinated through the Scheduling Coordinator that provided the Meter Data or that is representing the relevant CAISO Metered Entity that supplied the data and shall not be obtained directly from the CAISO on any basis including, without limitation, by accessing the RMDAPS.

10.1.6 Failure of CAISO Facilities or Systems.

In the event facility and/or systems failures impact the CAISO's ability to accept, collect, and process Revenue Quality Meter Data or Settlement Quality Meter Data, alternative measures may be required by the CAISO, CAISO Metered Entities, and Scheduling Coordinator Metered Entities. These measures are described in the applicable Business Practice Manual.

10.2 Metering for CAISO Metered Entities.

CAISO Metered Entities' revenue quality meters will be directly polled by the CAISO's RMDAPS as specified in this CAISO Tariff and Business Practice Manuals.

10.2.1 Responsibilities of CAISO Metered Entities.

10.2.1.1 Duty to Provide Revenue Quality Meter Data.

CAISO Metered Entities shall ensure that Revenue Quality Meter Data from their meters directly connected to the CAISO Controlled Grid or at interconnections thereto, including interconnections between utility Service Areas which have separate UFE calculations, is made available to the CAISO RMDAPS in accordance with the requirements of this Section 10 and the Business Practice Manuals.

10.2.1.2 Format for Data Submission.

CAISO Metered Entities must ensure that the Meter Data obtained by the CAISO directly from their revenue quality meters is raw, unedited and unaggregated Meter Data in kWh and kVarh values, as specified in the applicable Business Practice Manual. The CAISO will be responsible for the Validation, Estimation and Editing of that Meter Data in order to produce Settlement Quality Meter Data.

10.2.1.3 Access to Settlement Quality Meter Data.

Scheduling Coordinators may obtain Settlement Quality Meter Data relating to the CAISO Metered Entities they represent by directly accessing the Settlement Quality Meter Data Systems as specified in the applicable Business Practice Manual. The CAISO will use its best efforts to ensure that such data is made available to Scheduling Coordinators within five (5) Business Days of the relevant Operating Day.

10.2.2 Duty to Install and Maintain Meters.

CAISO Metered Entities, at their cost, shall install and maintain, or cause to be installed and maintained, metering equipment and associated communication devices at CAISO-designated Meter Points to meet the requirements of this Section 10 and the applicable Business Practice Manuals. The CAISO may require CAISO Metered Entities to install, at the cost of CAISO Metered Entities, additional meters and relevant metering system components, including Real-Time metering, at CAISO-specified Meter Points or other locations as deemed necessary by the CAISO, in addition to those connected to or existing on the CAISO Controlled Grid at the CAISO Operations Date. In directing the addition of meters and metering system components that would impose increased costs on a CAISO Metered Entity, the CAISO shall give due consideration to whether the expected benefits of such equipment are sufficient to justify such increased costs. Nothing in this Section 10 shall preclude CAISO Metered Entities from installing additional meters, instrument transformers and associated communications facilities not deemed necessary by the CAISO at their own cost. A CAISO Metered Entity may not commence installing such additional Metering Facilities until the CAISO has approved the CAISO Metered Entity's Proposal for Installation. If a CAISO Metered Entity installs such additional metering, such metering must: (i) be installed and maintained at the CAISO Metered Entity's cost and (ii) not unduly interfere with the accuracy of any primary meter and, if that primary meter is directly polled by the CAISO, the CAISO's ability to poll directly that meter.

10.2.3 Metering Standards.

Each CAISO Metered Entity shall ensure that each of its meters used to provide Meter Data to the CAISO complies with the meter standards and accuracy requirements for meters set forth in this CAISO Tariff and the applicable Business Practice Manuals.

10.2.4 Certification of Meters.

Each CAISO Metered Entity that makes Meter Data available to the CAISO shall ensure that Metering Facilities used to produce such Meter Data have been certified by the CAISO as meeting the requirements of Section 10. Certification of the relevant Metering Facilities shall only be provided upon the production of such evidence as the CAISO may reasonably require to demonstrate that the facilities in question have been documented, inspected and successfully tested by the CAISO or a CAISO Authorized Inspector for conformance to the standards and accuracy requirements referred to in the Business Practice Manuals and this Section 10. CAISO certification pursuant to this Section 10.2.4 shall not relieve the CAISO Metered Entity from the obligation to ensure that its Metering Facilities continue to remain in compliance with the requirements of this CAISO Tariff and the applicable Business Practice Manuals.

10.2.4.1 Requesting Certification.

A CAISO Metered Entity seeking certification of its Metering Facilities shall independently engage a CAISO Authorized Inspector to perform certification of its Metering Facilities. A CAISO Metered Entity may request the CAISO to perform the certification of its Metering Facilities if it would be impractical or impossible for that CAISO Metered Entity to engage a CAISO Authorized Inspector to perform the certification. The CAISO may refuse any such request by a CAISO Metered Entity if it is of the opinion that it is not impractical or impossible for that CAISO Metered Entity to engage a CAISO Authorized Inspector.

10.2.4.2 Certification by the CAISO.

All requests made to the CAISO to perform the certification of Metering Facilities must be made in accordance with the certification process for Metering Facilities and technical specifications published in the Business Practice Manuals and be accompanied by the documents referred to in the applicable Business Practice Manual. If the CAISO agrees to perform the certification of Metering Facilities, the

CAISO and that CAISO Metered Entity will agree the terms and conditions on which the CAISO will undertake the certification, including the assistance to be provided by the CAISO Metered Entity, the responsibility for costs and the indemnities to be provided.

10.2.4.3 Criteria for Certification.

Subject to any exemption granted by the CAISO, the criteria for certifying the Metering Facilities of CAISO Metered Entities pursuant to the CAISO Tariff are the criteria set forth in the Business Practice Manuals.

10.2.4.4 Certificate of Compliance.

If the Metering Facilities satisfy the certification criteria as specified in this CAISO Tariff and in the Business Practice Manuals (after taking into account any exemptions to the certification criteria granted by the CAISO), the CAISO will issue a Certificate of Compliance in respect of those Metering Facilities and provide the original Certificate of Compliance to the CAISO Metered Entity that requested the certification of those Metering Facilities.

10.2.4.5 Obligation to Maintain Certification.

CAISO Metered Entities must ensure that their Metering Facilities continue to comply with the certification criteria referred to in the CAISO Tariff and the Business Practice Manuals.

10.2.4.6 Revocation of Certification.

The CAISO may revoke in full or in part any Certificate of Compliance if:

- (a) it has reasonable grounds to believe that all or some of the Metering Facilities covered by that Certificate of Compliance no longer meet the certification criteria for Metering Facilities contained in the CAISO Tariff and the Business Practice Manuals; and
- (b) it has given written notice to the relevant CAISO Metered Entity stating that it does not believe that the identified Metering Facilities meet the certification criteria (including the reasons for that belief) and that CAISO Metered Entity fails to satisfy the CAISO, within the time period specified in the CAISO's notice, that the Metering Facilities meet the certification criteria.

If the CAISO revokes in full or part a Certificate of Compliance, the relevant CAISO Metered Entity may seek recertification of the relevant Metering Facilities by requesting certification. Such request must indicate that it relates to Metering Facilities in respect of which the CAISO has previously revoked a Certificate of Compliance.

Subject to any exemption granted by the CAISO under this CAISO Tariff, the CAISO will not accept Revenue Quality Meter Data from a CAISO Metered Entity unless that Revenue Quality Meter Data is produced by Metering Facilities that are certified in accordance with this CAISO Tariff and the CAISO Metered Entity has a current Certificate of Compliance.

10.2.4.7 Changes to Certified Metering Facilities.

The CAISO's approval must be obtained before any modifications or changes are made to any Metering Facilities of a CAISO Metered Entity which have been certified pursuant to the CAISO Tariff. The CAISO may, at its discretion, require those Metering Facilities to be recertified.

10.2.5 CAISO Authorized Inspectors.

10.2.5.1 Published List of Inspectors.

The CAISO will publish on the CAISO Website, for informational purposes only, a list of the CAISO Authorized Inspectors and details of the procedure for applying to become a CAISO Authorized Inspector. The CAISO will, on request, provide a copy of that list to entities that do not have access to the CAISO Website.

10.2.5.2 Current Certificates.

It is the responsibility of the relevant CAISO Metered Entity to ensure that any inspector it engages to undertake the certification of its Metering Facilities holds a current certificate of approval issued by the CAISO which authorizes that inspector to carry out the duties of a CAISO Authorized Inspector.

10.2.6 Metering Communications.

The CAISO's RMDAPS shall collect and process Revenue Quality Meter Data made available by CAISO Metered Entities pursuant to Meter Service Agreements for CAISO Metered Entities and the applicable Business Practice Manual. Revenue Quality Meter Data for CAISO Metered Entities shall be made available to the CAISO's RMDAPS as specified in the applicable Business Practice Manual either directly by the CAISO Metered Entity or via a central data server which collects Revenue Quality Meter Data for various CAISO Metered Entities provided that the central data server does not aggregate or adjust that data. Revenue Quality Meter Data on the CAISO's RMDAPS may be provided or made accessible to other CAISO systems as deemed necessary by the CAISO, subject to the CAISO being satisfied that such access by such authorized uses and/or systems will not adversely effect the security of the data held by the CAISO. CAISO Metered Entities shall ensure that their Metering Facilities are compatible with the CAISO's RMDAPS for these purposes. The CAISO may, at its discretion, exempt a CAISO Metered Entity from the requirement to make Revenue Quality Meter Data directly available to the CAISO's RMDAPS, for example, where the installation of communication links is unnecessary, impracticable or uneconomic. The CAISO shall maintain the RMDAPS and remedy any faults occurring in such system. Scheduling Coordinators and other authorized users requiring Settlement Quality Meter Data for CAISO Metered Entities on whose behalf they Bid may obtain such data by accessing the CAISO's Settlement Quality Meter Data Systems in accordance with the CAISO Tariff and applicable Business Practice Manuals. Scheduling Coordinators and other authorized users shall not poll the CAISO revenue meters for any other purpose, unless specifically authorized in the Meter Service Agreement for CAISO Metered Entities.

10.2.7 Format of Meter Data.

CAISO Metered Entities shall make available to the CAISO's RMDAPS Revenue Quality Meter Data meeting the requirements of this Section 10. The format of Meter Data to be submitted shall be identified by Transmission Owner, Distribution System, PNode, CAISO Controlled Grid interface point and other information reasonably required by the CAISO.

10.2.8 Security and Meter Data Validation Procedures.

The applicable Business Practice Manuals shall specify, in such detail as the CAISO may deem necessary, the Meter Data security and validation procedures that the CAISO shall apply to the Revenue Quality Meter Data made available by each CAISO Metered Entity. The CAISO may base the security and validation procedures on historical data or an appropriate alternative data source. The CAISO shall correct or replace or cause to be corrected or replaced inaccurate or missing data. The procedure may include data correction and substitution algorithms which shall estimate, substitute and flag such inaccurate or missing data. Any necessary correction or replacement shall be approved by the CAISO prior to the data being sent to the CAISO for Settlement purposes. Security and validation measures for existing Tie Point Meters shall be consistent with existing arrangements with the operators in adjacent Balancing Authority Areas. Any additional measures or changes to the existing arrangements shall only be implemented upon mutual agreement of the CAISO and the operator in the adjacent Balancing Authority Area.

10.2.8.1 Meter Site Security.

Metering Facilities of CAISO Metered Entities (including communications devices) and secondary devices that could have any impact on the performance of the Metering Facilities must be sealed by the CAISO.

10.2.8.2 Third Party Access to Meters.

10.2.8.2.1 Local Access.

If a CAISO Metered Entity desires to grant a third party local access to its revenue quality meters, those meters must be equipped with CAISO approved communications capabilities in accordance with the applicable Business Practice Manuals. The CAISO may set the password and any other security requirements for locally accessing the revenue quality meters of CAISO Metered Entities so as to ensure the security of those meters and their Revenue Quality Meter Data. The CAISO may alter the password and other requirements for locally accessing those meters from time to time as it determines necessary.

The CAISO must provide CAISO Metered Entities with the current password and other requirements for locally accessing their revenue quality meters. CAISO Metered Entities must not give a third party local access to its revenue quality meters or disclose to that third party the password to its revenue quality meters without the CAISO's prior approval which shall not unreasonably be withheld. CAISO Metered Entities will be responsible for ensuring that a third party approved by the CAISO to access its revenue quality meters only accesses the data it is approved to access and that the data are only accessed for the purposes for which the access was approved.

10.2.8.2.2 Remote Access.

The CAISO may set the password and any other security requirements for remotely accessing the revenue quality meters of CAISO Metered Entities so as to ensure the security of those meters and their Revenue Quality Meter Data. The CAISO will alter the password and other requirements for remotely accessing those meters from time to time as it determines necessary. The CAISO must provide CAISO Metered Entities with the current password and other requirements for remotely accessing their revenue quality meters.

CAISO Metered Entities must not give a third party remote access to its revenue quality meters or disclose to that third party the password to its revenue quality meters without the CAISO's prior approval which shall not unreasonably be withheld. CAISO Metered Entities will be responsible for ensuring that a third party approved by the CAISO to access its revenue quality meters only accesses the data it is approved to access and that the data are only accessed for the purposes for which the access was approved.

10.2.8.3 Third Party Access Withdrawn.

If, in the reasonable opinion of the CAISO, access granted to a third party by a CAISO Metered Entity in any way interferes or impedes with the CAISO's ability to poll any revenue quality meter, the CAISO may require that CAISO Metered Entity to immediately withdraw any access granted to a third party.

10.2.8.4 RMDAPS Security.

The CAISO will provide any needed information to entities that are permitted to access RMDAPS. The CAISO must maintain the security and integrity of Revenue Quality Meter Data brought into RMDAPS.

10.2.9 Validation, Estimation and Editing of Meter Data.

Subject to any exemption granted by the CAISO, Revenue Quality Meter Data that CAISO Metered Entities provide to the CAISO will be processed using the Validation, Estimation and Editing procedures published in the Business Practice Manuals in order to produce Settlement Quality Meter Data.

10.2.9.1 Obligation to Assist.

At the request of the CAISO, CAISO Metered Entities shall assist the CAISO in correcting or replacing defective data and in detecting and correcting underlying causes for such defects. Such assistance shall be rendered in a timely manner so that the Settlement process is not delayed.

10.2.9.2 Availability of Meter Data.

Subject to any exemption granted by the CAISO, Meter Data of CAISO Metered Entities must be recorded at 5-minute intervals and will be collected in accordance with the provisions of the applicable Business Practice Manual. The CAISO may also collect Meter Data on demand as provided in the applicable Business Practice Manual.

10.2.9.3 [NOT USED]

10.2.9.4 CAISO Imposed Penalties and Sanctions.

The CAISO shall have the authority to impose penalties and sanctions, including but not limited to Sanctions set forth in Section 37 and the applicable Business Practice Manual and suspension of trading rights, if a CAISO Metered Entity provides fraudulent metering data to the CAISO. Such penalties shall be approved by FERC.

10.2.10 Low Voltage Side Metering.

10.2.10.1 Requirement for CAISO Approval.

CAISO Metered Entities may only install revenue quality meters on the low voltage side of step-up transformers if they have obtained the prior approval of the CAISO in accordance with Section 10.2.10.

CAISO Metered Entities that have installed low voltage side metering, whether such installation was before or after the CAISO Operations Date, shall apply the Transformer and Line Loss Correction Factor in accordance with Section 10.2.10.4.

10.2.10.2 Request for Approval.

If a CAISO Metered Entity wishes to install low voltage side metering, it shall submit a written request to the CAISO. That CAISO Metered Entity must:

- (a) request approval to apply the Transformer and Line Loss Correction Factor to its revenue quality meter or request approval to have the CAISO apply the Transformer and Line Loss Correction Factor;
- (b) provide detailed reasons to support the request for low side metering;
- (c) provide all of the information in relation to the Transformer and Line Loss Correction Factor required by the Business Practice Manuals; and
- (d) any other information reasonably requested by the CAISO.

10.2.10.3 CAISO's Grounds for Approval.

The CAISO shall approve a request made under Section 10.2.10.2 only if the CAISO is satisfied that adequate accuracy and security of Revenue Quality Meter Data obtained can be assured in accordance with Section 10.2.10. The CAISO's rejection of such a request may be referred to the CAISO ADR Procedures if, after using all reasonable good faith efforts, the CAISO and a CAISO Metered Entity are unable to reach agreement.

10.2.10.4 Application of Transformer and Line Loss Correction Factor.

CAISO Metered Entities will apply the Transformer and Line Loss Correction Factor as set forth in the Business Practice Manuals. If the CAISO has approved a request from a CAISO Metered Entity for RMDAPS to apply the Transformer and Line Loss Correction Factor, RMDAPS will apply the Transformer and Line Loss Correction Factor set forth in the Business Practice Manuals. If the CAISO applies the Transformer and Line Loss Correction Factor, the CAISO may require the CAISO Metered Entity to pay the reasonable costs incurred by it in applying the Transformer and Line Loss Correction Factor.

10.2.11 Audit, Testing Inspection and Certification Requirements.

CAISO Metered Entities are subject to CAISO audit, testing and certification requirements for their entire metering system(s), including all relevant communication facilities and instrument transformers. The CAISO will have the right to either conduct any audit or test it considers necessary or to witness such audit or test carried out by the CAISO Metered Entity or a CAISO Authorized Inspector engaged by the CAISO Metered Entity or the CAISO to carry out those audits or tests.

10.2.12 Exemptions.

The CAISO has the authority to grant exemptions from certain CAISO metering standards for a CAISO Metered Entity, as set forth in Section 10.4. A CAISO Metered Entity with a temporary exemption shall provide site specific Revenue Quality Meter Data to the CAISO in accordance with its Meter Service Agreement for CAISO Metered Entities and the CAISO Tariff. A Generating Unit that provides Regulatory Must-Take Generation connected directly to a UDC Distribution System and that sells its entire output to the UDC in which the Generating Unit is located is not subject to the audit, testing or certification requirements of the CAISO.

10.2.13 Maintenance of Metering Facilities.

10.2.13.1 Duty to Maintain Metering Facilities.

CAISO Metered Entities must maintain their Metering Facilities so that those Metering Facilities continue to meet the standards prescribed by the CAISO Tariff and the applicable Business Practice Manuals.

10.2.13.2 Repairs.

If a revenue quality meter of a CAISO Metered Entity requires repairs to ensure that it operates in accordance with the requirements of the CAISO Tariff and the applicable Business Practice Manuals, the CAISO Metered Entity must immediately notify the CAISO of the need for repairing that meter and must ensure that those repairs are completed in accordance with the applicable Business Practice Manual.

During periods for which no Meter Data is available from a meter which has a current Certificate of Compliance, the CAISO will substitute estimated Meter Data for that CAISO Metered Entity using the estimation procedures referred to in Section 10.2.9. That estimated Meter Data will be used by the CAISO in its Settlement and billing process.

10.2.14 Installation of Additional Metering Facilities.

10.2.14.1 CAISO Requirement to Install Additional Metering.

If the CAISO determines that there is a need to install additional Metering Facilities on the CAISO Controlled Grid pursuant to Section 10.2.2, it will notify the relevant CAISO Metered Entity of that need and will process the CAISO Metered Entity's Proposal for Installation in accordance with the applicable Business Practice Manual.

10.2.14.2 CAISO Metered Entities' Election to Install Additional Metering.

In accordance with Section 10.2.2, a CAISO Metered Entity may choose to install additional metering, including Backup Meters. If a CAISO Metered Entity installs such additional metering, such metering must, unless the CAISO agrees otherwise:

- (a) be installed and maintained at the CAISO Metered Entity's cost;
- (b) be located on the CAISO Metered Entity's side of any primary meter; and
- (c) not interfere with the accuracy of any primary meter and, if that primary meter is directly polled by the CAISO, the CAISO's ability to directly poll that meter.

Any Meter Data produced by any such additional metering may be used by the CAISO for Settlement and billing purposes in the event of the failure, or during tests or repairs of, the primary meter provided that such additional metering has a current Certificate of Compliance, the CAISO Metered Entity gives the CAISO prior verbal notice that such meter will be used and the period for which it will be used and, if the primary meter is directly polled by the CAISO, the additional metering must also be capable of being directly polled by the CAISO.

10.3 Metering for Scheduling Coordinator Metered Entities.

10.3.1 Applicability.

The requirements set forth in this Section 10.3 shall apply only to Scheduling Coordinators representing Scheduling Coordinator Metered Entities. The requirements in Section 10.1 also apply to Scheduling Coordinators. If a Scheduling Coordinator Metered Entity is also a Scheduling Coordinator, it shall be treated as a Scheduling Coordinator for the purposes of Section 10 and any references to entities that such a Scheduling Coordinator represents shall be deemed to include that Scheduling Coordinator itself.

10.3.2 Responsibilities of Scheduling Coordinators and the CAISO.

10.3.2.1 Duty to Provide Settlement Quality Meter Data.

Scheduling Coordinators shall be responsible for: (i) the collection of Meter Data for the Scheduling Coordinator Metered Entities it represents; (ii) the provision of Settlement Quality Meter Data to the CAISO; and (iii) ensuring that the Settlement Quality Meter Data supplied to the CAISO meets the requirements of Section 10. Scheduling Coordinators shall provide the CAISO with Settlement Quality Meter Data for all Scheduling Coordinator Metered Entities served by the Scheduling Coordinator no later

than the day specified in Section 10.3.6. Settlement Quality Meter Data for Scheduling Coordinator Metered Entities shall be either (1) an accurate measure of the actual consumption of Energy by each Scheduling Coordinator Metered Entity in each Settlement Period; (2) for Scheduling Coordinator Metered Entities connected to a UDC Distribution System and meeting that Distribution System's requirement for Load profiling eligibility, a profile of that consumption derived directly from an accurate cumulative measure of the actual consumption of Energy over a known period of time and an allocation of that consumption to Settlement Periods using the applicable Approved Load Profile; or (3) an accurate calculation by the Scheduling Coordinator representing entities operating pursuant to Existing Contracts.

10.3.2.2 Format for Data Submission.

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

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

- (a) LAPs and PNodes, as applicable; and
- (b) the relevant PNode for Generating Units.

10.3.2.3 Format for Data Requests.

Scheduling Coordinators may obtain Settlement Quality Meter Data relating to the Scheduling Coordinator Metered Entities they represent by requesting extracts from the CAISO's Settlement Quality Meter Data Systems using the Meter Data request formats as published in the Business Practice Manuals. The CAISO will ensure that such data is made available in a timely manner.

10.3.3 Loss Factors.

Where a Scheduling Coordinator Metered Entity is connected to a UDC's Distribution System, the responsible Scheduling Coordinator shall adjust the Meter Data by an estimated Distribution System loss factor to derive an equivalent CAISO Controlled Grid level measure. Such estimated Distribution System loss factors shall be approved by the relevant Local Regulatory Authority prior to their use.

10.3.4 Load Profile Authorization.

Scheduling Coordinators shall be responsible for obtaining all necessary authorizations of Approved Load Profiles from Local Regulatory Authorities having jurisdiction over the use of profiled Meter Data and shall use Approved Load Profiles in any Settlement process in which Load profiles are used to allocate consumption to Settlement Periods.

10.3.5 Communication of Meter Data.

Each Scheduling Coordinator shall submit Settlement Quality Meter Data for Scheduling Coordinator Metered Entities to the CAISO in accordance with Section 11.29.24.1, Section 37.5, and applicable Business Practice Manuals.

10.3.6 Timing of Meter Data Submission.

Scheduling Coordinators shall submit either hourly time-stamped Settlement Quality Meter Data for Scheduling Coordinator Metered Entities or profiled cumulative Settlement Quality Meter Data to the CAISO for each Settlement Period in an Operating Day according to the timelines established in the CAISO Payments Calendar and as provided in the applicable Business Practice Manual. Scheduling Coordinators must also submit Settlement Quality Meter Data on demand as provided in the applicable Business Practice Manual.

10.3.7 Meter Standards.

Each Scheduling Coordinator, in conjunction with the relevant Local Regulatory Authority, shall ensure that each of its Scheduling Coordinator Metered Entities connected to and served from the Distribution System of a UDC shall be metered by a revenue meter complying with any standards of the relevant Local Regulatory Authority or, if no such standards have been set by that Local Regulatory Authority, the metering standards set forth in this CAISO Tariff and as further detailed in the Business Practice Manuals.

10.3.8 Access to Meter Data.

The CAISO has complete authority over rights of access to (and has authority to deny access to) its Settlement Quality Meter Data Systems by Scheduling Coordinators and Scheduling Coordinator Metered Entities for Settlement, billing and related purposes. Each Scheduling Coordinator, on behalf of itself and Scheduling Coordinator Metered Entities that it serves or represents, acknowledges this CAISO authority as a condition of access to the CAISO Controlled Grid. Meter Data of a Scheduling Coordinator Metered Entity remains the property of that Scheduling Coordinator Metered Entity and shall be made available to third parties only with its express permission or the permission of its Scheduling Coordinator or as otherwise required by law or provided for in this CAISO Tariff.

10.3.9 Certification of Meters.

Scheduling Coordinators shall ensure that revenue meters and related Metering Facilities of those Scheduling Coordinator Metered Entities whom they represent are certified in accordance with any certification criteria prescribed by the relevant Local Regulatory Authority or, if no such criteria have been prescribed by that Local Regulatory Authority, certified in accordance with this Section 10. Scheduling Coordinators shall upon request of the CAISO supply promptly copies of all certificates issued by the relevant Local Regulatory Authority. The End-Use Meter of a Scheduling Coordinator Metered Entity in place as of the CAISO Operations Date is deemed to be certified as in compliance with this CAISO Tariff and Business Practice Manuals. Once certified, meters for Scheduling Coordinator Metered Entities

need not be recertified provided such meters are maintained so as to meet the standards and accuracy requirements prescribed by any relevant Local Regulatory Authority or, if no such standards have been prescribed by that Local Regulatory Authority, such requirements as referred to in the Business Practice Manuals and this Section 10. Recertification is not required by the CAISO upon an election by a Scheduling Coordinator Metered Entity to change its Scheduling Coordinator from which it takes service.

10.3.10 Requirement for Audit and Testing.

10.3.10.1 Audit and Testing by Scheduling Coordinator.

Each Scheduling Coordinator shall at least annually conduct (or engage an independent, qualified entity to conduct) audits and tests of the Metering Facilities of the Scheduling Coordinator Metered Entities that it represents and the Meter Data provided to the Scheduling Coordinator in order to ensure compliance with all applicable requirements of any relevant Local Regulatory Authority. Scheduling Coordinators shall undertake any other actions that are reasonable necessary to ensure the accuracy and integrity of the Settlement Quality Meter Data provided by them to the CAISO.

10.3.10.2 Audit and Testing by CAISO.

Subject to any applicable Local Regulatory Authority requirements, the Metering Facilities and data handling and processing procedures of Scheduling Coordinators and Scheduling Coordinator Metered Entities are subject to audit and testing by the CAISO or a CAISO Authorized Inspector. Subject to any applicable Local Regulatory Authority requirements, the CAISO will have the right to either conduct any audit or test it considers necessary or to witness such audit or test carried out by the Scheduling Coordinator, Scheduling Coordinator Metered Entity or a CAISO Authorized Inspector engaged by the Scheduling Coordinator, Scheduling Coordinator Metered Entity or the CAISO to carry out those audits or tests.

10.3.11 Scheduling Coordinator to Ensure Certification.

If the relevant Local Regulatory Authority has not prescribed any certification criteria for the Metering Facilities of a Scheduling Coordinator Metered Entity, the Scheduling Coordinator representing that Scheduling Coordinator Metered Entity must promptly notify the CAISO in writing that no such criteria have been prescribed. That Scheduling Coordinator will then be responsible for ensuring that the Scheduling Coordinator Metered Entities it represents obtain and maintain Certificates of Compliance in respect of all of the Metering Facilities of those Scheduling Coordinator Metered Entities in accordance with Section 10.3.9. Scheduling Coordinators must engage a CAISO Authorized Inspector to perform the certification of any Metering Facilities that are to be certified under the CAISO Tariff.

10.3.11.1 Confirmation of Certification.

On the written request of the CAISO, each Scheduling Coordinator must give the CAISO written confirmation that the Metering Facilities of each Scheduling Coordinator Metered Entity that it represents are certified in accordance with either the criteria of the relevant Local Regulatory Authority or the criteria prescribed by the CAISO Tariff and Business Practice Manuals within five (5) Business Days of receiving a request from the CAISO.

10.3.11.2 Deemed Certification.

Revenue quality meters of Scheduling Coordinator Metered Entities that are subject to certification and which were installed and operational as of the CAISO Operations Date will be deemed to be certified for the purposes of the CAISO Tariff. Revenue quality meters that have been fully installed as of the CAISO Operations Date but which are not operational as of that date because they were undergoing maintenance or repairs will also be deemed to be certified in accordance with the CAISO Tariff.

10.3.12 [NOT USED]

10.3.13 [NOT USED]

10.3.14 Approval by Local Regulatory Authority of Security and Validation Procedures.

Scheduling Coordinators shall be responsible for obtaining any necessary approval of the relevant Local Regulatory Authority to its proposed security, validation, editing and estimation procedures. The CAISO will not perform any Validation, Estimation and Editing on the Settlement Quality Meter Data it receives from Scheduling Coordinators.

10.3.14.1 UDC and TO Agreements.

Each Scheduling Coordinator shall be responsible for obtaining any necessary consent from the UDCs on whose Distribution Systems or the Participating TOs on whose transmission facilities the Scheduling Coordinator has Scheduling Coordinator Metered Entities as is necessary to give effect to the procedures governing Meter Data validation and security and inspection and testing of Metering Facilities.

Scheduling Coordinators must verify with the relevant UDC and/or Participating TO the identity of each Scheduling Coordinator Metered Entity they represent and must notify the UDC and/or Participating TO of any discrepancies of which they become aware.

10.3.15 [NOT USED]

10.3.16 [NOT USED]

10.3.17 Meter Identification.

If a Scheduling Coordinator Metered Entity is required to identify its revenue quality meters by the relevant:

- (a) Local Regulatory Authority; or
- (b) UDC,

then the Scheduling Coordinator representing that Scheduling Coordinator Metered Entity must, at the CAISO's request, provide the CAISO with a copy of that information within five (5) Business Days of a request by the CAISO in a format to be prescribed by the CAISO.

If a Scheduling Coordinator Metered Entity is not required by either the relevant Local Regulatory

Authority or UDC to identify its revenue quality meters, the Scheduling Coordinator representing that Scheduling Coordinator Metered Entity shall maintain an accurate record of the revenue quality meter of each of the Scheduling Coordinator Metered Entities that it represents from time to time. The record maintained by Scheduling Coordinators must include the information set out in the applicable Business Practice Manuals. The Scheduling Coordinator must, at the CAISO's request, provide the CAISO with a copy of any information contained in that record within five (5) Business Days of a request by the CAISO in a format to be prescribed by the CAISO.

10.4 Exemptions from Compliance.

10.4.1 Authority to Grant Exemptions.

In addition to the specific exemptions granted under the CAISO Tariff, the CAISO has the authority under the CAISO Tariff to grant exemptions from compliance with certain requirements imposed by the CAISO Tariff.

10.4.2 Guidelines for Granting Exemptions.

The CAISO will use the following guidelines when considering applications for exemptions from compliance with the provisions of Section 10.

(a) Publication of Guidelines

The CAISO will publish on the CAISO Website the general guidelines that it may use when considering applications for exemptions so as to achieve consistency in its reasoning and decision making and to give prospective applicants an indication of whether an application will be considered favorably.

(b) Publication of Exemption Applications

The CAISO will promptly publish on the CAISO Website a description of each application it receives for an exemption.

(c) Publication of Decision

The CAISO will publish on the CAISO Website details of whether the application was approved or rejected by it and, if the CAISO considers it appropriate, the reasons for rejecting the application.

(d) Class Exemptions

In addition to exemptions granted to individual entities, the CAISO may grant exemptions that will apply to a class of entities. The CAISO may grant class exemptions whether or not it has received any application for an exemption. The CAISO will publish details of the class exemptions it has granted on the CAISO Website.

10.4.3 Procedure for Applying for Exemptions.

All applications to the CAISO for exemptions from compliance with the requirements of Section 10 must be made in writing and will be processed by the CAISO in accordance with the provisions of the applicable Business Practice Manual. The CAISO may require the applicant to provide additional information in support of its application. The applicant must provide such additional information to the CAISO within five (5) Business Days of receiving the request for additional information or within such other period as the CAISO may notify to the applicant. If the CAISO makes a request for additional information more than five (5) Business Days after the date on which it received the application, the CAISO will have an additional five (5) Business Days after receiving that additional information in which to consider the application. If the applicant does not provide the additional information requested, the CAISO may refuse the application in which case it will notify the applicant that its application has been rejected for failure to provide the additional information.

10.4.4 Permitted Exemptions.

10.4.4.1 Exemptions from Providing Meter Data Directly to RMDAPS.

The CAISO has the authority under Section 10.2.6 to exempt CAISO Metered Entities from the requirement to make Meter Data directly available to the CAISO via RMDAPS. The applicable Business Practice Manual sets forth specific exemptions available. In addition, the CAISO may, at its discretion, grant such an exemption where it considers the requirement to install communication links (or related facilities) between the CAISO Metered Entity and CAISO's secure communication system to allow the CAISO to directly poll the meters of that CAISO Metered Entity would be unnecessary, impractical or uneconomic.

10.4.4.2 Exemptions from Meter Standards.

The CAISO has the authority under Section 10.2.12 to exempt CAISO Metered Entities from the requirement to comply with the meter standards referred to in the CAISO Tariff. The applicable Business Practice Manual sets forth specific exemptions available.

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

11.1.1 [NOT USED]

11.1.2 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, including Energy and Ancillary Services; (7) High Voltage Access Charges and TAC Transition 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) miscellaneous charges and payments; and (18) Participating Intermittent Resource Fees.

11.1.3 Financial Transaction Conventions and Currency.

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

- (a) Where the CAISO is to receive a sum of money in accordance with this CAISO Tariff, this is defined as a “charge.”
- (b) Where the CAISO is required to pay a sum of money in accordance with this CAISO Tariff, this is defined as a “payment.”
- (c) All financial transactions are denominated in United States dollars and cents.
- (d) All payments by the CAISO to Business Associates shall be made by Fed-Wire.
All payments to the CAISO by Business Associates shall be made by Fed-Wire

11.1.4 Calculations of Settlements.

The CAISO shall calculate, account for and settle, 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, the following charges in accordance with this CAISO Tariff.

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.

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, 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.

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).

11.2.1.4 IFM Charges for Energy Exports at Scheduling Points.

For each Settlement Period that the CAISO clears Energy transactions in the IFM, the CAISO shall charge Scheduling Coordinators for the Energy export MWh quantity at individual Scheduling Points scheduled in the Day-Ahead Schedule, an amount equal to the IFM LMP for the applicable Scheduling Point multiplied by the MWh quantity at the individual Scheduling Point scheduled in the Day-Ahead Schedule.

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. 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 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.

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-Schedules submitted pursuant to an existing agreement between the TOR holder and the CAISO 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 the TOR holder and the CAISO applicable to the relevant TOR. 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 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, 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, 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. The CAISO shall pro-rate CRR Payments and CRR Charges for each Settlement Period, if there is an insufficiency of funds during that Settlement Period from the IFM Congestion Charge pursuant to Section 11.2.4.1. A monthly true up will then be conducted, on both CRR Payments and CRR Charges 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 for all scheduled Demand minus the IFM MCC for all scheduled Supply where the IFM MCC for all scheduled Demand is the sum of the products of the IFM MCC and the MWh of Demand scheduled in the Day-Ahead Schedule at all the applicable PNodes, Scheduling Points and Aggregated Pricing Nodes for the Settlement Period and the IFM MCC for all scheduled Supply is the sum of the products of the IFM MCC and the MWh of Supply scheduled in the Day-Ahead Schedule at all the applicable PNodes and Scheduling Points 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:

- (a) 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;
- (b) 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
- (c) 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 calculate 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 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. The full CRR Payment calculated pursuant to this process shall be subject to pro-ration as described in 11.2.4.4.

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. The full CRR Payment or CRR Charges calculated pursuant to this process shall be subject to pro-ration as described in 11.2.4.4.

11.2.4.2.3 Multi-Point CRR.

For each CRR Holder, the CAISO shall calculate a CRR Payment for each Multi-Point CRR held by the CRR Holder, equal to the sum of the MCCs at each CRR Sink weighted by their associated MWh quantities as specified by the CRR, minus (2) the sum of the MCCs at each CRR Source weighted by their associated MWh quantities as specified by the CRR. If the calculated amount is positive, the CAISO shall calculate a CRR Payment for the Multi-Point CRR. If the result of this calculated amount is negative, the CAISO will calculate a CRR Charge for the Multi-Point CRR. The full CRR Payment calculated pursuant to this process shall be subject to pro-ration as described in 11.2.4.4.

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 shall pay the CRR Holder for taking the applicable CRR. The CAISO shall net all revenue received and payments made through this process and shall add the net remaining seasonal and monthly CRR Auction revenue amounts (either negative or positive amounts) to the CRR Balancing Account for the appropriate month. CRR Auction revenues for each season are allocated uniformly across the three monthly accounts comprising each season.

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. If the IFM Congestion Fund is sufficient to make the required CRR Payments for the Settlement Period, all CRR Holders shall be paid and charged fully according to their entitlements. If the IFM Congestion Fund is insufficient to make the required CRR Payments, then CRR Payments and CRR Charges shall be pro-rated by a ratio equal to the total hourly amount of IFM Congestion Funds divided by the net of CRR Payments for that Settlement Period. 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-month clearing of the CRR Balancing Account processes pursuant to Section 11.2.4.4.1. Any CRR Payment shortfalls (or amounts not fully paid) and CRR Charge shortfalls (or amounts not fully charged) for the Settlement Period, will be tracked for further Settlement during the end-of-month 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, which may be subject to pro-ration if necessary as described in this Section, 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 Monthly Clearing of the CRR Balancing Account – Full Funding of CRRs.

At the end of each month, 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 month. 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 valid and balanced ETC, TOR or Converted Rights Self-Schedule quantities for which IFM Congestion Credits were provided in the same relevant month) divided by the total Measured Demand for all Scheduling Coordinators for the relevant month.

11.2.4.5 CRR Balancing Account.

The CRR Balancing Account shall accumulate: (1) the seasonal and monthly CRR Auction revenue amounts as described in Section 11.2.4.3 and (2) any surplus revenue or shortfall generated from hourly CRR Settlements as described in Section 11.2.4.4. Interest accruing due to the CRR Balancing Account shall be at the CAISO's received interest rate and shall be credited to the CRR Balancing Account.

11.2.5 Payment by Out-of Balancing Authority Area Load Serving Entity to Obtain CRRs Through the 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 prepayment to the CAISO and has met the requirements in Section 36.9. The prepayment amount shall equal the MW of 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 39.9.2, 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 [NOT USED]

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 Section 11.4.1 and 11.4.2. 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.

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. 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-Schedule Energy; (11) MSS Load Following Energy; (12) Real-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-Schedule 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-Schedule 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, Real-Time Minimum Load Energy, Regulation Energy, Ramping Energy Deviation, Derate Energy, Real-Time Self-Schedule 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. For Generating

Units, System Units of MSS Operators that have elected gross Settlement, Physical Scheduling Plants, System Resources and all Participating Load, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Resource-Specific Tier 1 UIE Settlement Interval Price as calculated per Section 11.5.2.1, and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 2 UIE quantity and the simple average of the relevant Dispatch Interval LMPs. For resources within a System Unit of MSS Operators that have elected net Settlement, the Tier 1 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 1 UIE quantity and its Real-Time Settlement Interval MSS Price and the Tier 2 UIE Settlement Amount is calculated for each Settlement Interval as the product of its Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price. The Tier 2 UIE Settlement Amount for non-Participating Load and MSS Demand under gross Settlement is settled as described in Section 11.5.2.2. For MSS Operators that have elected net Settlement, the Tier 2 UIE Settlement Amount for Demand of a net MSS Demand is calculated for the Trading Hour as the sum of the product of the hourly Tier 2 UIE quantity and the Real-Time Settlement Interval MSS Price.

11.5.2.1 Resource Specific Tier 1 UIE Settlement Interval Price.

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

11.5.2.2 Hourly Real-Time LAP Price.

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

11.5.2.3 Revenue Neutrality Resulting from Changes in LAP Load Distribution Factors.

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

11.5.3 Unaccounted For Energy (UFE).

For each Settlement Interval, the CAISO will calculate UFE for each utility Service Area for which the IOU or Local Publicly Owned Electric Utility has requested separate UFE calculation and has met the requirements applicable to a CAISO Metered Entity. The UFE will be settled as Imbalance Energy at the Settlement Interval Locational Marginal Price calculated for each utility Service Area for which UFE is calculated separately. UFE attributable to meter measurement errors, load profile errors, Energy theft, and distribution loss deviations will be allocated to each Scheduling Coordinator based on the ratio of its metered CAISO Demand within the relevant utility Service Area for which UFE is calculated separately to total metered CAISO Demand within that utility Service Area.

11.5.4 Pricing for Imbalance Energy and Allocation of Non-Zero Amounts of the Sum of IIE, UIE and UFE.

11.5.4.1 Application and Calculation of Dispatch Interval LMPs.

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

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 (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. 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 Total Non-ETC/TOR Measured Demand. To the extent that the sum of the Settlement amounts for IIE, UIE, and UFE, less Real-Time Congestion 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 Load following or net Settlement, or both, 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, less Real-Time Congestion Offset based on their MSS Aggregation Net Measured Demand.

11.5.5 Settlement Amount for Residual Imbalance Energy.

For each Settlement Interval, Residual Imbalance Energy Settlement amounts shall be the product of the MWh of Residual Imbalance Energy for that Settlement Interval and 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, 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 below. For MSS Operators the settlement for IIE from Exceptional Dispatch is conducted in the same manner, regardless of any MSS elections (net/gross Settlement, Load following or opt-in/opt-out of RUC).

11.5.6.1 Settlement for IIE from Exceptional Dispatches used for System Emergency Conditions, to Avoid Market Interruption, 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, to avoid 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 if the resource has been mitigated through the MPM-RRD 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 not associated with an Energy Bid that is delivered as a result of an Exceptional Dispatch instruction to avoid a Market Interruption, or to prevent or relieve a System Emergency is the minimum of the Resource-Specific Settlement Interval LMP, the Energy Bid price, or the negotiated price, if applicable and the Energy that does not have an Energy Bid price. 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 Emergency Conditions, to Avoid Market Interruption, and Avoid an Imminent System Emergency.

The Excess Cost Payment for incremental Exceptional Dispatches used for emergency conditions, to avoid 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 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.

11.5.6.2.1 Exceptional Dispatches Not Associated with an Energy Bid for Transmission-Related Modeling Limitations.

The Exceptional Dispatch Settlement price for IIE not associated with an Energy Bid 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 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-RRD 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 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-RRD 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 Exceptional Dispatches Associated with an Energy Bid for Transmission-Related Modeling Limitations.

The Exceptional Dispatch Settlement price for incremental IIE associated with an Energy Bid 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 CAISO FNM as described in Section 34.9.3 is the maximum of the Resource-Specific Settlement Interval LMP or the Energy Bid price. 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 the Resource-Specific Settlement Interval LMP or the Energy Bid price. 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 is settled per Section 11.5.6.2.3.

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 Exceptional Dispatch 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-RRD 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-RRD 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 pro-rata in proportion to the Participating TOs' Transmission Revenue Requirements. 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.

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
- (ii) 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:

- (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.
- (b) Start-Up Costs for Condition 2 RMR Units providing service outside the RMR Contract, and any additional Start-Up Cost associated with a Condition 2 RMR Unit providing service under the RMR Contract when the unit's total service has exceeded an RMR Contract service limit but neither the RMR Contract counted MWh, counted service hours or counted Start-Ups under the RMR Contract have exceeded the applicable RMR Contract service limit, shall be treated similar to costs under Section 11.5.6.2.5.2.

11.5.6.4 Settlement of IIE from Exceptional Dispatches used for Ancillary Services Testing and Pre-Commercial Operations Testing For Generating Units.

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 or pre-commercial operations testing for Generating Units is the maximum of the Resource-Specific Settlement Interval LMP or the Energy Bid Price, if Energy is associated with an Energy Bid. 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 and Voltage Support.

All IIE Settlement Amounts associated with Black Start and Voltage Support are derived pursuant to Section 11.10.

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.

11.5.7 HASP and RTM Congestion Credit and Marginal Cost of Losses Credit for Eligible TOR Self-Schedules.

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) 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 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 HASP Intertie 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 the CAISO 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 agreement between the TOR holder and the CAISO applicable to the relevant TOR. 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 Point 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 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 purchase and the simple average of the relevant Dispatch Interval LMPs at the applicable Scheduling Point. The Excess 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 [NOT USED]

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 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 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 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 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 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, only if the resource has actually stopped or started consuming pursuant to the Dispatch Instruction. BCR Eligible Resources for different MSS Operators are supply resources listed in the applicable MSS Agreement. All Bid Costs shall be based on mitigated Bids as specified in Section 39.7. In order to be eligible for Bid Cost Recovery, Non-Dynamic Resource-Specific System Resources must provide to the CAISO Revenue Quality Meter Data demonstrating that they have performed in accordance with their CAISO commitments.

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, Minimum Load Costs, IFM Pump Shut-Down Costs and IFM Pumping Costs, the CAISO derives the Self-Commitment Periods as described below. 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. 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.

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. Consequently, if a Bid Cost Recovery Eligible Resource self-commits at time h , the self-commitment will be extended to Commitment Interval $h + \text{MUT}$, unless an IFM or RUC Commitment Period exists starting after hour h , in which case the self-commitment will be extended to Commitment Interval $h + \min(\text{MUT}, t)$. 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). Consequently, 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 $T1 - T2 < \text{MDT}$. 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 $\text{MDS} + 1$ if the first Real-Time Market Self-Commitment Period is the continuation of a Real-Time Market Commitment Period from the previous Trading Day). Consequently, 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.

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, IFM Minimum Load Cost, IFM Pump Shut-Down Cost, IFM Energy Bid Cost, IFM Pumping Cost, and IFM AS Bid Cost.

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 in 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 following rules shall apply sequentially to qualify the IFM Start-Up Cost in an IFM Commitment Period:

- (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.

- (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 IFM Minimum Load Cost, a Bid Cost Recovery Eligible 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.

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 in which shut down is to occur 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 by Meter Data).

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.

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, 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.

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 upward 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.

11.8.2.2 IFM Market Revenue.

For any Settlement Interval in a CAISO IFM Commitment Period the IFM Market Revenue for a Bid Cost Recovery Eligible Resource is the algebraic sum of: (1) the product of the MWh, in the relevant Day-Ahead Schedule 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; 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. 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 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.

11.8.3 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 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.

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 Minimum Load Cost and RUC Availability Bid Cost.

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 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.
- (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.
- (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 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 Generating 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 RUC Minimum Load Cost, a Bid Cost Recovery Eligible 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.

11.8.3.1.3 RUC Availability Bid Cost.

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.

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.

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 Pump Shut-Down Cost, RTM Energy Bid Cost, RTM Pumping Cost and RTM AS Bid Cost.

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 Generating 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 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 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.

- (d) 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.
- (e) The Real-Time Market Start-Up Cost shall be qualified if an actual Start-Up occurs within that Real-Time Market Commitment Period.
- (f) 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 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 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; or (4) that Settlement Interval is included in an IFM or RUC Commitment Period. For the purposes of RTM Minimum Load Cost, a Bid Cost Recovery Eligible 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.

11.8.4.1.3 RTM Pump Shut-Down Cost.

The RTM Pump Shut-Down Cost is the relevant Pump Shut-Down Cost submitted by the Scheduling Coordinator for Pumped-Storage Hydro Units and Participating Load committed by the Real-Time Market to stop pumping and serving Load and actually does not operate in pumping mode or serve Load in that Settlement Interval, divided by the number of Settlement Intervals in a Trading Hour.

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.

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.

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).

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 following:

- (a) The sum of the products of the Instructed Imbalance Energy (including Energy from Minimum Load of Bid Cost Recovery Eligible Resources committed in RUC 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;
- (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.

11.8.4.2.2 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.

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 Surpluses calculated pursuant to Section 11.8.2, RUC Bid Cost Shortfalls and Surpluses calculated pursuant to Section 11.8.3, and the RTM Bid Cost Shortfalls and Surpluses calculated pursuant to Section 11.8.4 for that Bid Cost Recovery Eligible Resource over a Trading Day is positive. 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 Surplus for each market for each Trading Hour is the sum of the IFM, RUC, and RTM Bid Cost Shortfalls and 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 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 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 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.
- (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 11.8.6.3. The hourly Net IFM Bid Cost Uplift is allocated in two tiers as follows:

- (i) In the first tier, the hourly Net IFM Bid Cost Uplift is allocated to Scheduling Coordinators in proportion to their non-negative IFM Load Uplift Obligation, but with an IFM Bid Cost Uplift rate not exceeding the ratio of the hourly Net IFM Bid Cost Uplift for the Trading Hour divided by 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. 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 the difference between the total Demand scheduled in the Day-Ahead Schedule of that Scheduling Coordinator and the scheduled Generation from the Self-Schedules in the Day-Ahead Schedule of that Scheduling Coordinator, plus imports scheduled by that Scheduling Coordinator in its Day-Ahead Schedule, adjusted by any applicable Inter-SC Trades of IFM Load Uplift Obligations.
- (ii) 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.

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 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.

- (i) In the first tier, the RUC Compensation Costs are allocated to Scheduling Coordinators, based on their Net Negative CAISO Demand Deviation in that Trading Hour. The Scheduling Coordinator shall be charged at a rate which is the lower of (1) the RUC Compensation Costs divided by the Net Negative CAISO Demand Deviation for all Scheduling Coordinators in that Trading Hour; or (2) the RUC Compensation Costs divided by the RUC Capacity, for all Scheduling Coordinators in that Trading Hour. Participating Load shall not be subject to the first tier allocation of RUC Compensation Costs.

- (ii) In the second tier, the Scheduling Coordinator shall be charged an amount equal to any remaining RUC Compensation Costs in proportion to the Scheduling Coordinator's metered CAISO Demand in any Trading Hour.

11.8.6.6 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 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 to not follow their Load and gross Settlement, in proportion to their Measured Demand for the Trading Hour. For Scheduling Coordinators for MSS Operators that have elected to either Load follow or net Settlement, or both, the hourly RTM Bid Cost Uplift is allocated in proportion to their MSS Aggregation Net Measured Demand. Accordingly, each Scheduling Coordinator shall be charged an amount equal to its Measured Demand 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 across all Scheduling Coordinators for the Trading Hour.

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 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.

The IFM calculates hourly Day-Ahead Ancillary Service Awards and establishes Ancillary Service Marginal Prices (ASMPs) for the accepted Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve Bids. The IFM co-optimizes Energy and Ancillary Services subject to resource, network and regional constraints, and awards Ancillary Services resources in economic merit order subject to those constraints. For each service, the economic merit order is determined as the sum of the Ancillary Service capacity Bid price of the resource and the foregone opportunity cost of Energy in the IFM for that resource. Payments to Scheduling Coordinators shall be equal to the ASMP for the each Ancillary Service multiplied by the quantity of the capacity awarded for the Ancillary Service. The ASMP is marginal cost of providing an Ancillary Service in the relevant resource location (\$/MW/hr). The ASMPs determined by the IFM optimization process at each resource location where an Ancillary Service Bid is accepted will be no lower than the sum of (i) the Ancillary Service capacity Bid price submitted for that resource, and (ii) the foregone opportunity cost of Energy in the IFM for that resource. The foregone opportunity cost of Energy is measured as the positive difference between the IFM LMP at the resource's Pricing Node and the resource's Energy Bid price (e.g., if the resource's Energy Bid price is higher than the LMP, the opportunity cost is \$0). If a resource has submitted an Ancillary Service Bid but no Energy Bid and is under an obligation to offer Energy in the DAM (e.g. a non-hydro Resource Adequacy Resource), its Default Energy Bid will be used, and its opportunity cost calculated accordingly. If a resource has submitted an Ancillary Service Bid but no Energy Bid and is not under an obligation to offer Energy in the DAM, its Energy opportunity cost is \$0 (since it cannot be dispatched for Energy even if the LMP at its Location goes to the Bid cap). Suppliers with Self-Provided Ancillary Services are not eligible to receive ASMPs; Self-Provided Ancillary Services are priced at the user rate for the service being self-provided.

11.10.1.1 Congestion Charges for Day-Ahead Intertie Ancillary Service Awards

Suppliers of Day-Ahead Ancillary Services Awards over the Interties also are charged for Congestion if the Ancillary Service Award 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 for the Settlement Period.

11.10.1.2 Ancillary Services Provided in HASP.

For Ancillary Services provided from System Resources in the HASP, hourly pre-dispatch schedules, awards, and prices are established in HASP optimization. Suppliers of Ancillary Services from System Resources are paid an amount equal to the product of the simple average of the ASMPs computed four 15-minute intervals of HASP for the each Ancillary Service times the quantity of the capacity awarded for the Ancillary Service for the Settlement Period. Scheduling Coordinators for resources that receive an Ancillary Service Award in the Day-Ahead Market that are unable to satisfy their Ancillary Services Obligation due to an Outage or derate, may use the HASP to substitute another resource to provide the awarded Ancillary Service. The Scheduling Coordinator for the substituting resource must: (a) submit an Outage notification to the CAISO indicating that the awarded resource is not available, and (b) provide another resource to fulfill the awarded Ancillary Service. The substitution must clear the co-optimization in HASP (including Ancillary Service Regional Limits) and the substitution will be exposed to a price difference between the ASMPs, or if self provided, between the ASMP and the user rate, if any. Scheduling Coordinators that receive an Ancillary Service Award at the Scheduling Point in HASP are charged the simple average of the 15-minute MCC using the relevant Shadow Price of the applicable congested Scheduling Point.

11.10.1.2.1 Congestion Charges for HASP Intertie Ancillary Service Awards.

Suppliers of HASP Ancillary Services Awards at Scheduling Points are also charged for Congestion if the Ancillary Service Award is at a congested Scheduling Point. The charge shall be equal to the simple average of the 15 minute Shadow Price of the applicable congested Scheduling Point multiplied by the quantity of the Ancillary Service Award for the Settlement Period.

11.10.1.3 Ancillary Services Provided in Real-Time.

For Ancillary Services provided from resources internal to the CAISO Balancing Authority Area in the Real-Time Market, the RTUC process that is performed every fifteen (15) minutes establishes fifteen (15) minute Ancillary Service Schedules, awards, and prices for the upcoming quarter of the Operating Hour. Suppliers of Ancillary Services from resources internal to the CAISO Balancing Authority Area are paid a price equal to $\frac{1}{4}$ of the fifteen (15) minute ASMP (in \$/MW/h) in each fifteen (15) minute interval for the each Ancillary Service times the amount of the capacity awarded (MW) for the Ancillary Service in the relevant Ancillary Services Region. Suppliers with Ancillary Service Awards receive the ASMP at the resource's location. Suppliers that self-provide Ancillary Services in the Real-Time Market are not eligible to receive 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).

11.10.1.3.1 Congestion Charges for Real-Time Intertie Ancillary Service Awards from Dynamic System Resources.

Suppliers of Real-Time Ancillary Services Awards at Scheduling Points for Dynamic System Resources are also charged for Congestion if the award is at a congested Scheduling Point. The charge shall be equal to the simple average of the fifteen (15) minute Shadow Price of the applicable congested Scheduling Point multiplied by the quantity of the Ancillary Service Award for the Settlement Period.

11.10.1.4 Voltage Support.

The total payments for each Scheduling Coordinator for Voltage Support shall be the sum of the short-term procurement payments, based on opportunity cost, as described in Section 8.3.8, and the payments under long-term contracts.

11.10.1.5 Black Start.

Quantities. The following quantities shall be used in the Settlement process for Black Start:

$EnQBS_{ijt}$ = Energy output from Black Start made by Generating Unit i from Scheduling Coordinator j (or Black Start Generator j, as the case may be) for Settlement Period t, pursuant to the CAISO's order to produce.

Prices. The prices used in the Settlement process for Black Start are those described in the contracts referred to in Section 8.3.9.

Adjustment = penalty described in Section 8.10.7.

Payments. Scheduling Coordinators for owners of Reliability Must-Run Units (or Black Start Generators, as the case may be) shall receive the following payments for Energy output from Black Start facilities:

$$BSEN_{ijt} = (EnQBS_{ijt} * EnBid_{ijt}) + BSSUP_{ijt-Adjustment}$$

where $BSSUP_{ijt}$ is the start-up payment for a Black Start successfully made by Generating Unit i of Scheduling Coordinator j (or Black Start Generator j) in Trading Interval t calculated in accordance with the applicable Reliability Must-Run Contract (or the Interim Black Start Agreement as the case may be).

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.

11.10.2 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 DAM, 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.

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 DAM, HASP, and the Real-Time Market due to the operation of Section 8.2.3.5 is zero, then the user rate for that Ancillary Service type will be zero.

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 DAM, HASP, and the Real-Time Market, exceed (ii) the total amounts charged to Scheduling Coordinators pursuant to this Section 11.10.2, for the DAM, 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.

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 DAM, HASP, 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, HASP, 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: 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. The Scheduling Coordinator's Ancillary Services Obligation percentage is the total hourly Real-Time Regulation Down required divided by the hourly metered CAISO Demand.

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.

11.10.2.2 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, HASP, 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, HASP, 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. The Scheduling Coordinator's Ancillary Services Obligation percentage for Regulation Up is the total hourly Real-Time Regulation Up divided by the hourly metered CAISO Demand.

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.

11.10.3 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) 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). 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 (MW) 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 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, and on-demand obligations which it schedules.

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 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 for 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

awarded 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 Credit Adjustment Factor (NOROCAF).

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 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 (NOROCAF) 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 net of 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 short-term market Voltage Support user rate for Settlement Period t for Zone x shall be calculated as follows:

$$VSSRate_{x,t} = \frac{\sum_{i,j} VSS_{xijt}}{\sum_j QChargeVS_{xjt}}$$

VSS_{xijt} = Voltage Support payment to Scheduling Coordinator j in respect of Generating Unit i in Zone x in the short-term market applicable to Settlement Period t.

$QChargeVS_{xjt}$ = charging quantity for Voltage Support for Scheduling Coordinator j for Settlement Period t in Zone x equal to the total metered Demand in Zone x (including exports to neighboring Control Areas and excluding metered Demand inside an MSS) by Scheduling Coordinator j for Settlement Period t.

The monthly long-term Voltage Support contract user rate for Settlement Period t for Zone x shall be calculated as follows:

$$VSLTRate_{x,m} = \frac{\sum_{i,j} VSLT_{xijm}}{\sum_{jm} QChargeVS_{xjt}}$$

where:

$VSLT_{xijm}$ = long-term Voltage Support contract payment to Scheduling Coordinator j for owner of Reliability Must-Run Unit i in Zone x for month m.

The short-term market Voltage Support charges for Settlement Period t payable by Scheduling Coordinator j will be calculated as follows:

$$VSSTCharge_{jt} = VSSTRate_t * QChargeVS_{jt}$$

where $VSSTCharge_{jt}$ is the amount payable by Scheduling Coordinator j for short-term market Voltage Support for Settlement Period t.

$VSSTRate_t$ is the short-term market Voltage Support user rate for Settlement Period t. The monthly long-term Voltage Support contract charge for month m payable by Scheduling Coordinator j will be calculated as follows:

$$VSLTCharge_m = VSLTRate_m * \sum_m QChargeVS_{jt}$$

where $VSLTCharge_m$ is the amount payable by Scheduling Coordinator j for long-term Voltage Support for month m.

$VSLTRate_m$ is the monthly long-term Voltage Support contract user rate charged by the CAISO to Scheduling Coordinators for month m.

11.10.8 Black Start.

$QChargeBlackstart_{jt}$ = charging quantity for Black Start for Scheduling Coordinator j for Settlement Period t equal to the total metered Demand (excluding exports to neighboring Balancing Authority Areas and metered Demand of a MSS) by Scheduling Coordinator j for Settlement Period t.

The Black Start Energy payment user rate for Settlement Period t will be calculated as follows:

$$BSRate_t = \frac{\sum_{i,j} BSE_{ij,t}}{\sum_j QChargeBlackstart_{jt}}$$

where $BSE_{ij,t}$ is the CAISO payment to Scheduling Coordinator j for owner of Reliability Must-Run Unit (or to Black Start Generator j, as the case may be) for Generating Unit i providing Black Start Energy in Settlement Period t.

The Black Start Energy user charge for Settlement Period t for Scheduling Coordinator j will be calculated as follows:

$$BSCharge_{jt} = BSRate_t * QChargeBlackStart_{jt}$$

11.10.9 Settlements of Rescission of Payments for Ancillary Services Capacity that is Undispatchable, Unavailable, and Undelivered 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 Ancillary Service Marginal Price (ASMP) is less than or equal to zero.

11.10.9.1 Rescission of Payments for Undispatchable Ancillary Service Capacity.

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, System Unit or System Resource for the Settlement Interval shall be rescinded; provided, however, that to the extent an Ancillary Service procured in the IFM from a System Resource becomes Undispatchable Capacity due to an Intertie transmission derate before the Operating Hour for which it was procured, in rescinding the Ancillary Service capacity payment, the CAISO shall credit back to the Scheduling Coordinator any Congestion Charge assessed pursuant to Section 11.10.1.1.1, but at the lower of the Day-Ahead and HASP Shadow Price 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, 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, 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, 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. However, no capacity payment shall be rescinded if the shortfall in the metered output of the Generating Unit, Participating Load, 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 CAISO Balancing Authority Area Measured Demand for the same Trading Day. Regulation capacity payments rescinded pursuant to Section 8.10.8.6 shall be allocated to Scheduling Coordinators in proportion to CAISO Balancing Authority Area metered CAISO Demand for the same Trading Day.

11.11 High Voltage Access Charges and Transition Charges, and Wheeling Through and Wheeling Out Transactions.

11.11.1 High Voltage Access Charges and Transition Charges.

High Voltage Access Charges and Transition 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. The net Uninstructed Imbalance Energy in each Settlement Interval shall be assigned to a deviation account 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. If the above-referenced scheduling requirements for Participating Intermittent Resources are not met, then charges (payments) for Uninstructed Imbalance Energy during such Settlement Periods shall be determined in accordance with Section 11.5.2.

11.12.2 Allocation of Costs From Participating Intermittent Resources.

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 Participating Intermittent Resources shall be assessed to Scheduling Coordinators for Participating Intermittent Resources as specified in Schedule 4 of Appendix F.

11.12.3.2 Process Fee.

A fee to defray the costs of processing the Participating Intermittent Resource Export Fee will be levied as specified in Schedule 4 of Appendix F.

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 for Participating Intermittent Resources.

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 Reliability Must-Run 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 a Settlement Account at a commercial bank located in the United States and reasonably acceptable to the CAISO which can effect money transfers via Fed-Wire 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 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 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.

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.

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 Fed-Wire 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 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.

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 Fed-Wire. 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 wire transfer.

11.13.7.3 Payment by RMR Owners and Responsible Utilities.

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

Subject to Section 41.6, each Responsible Utility shall remit to the RMR Owner Facility Trust Account the amount shown on the relevant CAISO Invoice 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.

If by 10:00 am on a Payment Date the CAISO, in its reasonable opinion, believes the RMR Default Amount will not be or has not been remitted, 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 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 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 11.29.10.1 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 Debtors are lower than payments calculated as due to the CAISO Creditors for the same Trading Day. 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 Ancillary Services and RUC Capacity Obligation Rescission of Payments 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 Order of Payment Rescission for Resources with More Than One Capacity Obligation in a Settlement Interval.

If the Generating Unit, Participating Load, System Unit or System Resource is scheduled to provide more than one capacity obligation in a Settlement Interval, the order in which the non-compliant Ancillary Service and RUC Capacity will be apportioned to the various services under Section 8.10.8 is as follows. For Undispatchable Capacity the non-compliant capacity is first apportioned to RUC Capacity and then to any Non-Spinning Reserves. If the amount of Undispatchable Capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. For Unavailable Capacity or Undelivered Capacity the non-compliant capacity is first apportioned to any Non-Spinning Reserves. If the amount of non-compliant Ancillary Service capacity exceeds the amount of Non-Spinning Reserves, then the payment shall be eliminated for Spinning Reserves. If the same Ancillary Service is scheduled in the Day-Ahead Market, HASP 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 Metered Subsystems with an Obligation to Provide Ancillary Service Capacity or RUC Capacity in a Settlement Interval.

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 Operating and Capital Reserves Account.

Revenues collected to fund the CAISO financial operating reserves shall be deposited in an Operating and Capital Reserves Account until such account reaches a level specified by the CAISO Governing Board. The Operating and Capital Reserves Account shall be calculated separately for each GMC service category (Core Reliability Services – Demand, Core Reliability Services – Energy Export, Energy Transmission Services – Net Energy, Energy Transmission Services – Uninstructed Deviations, Forward Scheduling, Congestion Management, Market Usage, and Settlements, Metering and Client Relations). The allocation factors, reassignments and reallocations specified in Schedule 1, Parts E and F, will be accounted for in the development of the Operating and Capital Reserves Account for each component. If the Operating and Capital Reserves Account as calculated for such service category is fully funded, surplus funds will be considered an offset to the revenue requirement of the next fiscal year.

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 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.

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 Collected from Scheduling Coordinators.

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 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. The FERC Annual Charges for a given Trading Month that are due monthly will be issued to Scheduling Coordinators twice a month in accordance with the CAISO Payments Calendar in the same Invoice and Payment Advice that contains the market Settlement and Grid Management Charge. The FERC Annual Charges for a given trading month that are due annually will be issued to Scheduling Coordinators twice a month on the same day as the market Invoice and Payment Advice but in a separate Invoice as indicated in Section 11.29.10. 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;
- (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 percent (10%) 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 percent (10%), the CAISO shall either assess a surcharge against all active Scheduling Coordinators for the amount under-recovered or shall issue a credit to all active Scheduling Coordinators for the amount over-recovered. Such surcharge or credit shall be allocated among all active Scheduling Coordinators based on the percentage of each 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 60 days of receiving a FERC Annual Charge assessment from the FERC.

11.19.4 Credits and Debits of FERC Annual Charges Collected from Scheduling Coordinators.

In addition to the surcharges or credits permitted under this CAISO Tariff, the CAISO shall credit or debit, as appropriate, the account of a 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:

- (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.

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 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 Assessed 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.

- (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 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 ISO 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 NERC/WECC Charge Invoices 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 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 Disput-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 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 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 [NOT USED]

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]

11.22.2 Costs Included in the Grid Management Charge.

11.22.2.1 [NOT USED]

11.22.2.2 Operating Costs.

Budgeted annual operating costs, which shall include all staffing costs including remuneration of contractors and consultants, salaries, benefits and any incentive programs for employees, costs of operating, replacing and maintaining CAISO systems, lease payments on facilities and equipment necessary for the CAISO to carry out its business, and annual costs of financing the CAISO's working capital and other operating costs ("Operating Costs").

11.22.2.3 Financing Costs.

The financing costs that are approved by the CAISO Governing Board, including capital expenditures that may be financed over such period as the CAISO Governing Board shall decide. Financing Costs shall also include the CAISO start up and development costs standing to the credit of the CAISO Memorandum Account plus any additional start up or development costs incurred after the date of Resolution E-3459 (July 17, 1996), plus any additional capital expenditure incurred by the CAISO in 1998 ("Start Up and Development Costs"). The amortized amount to be included in the Grid Management Charge shall be equal to the amount necessary to amortize fully all Start Up and Development Costs over a period of five (5) years, or such longer period as the CAISO Governing Board shall decide ("Financing Costs").

11.22.2.4 Operating and Capital Reserves Cost.

The budgeted annual cost of pay-as-you-go capital expenditures and reasonable coverage of debt service obligations. Such reserves shall be utilized to minimize the impact of any variance between forecast and actual costs throughout the year ("Operating and Capital Reserves Costs").

11.22.2.5 Allocation of the Grid Management Charge Among Scheduling Coordinators.

The costs recovered through the Grid Management Charge shall be allocated to the eight service charges that comprise the Grid Management Charge. If the CAISO's revenue requirement for any service charge changes from the most recent FERC-approved revenue requirement for that service charge, the costs recovered through that service charge shall be delineated in a filing to be made at FERC as set forth in Section 11.22.2.6. The eight service charges are as follows:

- (1) Core Reliability Services - Demand Charge,
- (2) Core Reliability Services – Energy Exports Charge
- (3) Energy Transmission Services Net Energy Charge,
- (4) Energy Transmission Services Uninstructed Deviations Charge,
- (5) Forward Scheduling Charge,
- (6) Congestion Management Charge,
- (7) Market Usage Charge, and
- (8) Settlements, Metering, and Client Relations Charge.

The eight 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 of this Tariff, subject to the requirements set out in Appendix F, Schedule 1, Part F of this Tariff.

11.22.2.5.1 Core Reliability Services – Demand Charge.

The Core Reliability Services - Demand Charge for a Scheduling Coordinator's Load that is not associated with Energy Exports is calculated using the Scheduling Coordinator's metered non-coincident peak hourly Demand during the month (in megawatts) less the volume of Energy Exports included in the Scheduling Coordinator's non-coincident peak hourly Demand for the month, if any; provided that if the Scheduling Coordinator's metered non-coincident peak hour during the month occurs during the hours ending 0100 through 0600, or during the hours ending 2300 through 2400 the rate shall be sixty-six (66) percent of the standard CRS rate. The standard rate for the Core Reliability Services – Demand Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total of the forecasted metered non-coincident peak hourly Demand for all months during the year (excluding the portion of such Demand associated with Energy Exports, if any), reduced by thirty-four (34) percent of the sum of all Scheduling Coordinators' metered non-coincident peak hour during the month occurs between the hour ending 2300 and the hour ending 0600, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

11.22.2.5.2 Core Reliability Services – Energy Exports Charge.

The Core Reliability Services – Energy Exports Charge for the load associated with a Scheduling Coordinator's Energy Exports is calculated using the Scheduling Coordinator's metered volume of Energy Exports (in megawatt-hours). The rate for the Core Reliability Services – Energy Exports Charge is determined by dividing the GMC costs allocated to the Core Reliability Services service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

11.22.2.5.3 Energy Transmission Services Net Energy Charge.

The Energy Transmission Services Net Energy Charge for each Scheduling Coordinator is calculated using that Scheduling Coordinator's Metered Control Area Load (in megawatt-hours). The rate for the Energy Transmission Services Net Energy Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted Metered Control Area Load, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

11.22.2.5.4 Energy Transmission Services Uninstructed Deviations Charge.

The Energy Transmission Services Uninstructed Deviations Charge for each Scheduling Coordinator is calculated using that Scheduling Coordinator's net uninstructed deviations by Settlement Interval. The rate for the Energy Transmission Services Uninstructed Deviations Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted net uninstructed deviations by Settlement Interval according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

11.22.2.5.5 Forward Scheduling Charge.

The Forward Scheduling Charge for each Scheduling Coordinator is calculated using the sum of that Scheduling Coordinator's final hour-ahead Schedules, including all awarded Ancillary Services bids, with a value other than 0.03 MW. The Forward Scheduling Charge attributable to final hour-ahead Schedules for Inter-Scheduling Coordinating Energy and Ancillary Service Trades for each Scheduling Coordinator is fifty (50) percent of the standard Forward Scheduling Charge. The rate for the Forward Scheduling Charge is determined by dividing the GMC costs allocated to this service category, including a specified

percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted final hour-ahead Schedules and awarded Ancillary Service bids submitted to the CAISO, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

11.22.2.5.6 Market Usage Charge.

The Market Usage Charge for each Scheduling Coordinator is calculated using the absolute value of the Scheduling Coordinator's market purchases and sales of Ancillary Services, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations being netted by Settlement Interval). For a Scheduling Coordinator for a Load following MSS, Instructed Imbalance Energy associated with Load following instructions will not be assessed the Market Usage Charge for Instructed Imbalance Energy and will be netted with Uninstructed Imbalance Energy for determining the Market Usage Charge for net Uninstructed Imbalance Energy. The rate for the Market Usage Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted number of market purchases and sales, according to the formula in Appendix F, Schedule 1, Part A.

11.22.2.5.7 Settlements, Metering, and Client Relations Charge.

The Settlements, Metering, and Client Relations Charge for each Scheduling Coordinator is fixed at \$500.00 per month, per Scheduling Coordinator ID with an invoice value other than \$0.00 in the current trade month, as indicated in Appendix F, Schedule 1, Part A of this Tariff. Excess GMC costs related to the provision of these services that are not recovered through this charge are allocated to the other GMC service categories as specified above and in Appendix F, Schedule 1, Part E of this Tariff.

11.22.2.6 Calculation and Adjustment of the Grid Management Charge.

The eight 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 of this Tariff. The formula set forth in Appendix F, Schedule 1, Part C of this Tariff sums the Operating Costs (less any available expense recoveries), Financing Costs, and Operating and Capital Reserves Costs associated with each of the eight CAISO service charges to obtain a total revenue requirement. This revenue requirement is allocated among the eight charges of the GMC through the application of the factors specified in Appendix F, Schedule 1, Part E of this Tariff.

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 of this Tariff. The CAISO shall post on its website each year, before the adjusted rates go into effect, as described in Appendix F, Schedule 1, Part D of this Tariff, 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 billing determinant volumes used to establish the rates. The circumstances under which the CAISO is permitted to put the adjusted rates into effect without submitting a filing to the FERC are described in Appendix F, Schedule 1, Part D of this Tariff. Appendix F, Schedule 1, Part B of this Tariff 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 MSS GMC Charges.

If the CAISO is charging Grid Management Charges for Uninstructed Deviations, and the Scheduling Coordinator for a Load-following MSS has Uninstructed Deviations associated with the MSS's resources, then the CAISO will net the Generation and imports into the MSS to match the Demand and exports out of the MSS, and will not assess GMC associated with Uninstructed Deviations for such portion of Energy that is used to match MSS Demand and net exports.

11.22.3.1 If Generation, above the amount to cover Demand and exports, was sold into the CAISO's Real-Time Market, then the Scheduling Coordinator for the MSS will be charged GMC associated with Uninstructed Deviations for this quantity.

11.22.3.2 If insufficient Generation and imports was available to cover Demand and exports, and the Scheduling Coordinator for the MSS purchased Imbalance Energy from the CAISO Markets, then such Scheduling Coordinator will be charged GMC associated with Uninstructed Deviations for this quantity.

11.22.3.3 Only GMC associated with deviations (the Ancillary Services and Real-Time Energy Operations Charge (ASREO)) will be treated on a net basis. GMC for Control Area Services (CAS) will be charged based on Gross Load and exports out of the MSS. The Scheduling Coordinator for the MSS Operator will be assessed the GMC Congestion Management Charge (CONG) in accordance with Section 11.22.2.5. Ancillary Service Bids accepted by the CAISO and Instructed Imbalance Energy, will be assessed the GMC ASREO.

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. The Uninstructed Deviation Penalty will be applied as follows:

- (a) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be calculated and assessed in each Settlement Interval. The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be calculated and assessed in each Settlement Interval in which the CAISO has not declared a staged System Emergency;
- (b) The Uninstructed Deviation Penalty will apply to pre-Dispatched Bids from Non-Dynamic System Resources identified, when such a pre-Dispatch Instruction is issued more than forty (40) minutes prior to the relevant Operating Hour, subject to the following conditions: i) the Uninstructed Deviation Penalty will only apply to the pre-Dispatched amount of the Bid that is declined or not delivered, ii) the Uninstructed Deviation Penalty will not apply to a portion of a pre-Dispatched Bid that is subsequently not delivered at the direction of a Balancing Authority,

including the CAISO, due to a curtailment of transmission capability or to prevent curtailment of native firm load occurring subsequent to issuing the pre-Dispatch Instruction, iii) the Uninstructed Deviation Penalty will not apply to Uninstructed Imbalance Energy resulting from declining subsequent intra-hour Dispatch Instructions. Dynamically scheduled Dynamic System Resources, to the extent they deviate from their Day-Ahead Schedule plus any Dispatch Instructions, will be subject to the Uninstructed Deviation Penalty.

- (c) The Uninstructed Deviation Penalty will not apply to Load or Curtailable Demand.
- (d) **[NOT USED]**
- (e) The Uninstructed Deviation Penalty will not apply to Regulatory Must-Run Generation or Participating Intermittent Resources that meet the scheduling obligations established in the Eligible Intermittent Resources Protocol in Appendix Q. No other applicable charges will be affected by this exemption. The Uninstructed Deviation Penalty also will not apply to Qualifying Facilities (QFs), including those that are dynamically scheduled, that have not executed and are not required pursuant to this CAISO Tariff to execute a Participating Generator Agreement (PGA) or Qualifying Facility Participating Generator Agreement.
- (f) All MSS resources designated as Load-following resources pursuant to Section 4.9.13.2 (regardless of gross or net settlement election) are exempt from Uninstructed Deviation Penalties in this Section 11.23. All MSS resources not designated as Load-following resources pursuant to Section 4.9.13.2 (regardless of gross or net Settlement election) are subject to Uninstructed Deviation Penalties in this Section 11.23.

- (g) The Uninstructed Deviation Penalty will apply to Generating Units providing Regulation and dynamically scheduled Dynamic System Resources providing Regulation to the extent that Uninstructed Deviations from such resources exceed each resource's actual Regulation range plus the applicable Tolerance Band. Resources providing Regulation and generating within their relevant Regulating range (or outside their relevant Regulating range as a direct result of CAISO control or instruction) will be deemed to have zero (0) deviations for purposes of the Uninstructed Deviation Penalty.
- (h) The Uninstructed Deviation Penalty will be calculated and assessed for each resource individually, except as specified in Appendix R, which specifies when Uninstructed Deviations from individual resources may be aggregated.
- (i) **[NOT USED]**
- (j) **[NOT USED]**
- (k) The Uninstructed Deviation Penalty will not apply when the applicable LMP is negative or zero.
- (l) The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to one hundred percent (100%) of the corresponding LMP. The relevant LMP will be calculated for each UDP Location as the ten-minute weighted average price of two five-minute Dispatch Interval LMPs and the two five-minute optimal Instructed Imbalance Energy quantities. The net effect of the Uninstructed Deviation Penalty and the Settlement for positive Uninstructed Imbalance Energy beyond the Tolerance Band will be that the CAISO will not pay for such Energy.

- (m) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to fifty percent (50%) of the corresponding Resource-Specific Settlement Interval LMP or, in the case of aggregated resources, the Settlement Interval Penalty Location Real-Time LMP.
- (n) The Uninstructed Deviation Penalty will not apply to deviations from Energy delivered as part of a scheduled test so long as the test has been scheduled by the Scheduling Coordinator with the CAISO or the CAISO has initiated the test for the purposes of validating unit performance.
- (o) The Uninstructed Deviation Penalty shall not apply to any excess Energy delivered from or any shortfall of Energy not delivered from an Exceptional Dispatch, involving a Generating Unit or a System Unit unless the CAISO and the supplier have agreed upon the time of, duration of, and amount of Energy to be delivered in the out-of-market transaction and the CAISO reflects the out-of-market transaction in its Real-Time Expected Energy calculations. The Uninstructed Deviation Penalty shall apply to Energy outside the Tolerance Band from out-of-market transactions with dynamically scheduled Dynamic System Resources to the extent the agreed-to Energy is not delivered or over-delivered, and to any Energy from Non-Dynamic System Resources to the extent the agreed-to Energy is not delivered if that over- or under-delivery was due to action taken by or not taken by the System Resource and not the result of action taken by a Balancing Authority due to a curtailment of firm transmission capability or to prevent curtailment of native firm load occurring subsequent to the out-of-market transaction.

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

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

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

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

11.24 Interim Scheduling Report, Charge and Allocation.

11.24.1 Interim Scheduling Report.

The CAISO will provide to each Scheduling Coordinator on a weekly basis a report of the difference between a Scheduling Coordinator's metered CAISO Demand and the total CAISO Demand scheduled by the Scheduling Coordinator in its Day-Ahead Schedule, based on available Meter Data. The CAISO shall treat such reports as confidential in accordance with Section 20. Such reports shall be prepared as provided in the applicable Business Practice Manual.

11.24.2 Interim Scheduling Charge.

In the event that a Scheduling Coordinator's Net Negative CAISO Demand Deviation in its applicable LAP exceeds fifteen percent (15%) of the Scheduling Coordinator's cleared total CAISO Demand as represented in its Day-Ahead Schedule in its applicable LAP for five percent (5%) or more of the total Trading Hours in any given month, the Scheduling Coordinator shall pay through the end of the applicable calendar month the monthly Interim Scheduling Charge as follows:

- (a) For any given Trading Hour in which the Scheduling Coordinator's Net Negative CAISO Demand Deviation in its applicable LAP is greater than fifteen percent (15%) and less than twenty percent (20%) of the Scheduling Coordinator's cleared total CAISO Demand as represented in its Day-Ahead Schedule in its applicable LAP, the Scheduling Coordinator shall pay \$150/MWh for its Net Negative CAISO Demand Deviation that is greater than fifteen percent (15%) and less than twenty percent (20%) of its cleared total CAISO Demand as represented in its Day-Ahead Schedule in the applicable LAP in that Trading Hour.

- (b) For any given Trading Hour in which the Scheduling Coordinator's Net Negative CAISO Demand Deviation in its applicable LAP is greater than or equal to twenty percent (20%) of the Scheduling Coordinator's cleared total CAISO Demand as represented in its Day-Ahead Schedule in its applicable LAP, the Scheduling Coordinator shall pay \$250/MWh for its Net Negative CAISO Demand Deviation greater than or equal to twenty percent (20%) of its cleared total CAISO Demand as represented in its Day-Ahead Schedule in the applicable LAP in that Trading Hour.

11.24.3 Exemptions from the Interim Scheduling Charge.

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

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

11.24.4 Allocation of Revenue Collected Under the Interim Scheduling Charge.

Any revenues collected with the assessment of the Interim Scheduling Charge shall be treated as "Other Revenues" as described in Part C of Schedule 1 of Appendix F. The Interim Scheduling Charge revenues will be used to offset the revenue requirement associated with the Market Usage Charge.

11.25 [NOT USED]

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

11.29 Billing and Payment Process.

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 amounts will appear in the Initial Settlement Statement T+38BD, Initial Settlement Statement Reissue, Recalculation Settlement Statement and the Recalculation Settlement Statement T+76BD that the CAISO will provide to the relevant Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO.

The components of the Grid Management Charge will be included in the Initial Settlement Statement T+38BD, Initial Settlement Statement Reissue, Recalculation Settlement Statement and the Recalculation Settlement Statement T+76BD with the other types of charges referred to in Section 11, but a separate Invoice for the Grid Management Charge, stating the rate, billing determinant volume, and total charge for each of its components, will be issued by the CAISO to the Scheduling Coordinator.

11.29.1 The billing and payment process shall be based on the issuance of Initial Settlement Statement T+38BD, Initial Settlement Statement Reissue, Recalculation Settlement Statement and the Recalculation Settlement Statement T+76BD for each Settlement Period in each Trading Day.

11.29.2 Payment for the charges 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 five (5) Business Days after issuance of the Initial Settlement Statement T+38BD for the last day of the relevant calendar month. Payment for adjustments will be made five (5) Business Days after issuance of the Initial Settlement Statement Reissue or Recalculation Settlement Statement for the last day of the relevant month. Payments for FERC Annual Charges will be made in accordance with Section 11.19.

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 Holder via Fed-Wire into their CAISO prepayment account 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 or to other Scheduling Coordinators or CRR Holders under this CAISO Tariff.

11.29.4 System Failure.

11.29.4.1 At CAISO Debtor's Bank.

If any CAISO Debtor becomes aware that a payment will not, or is unlikely to be, remitted to the CAISO Bank by 10:00 am on the relevant Payment Date for any reason (including failure of the Fed-Wire 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.

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 in the general ledger set up by the CAISO to reflect all transactions, charges or payments settled by the CAISO.

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 Initial Settlement Statement in accordance with this CAISO Tariff.

11.29.5.3 Data Files.

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 Calculation in the Event of Lack of Meter Data for the Balancing of Market Accounts.

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 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.

11.29.7.1.1 Initial Settlement Statement T+38BD.

The CAISO shall provide to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO for validation an Initial Settlement Statement for each Trading Day within thirty-eight (38) Business Days of the relevant Trading Day, covering all Settlement Periods in that Trading Day. Each Initial Settlement Statement will include a statement of:

- (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; and
- (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.

Each Initial Settlement Statement shall also be accompanied by a breakdown of the components of the Imbalance Energy Charge (the Imbalance Energy report).

11.29.7.1.2 Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall have a period of eight (8) Business Days from the issuance of an Initial Settlement Statement during which it may review the Initial Settlement Statement T+38BD and notify the CAISO of any errors. No later than fifty-one (51) Business Days after the Trading Day to which it relates, the CAISO shall issue an Initial Settlement Statement Reissue or a Recalculation Settlement Statement to each Scheduling Coordinator or CRR Holder for that Trading Day.

11.29.7.1.3 Initial Settlement Statement Reissues and Recalculation Settlement Statements.

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

11.29.7.1.4 Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall have a period of ten (10) Business Days from the issuance of the Initial Settlement Statement Reissue or Recalculation Settlement Statement during which it may review the Incremental Changes on the Initial Settlement Statement Reissue or Recalculation Settlement Statement and notify the CAISO of any errors. No later than twenty-five (25) Business Days from the date of issuance of the Initial Settlement Statement Reissue or Recalculation Settlement Statement, the CAISO shall issue the 76th Day Recalculation Settlement Statement and shall incorporate any required corrections in a subsequent Initial Settlement Statement.

11.29.7.2 Basis for Billing and Payment.

The Initial Settlement Statement T+38BD, Initial Settlement Statement Reissue, Recalculation Settlement Statement and the Recalculation Settlement Statement T+76BD shall constitute the basis for billing and associated automatic funds transfers in accordance with this CAISO Tariff. The Initial Settlement Statement T+38BD shall constitute the basis for billing and associated automatic funds transfers for all charges in the first instance. The Initial Settlement Statement Reissue and Recalculation Settlement Statement shall constitute the basis for billing and associated automatic funds transfers for adjustments to charges set forth in the Initial Settlement Statement T+38BD. Each Scheduling Coordinator, CRR Holder, Black Start Generator, and Participating TO shall pay any net debit and shall be entitled to receive any net credit shown in an 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.

Preliminary and final Invoices and Payment Advices due to or from any Market Participant for amounts less than \$10.00 will be adjusted to \$0.00 and no amount will be due to or from that Market Participant for that Invoice or Payment Advice.

11.29.7.3 Settlement Statement Re-runs and Post Final Adjustments.

The CAISO is authorized to perform Settlement Statement Re-runs following approval of the CAISO Governing Board. A request to perform a Settlement Statement Re-run may be made at any time by a Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO by notice in writing to the CAISO Governing Board. The CAISO Governing Board shall, in considering whether to approve a request for a Settlement Statement Re-run, determine in its reasonable discretion whether there is good cause to justify the performance of a Settlement Statement Re-run.

11.29.7.3.1 If a Settlement Statement Re-run is ordered by the CAISO Governing Board, the CAISO shall arrange to have the Settlement Statement Re-run 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.

11.29.7.3.2 The cost of a Settlement Statement Re-run shall be borne by the Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO requesting it, unless the Settlement Statement Re-run was needed due to a clerical oversight or error on the part of the CAISO staff.

11.29.7.3.3 Where a Settlement Statement Re-run 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 statement re-run, the CAISO shall reflect the amounts to be debited or credited in the next subsequent Recalculation Settlement Statement that it issues following the Settlement Statement Re-run to which the provisions of this Section 11 apply.

11.29.7.3.4 Reruns, 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 thirty (30) days prior to such invoicing identifying the components of such Invoice or Payment Advice.

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 Validation.

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+38BD that it receives. The Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO shall be deemed to have validated each Initial Settlement Statement unless it has raised a dispute or reported an exception within eight (8) Business Days from the date of issuance. Once validated, an Initial Settlement Statement shall be binding on the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to which it relates, unless the CAISO performs a Settlement Statement Re-run pursuant to Section 11.29.7.3.

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

11.29.8.3 Validation of Initial Settlement Statement Reissue and Recalculation Settlement Statements.

Each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall have the opportunity to review the Incremental Changes that appear on the Initial Settlement Statement Reissue and Recalculation Settlement Statement that it receives. The Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO shall be deemed to have validated the Incremental Changes on each Initial Settlement Statement Reissue and Recalculation Settlement Statement unless it has raised a dispute or reported an exception regarding those Incremental Changes within ten (10) Business Days from the date of issuance. Once validated, the Incremental Changes on the Initial Settlement Statement Reissue and Recalculation Settlement Statement shall be binding on the Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to which it relates, unless the CAISO performs a Settlement Statement Re-run pursuant to Section 11.29.7.3.

The notice of dispute shall state clearly the Trading Day, the issue date of the Initial Settlement Statement Reissue and Recalculation Settlement Statement, the item disputed, the reasons for the dispute, the amount claimed (if appropriate) and shall be accompanied with all available evidence reasonably required to support the claim. The only Recalculation Settlement Statement that cannot be disputed is the one issued on T+59BD.

11.29.8.4 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 11.29.8.2 above, if a dispute or exception would apply to subsequent Initial and the Initial Settlement Statement Reissue and Recalculation Settlement Statements. A request for recurring treatment may be made for any valid reason provided that subsequent Initial Settlement Statements T+38BD, Initial Settlement Statement Reissue and Recalculation Settlement Statements 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 Initial Settlement Statement T+38BD, the Initial Settlement Statement Reissue and 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 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 Initial Settlement Statement T+38BD, the Initial Settlement Statement Reissue and 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 Amendment.

Regarding a dispute related to an Initial Settlement Statement, if the CAISO agrees with the amount claimed, it shall incorporate the relevant data into the Initial Settlement Statement Reissue or Recalculation Settlement Statement. Regarding a dispute related to an Incremental Change in an Initial Settlement Statement Reissue or Recalculation Settlement Statement, the CAISO shall make a determination on the dispute no later than twenty-five (25) Business Days from the issuance of the Initial Settlement Statement Reissue or Recalculation Settlement Statement, and, if the CAISO agrees with the amount claimed, shall incorporate the relevant data into the next Recalculation Settlement Statement issued on T+76BD.

11.29.8.6 CAISO Contact.

If the CAISO does not agree with the amount claimed or if it requires additional information, it shall make reasonable efforts (taking into account the time it received the notice of dispute and the complexity of the issue involved) to contact the relevant Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO to resolve the issue before issuing the Initial Settlement Statement Reissue or Recalculation Settlement Statement. If it is not possible to contact the relevant party, the CAISO shall issue the Initial Settlement Statement Reissue or Recalculation Settlement Statement without taking into account the dispute notice.

11.29.8.7 Payment Pending Dispute.

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

11.29.9 Payment Procedures.

11.29.9.1 All Payments to Be Made Through 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 under this CAISO Tariff only through the CAISO.

11.29.9.2 CAISO Accounts to be Established.

The CAISO is authorized to establish and maintain bank accounts held in trust for Market Participants 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. 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 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; and

11.29.9.2.4 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 a Settlement Account at a commercial bank located in the United States and reasonably acceptable to the CAISO which can effect money transfers via Fed-Wire 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 Declaration of Trust.

All CAISO Accounts established pursuant to Section 11.29.9.2 shall be opened and operated by the CAISO on trust for Market Participants, in accordance with this CAISO Tariff. Each such account shall be maintained at a bank or other financial institution in California and shall bear a name indicating that it is a trust account.

11.29.9.5 No Co-Mingling.

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 each CAISO Debtor shall remit to the CAISO Clearing Account the amount shown on the Invoice as payable by that CAISO Debtor 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 make 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 made 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 Coordinator, Candidate CRR Holder or CRR Holder pursuant to Section 12 or serving demands on any defaulting Scheduling Coordinator, Candidate CRR Holder or CRR Holder if Financial Security has been exhausted or if no Financial Security is available due to establishment of an Unsecured Credit Limit.

The proceeds of drawings under any line of credit, other credit facility, or other Financial Security of the CAISO Reserve Account shall be held on trust for CAISO Creditors. If the CAISO Reserve Account is replenished as provided for in this Section 11.29.9.6.2, any credits shall be held on trust for all CAISO Creditors.

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 remittance 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 remittance 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, such amounts shall be deemed to be owing by those Market Participants who were CAISO Creditors on the relevant Payment Date pro rata to the net payments they received on that Payment Date and shall be accounted for by way of a charge in the next Settlement Statements of those CAISO Creditors. Such charge shall be credited 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).
- (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.

11.29.10 Billing and Payment.

The CAISO shall prepare and send to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO two Invoices or Payment Advices for each calendar month. The first Invoice or Payment Advice will be based on the Initial Settlement Statement T+38BD and the second Invoice or Payment Advice will be based on the Initial Settlement Statement Reissue or Recalculation Settlement Statement(s). Each Invoice or Payment Advice will show amounts which are to be paid by or to each Scheduling Coordinator, CRR Holder, Black Start Generator or Participating TO, the Payment Date, being the date on which such amounts are to be paid or received and details of the CAISO Clearing Account to which any amounts owed by Scheduling Coordinators, CRR Holder, Black Start Generator or Participating TO are to be paid.

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.

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.

Settlement Statement Reruns, 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 thirty (30) days prior to such invoicing identifying the components of such Invoice or Payment Advice.

11.29.10.1 Emergency Procedures.

11.29.10.2 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.

11.29.10.3 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. Failure to make such estimated payments shall result in the same consequences as a failure to make actual payments.

11.29.10.4 Validation and Correction of Estimated Statements and Invoices.

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.

11.29.10.5 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.

Each Scheduling Coordinator or CRR Holder shall remit to the CAISO Clearing Account the amount shown on the Invoice as payable by that Scheduling Coordinator or CRR Holder for value not later than 10:00 a.m. on the Payment Date.

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 remitted to the CAISO Clearing Account have been credited to it. If any such amount has not been so credited, it shall ascertain which Scheduling Coordinators or CRR Holder have failed to pay the amount owed by them and it may take steps 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 remitted to 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 remitted to 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 on a pro rata basis to CAISO Creditors 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 remitted to the CAISO Clearing Account by any Scheduling Coordinator or CRR Holder will not or has not been remitted 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 (including the proceeds of drawings under banking facilities described in Section 11.29.9.6.2) the CAISO shall debit the CAISO 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.

The CAISO is authorized to recoup, set off and apply any amount to which any defaulting CAISO Debtor is or will be entitled, in or towards the satisfaction of any of that CAISO Debtor's debts arising under the CAISO Settlement and billing process. Each CAISO 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 unless otherwise specified in accordance with Section 11.29.17.

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) 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 to reduce amounts outstanding under any CAISO banking facilities used to fund the CAISO Reserve Account on the relevant Payment Date and the balance (if any) shall be applied to reimburse pro rata any CAISO Creditors whose payments were reduced pursuant to Section 11.29.17.1.

11.29.14 [NOT USED]

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 (not being a CAISO Account) unless that account is a Settlement Account or the amount is owed to the CAISO under this CAISO Tariff.

11.29.17 Alternative Payment Procedures.

11.29.17.1 Pro Rata Reduction to Payments.

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 by enforcing any Financial Security provided by a defaulting Scheduling Coordinator or CRR Holder, the CAISO shall (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. The CAISO shall account for such reduction in the CAISO ledger accounts as amounts due and owing by the non-paying CAISO Debtor to each CAISO Creditor whose payment was so reduced. The provisions of this section shall not apply to non-payment of any penalty amount that a Scheduling Coordinator or CRR Holder has 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, in which case the non-payment amount will be allocated exclusively to the CAISO penalty trust account and not allocated to CAISO Creditors.

11.29.17.2 Payment of Defaulted Receivables.

Collections of defaulted receivables (other than Interest) will be distributed pro rata to CAISO Creditors for the month of default.

- (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 be paid pro rata to the CAISO Creditors 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.
- (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 any CAISO Creditor which may have been underpaid in consequence of such overpayment, pro rata to the amount of the underpayment.

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.
- (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.

Each CAISO Creditor shall give notice to the CAISO before instituting any action or proceedings in any court against a CAISO Debtor to enforce payments due to it.

11.29.21 Proceedings to Recover Overdue Amounts.

11.29.21.1 Proceedings Brought by the CAISO.

Without prejudice to the right of any Scheduling Coordinator, CRR Holder, Black Start Generator, or Participating TO to bring such proceedings as it sees fit in connection with matters related to the recovery of amounts owed to it, the CAISO may bring proceedings against any Scheduling Coordinator or CRR Holder on behalf of those Scheduling Coordinators, CRR Holders, Black Start Generators, or Participating TOs who have indicated to the CAISO their willingness for the CAISO first so to act, for the recovery of any amounts due by that Scheduling Coordinator or CRR Holder, if the CAISO has first reached agreement with the Scheduling Coordinators, CRR Holders, Black Start Generators, or Participating TOs as to the appropriate remuneration, is indemnified to its reasonable satisfaction, and receives such Financial Security as it may reasonably request against all costs, claims, expenses (including legal fees) and liabilities which it will or may sustain or incur in complying with such instructions.

11.29.21.2 Evidence of Unpaid Amount.

The CAISO shall, on request, certify in writing the amounts owed by a CAISO Debtor that remain unpaid and the CAISO Creditors to whom such amounts are owed and shall provide certified copies of the

relevant Initial Settlement Statement T+38BD and the Initial Settlement Statement Reissue and Recalculation Settlement Statements, Invoices, Payment Advices, and other documentation on which the CAISO's certificate was based to the CAISO Debtor and the relevant CAISO Creditors. A CAISO certificate given under this Section 11.29.21.2 may be used as prima facie evidence of the amount due by a CAISO Debtor to CAISO Creditors in any legal proceedings.

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.

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

11.29.23 Communications.

The Initial Settlement Statement T+38BD, any Initial Settlement Statement Reissue, the Recalculation Settlement Statements 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 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 and Invoices and Payment Advices to Scheduling Coordinators or CRR Holders, Black Start Generators and Participating TOs for that Trading Day;
- (c) The date 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 Initial Settlement Statements pursuant to Section 11.29.8.2;

- (d) The date on which the CAISO will issue the Initial Settlement Statement Reissue and Recalculation Settlement Statements for T+51BD, T+59BD and T+76BD, and Invoices and Payment Advices to Scheduling Coordinators, CRR Holders, Black Start Generators and Participating TOs for that Trading Day;
- (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 CAISO Creditors will receive payments from the CAISO Clearing Account 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.

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).

12 CREDITWORTHINESS.

12.1 Credit Requirements.

The creditworthiness requirements in this section apply to the CAISO's acceptance of , any transaction in a CAISO Market, to the payment of charges pursuant to the CAISO Tariff (including the Grid Management Charge), and to establish credit limits for participation in any CAISO auction of CRRs and to CRR Holders for the holding of CRRs. Each Market Participant (including each Scheduling Coordinator, UDC, MSS, CRR Holder, or Candidate CRR Holder) shall secure its financial transactions with the CAISO (including its participation in any auction of CRRs and for the holding of CRRs) by maintaining an Unsecured Credit Limit and/or by posting Financial Security, the level of which constitutes the Market Participant's Financial Security Amount. For each Market Participant, the sum of its Unsecured Credit Limit and its Financial Security Amount shall represent its Aggregate Credit Limit. Each Market Participant shall have the responsibility to maintain an Aggregate Credit Limit that is at least equal to its Estimated Aggregate Liability.

12.1.1 Unsecured Credit Limit.

Each Market Participant requesting an Unsecured Credit Limit shall submit an application to the CAISO in the form specified on the CAISO Website. The CAISO shall determine the Unsecured Credit Limit for each Market Participant in accordance with the procedures set forth in the applicable Business Practice Manual. The maximum Unsecured Credit Limit for any Market Participant shall be \$250 million. In accordance with the procedures described in the applicable Business Practice Manual, each Market Participant requesting or maintaining an Unsecured Credit Limit is required to submit to the CAISO or its agent financial statements and other information related to its overall financial health as directed by the CAISO. Each Market Participant is responsible for the timely submission of its latest financial statements as well as other information that may be reasonably necessary for the CAISO to conduct its evaluation. The CAISO shall determine the Unsecured Credit Limit for each Market Participant as described in Sections 12.1.1.1, 12.1.1.1.1, and 12.1.1.1.2.

As a result of the CAISO's credit evaluation, a Market Participant may be given an Unsecured Credit Limit by the CAISO or denied an Unsecured Credit Limit with the CAISO. Following the initial application and the establishment of an Unsecured Credit limit, the CAISO will review each Market Participant's Unsecured Credit Limit on a quarterly basis, unless that entity does not prepare quarterly statements, in which case the review will occur on an annual basis, and no entity shall be required to submit a new application. In addition, the CAISO may review the Unsecured Credit Limit for any Market Participant whenever the CAISO becomes aware of information that could indicate a Material Change in Financial Condition. In the event the CAISO determines that the Unsecured Credit Limit of a Market Participant must be reduced as a result of a subsequent review, the CAISO shall notify the Market Participant of the reduction, and shall, upon request, also provide the Market Participant with a written explanation of why the reduction was made.

12.1.1.1 Unsecured Credit Limit Calculation.

An Unsecured Credit Limit (UCL) for each Market Participant that is a Rated or Unrated Public/Private Corporation, a Rated or Unrated Governmental Entity, or a Local Publicly Owned Electric Utility and that requests an Unsecured Credit Limit is calculated as follows:

1. For each Rated Public/Private Corporation, the Unsecured Credit Limit is the lesser of \$250 million or an amount equal to the Market Participant's Tangible Net Worth (TNW) multiplied by a calculated percentage of TNW. The TNW percentage is comprised of fifty percent (50%) of the Market Participant's Credit Rating Default Probability (CRDP) and fifty percent (50%) of the MKMV Default Probability, if reasonably applicable.

2. For each Unrated Public/Private Corporation, the Unsecured Credit Limit is the lesser of \$250 million or an amount equal to the Market Participant's TNW multiplied by a calculated percentage of TNW. The TNW percentage is comprised of one hundred percent (100%) of the MKMV Default Probability.
3. For each Rated Governmental Entity, the Unsecured Credit Limit is the lesser of \$250 million or an amount equal to the Market Participant's Net Assets (NA) multiplied by a calculated percentage of NA. The NA percentage is comprised of one hundred percent (100%) of the Market Participant's Credit Rating Default Probability.
4. (a) For each Unrated Governmental Entity other than one that receives appropriations from the federal government or a state government, the Unsecured Credit Limit is the lesser of \$250 million or an amount equal to a specified percentage of the Market Participant's Net Assets if the Market Participant has a minimum of \$25 million in Net Assets and its Times Interest Earned, Debt Service Coverage and Equity to Assets ratios (as those ratios are defined in the applicable Business Practice Manual) meet or exceed minimums specified in the applicable Business Practice Manual.

(b) For each Unrated Governmental Entity that receives appropriations from the federal government or a state government, the Unsecured Credit Limit is the lesser of \$250 million or the amount appropriated by the federal or relevant state government for the purpose of procuring Energy and Energy-related products and services for the applicable fiscal year. The Unrated Governmental Entity seeking to establish an Unsecured Credit Limit pursuant to this section shall provide documentation establishing its annual appropriations.

5. A Local Publicly Owned Electric Utility with a governing body having ratemaking authority that has submitted an application for an Unsecured Credit Limit shall be entitled to an Unsecured Credit Limit of \$1 million without regard to its Net Assets. Such Local Publicly Owned Electric Utility shall be entitled to request an Unsecured Credit Limit based on Net Assets as provided in Section 12.1.1.1(3) or 12.1.1.1(4) in order to establish an Unsecured Credit Limit as the greater of \$1 million or the amount determined as provided in this Section 12.1.1.1(5). A public entity that is not a Local Publicly Owned Electric Utility is not entitled to an Unsecured Credit Limit of \$1 million under this Section 12.1.1.1(5) but may seek to establish an Unsecured Credit Limit as provided in any other provision of the CAISO Tariff that may apply.

Public entities, including Local Publicly Owned Electric Utilities, that operate through a Joint Powers Agreement, or a similar agreement acceptable to the CAISO with the same legal force and effect, shall be entitled to aggregate or assign their Unsecured Credit Limits subject to the following limitations and requirements. A public entity that is a party to a Joint Powers Agreement or similar agreement and that is also participating independently in the CAISO Markets with an established Unsecured Credit Limit shall not be entitled to assign or aggregate any portion of its Unsecured Credit Limit that the public entity is using to support financial liabilities associated with its individual participation in the CAISO Markets. A Local Publicly Owned Electric Utility that operates through a Joint Powers Agreement or similar agreement that desires to aggregate a portion of its Unsecured Credit Limit that is equal to or less than \$1

million with one or more other Local Publicly Owned Electric Utilities that operate through that Joint Powers Agreement or similar agreement or to assign a portion of its Unsecured Credit Limit that is equal to or less than \$1 million to the Joint Powers Authority shall be entitled to do so. A Local Publicly Owned Electric Utility that operates through a Joint Powers Agreement or similar agreement that desires to aggregate its Unsecured Credit Limit with one or more other Local Publicly Owned Electric Utilities that operate through that Joint Powers Agreement or similar agreement or to assign a portion of its Unsecured Credit Limit to the Joint Powers Authority that exceeds \$1 million, and any public entity that is not a Local Publicly Owned Electric Utility that operates through a Joint Powers Agreement or similar agreement that desires to aggregate its Unsecured Credit Limit with one or more other Local Publicly Owned Electric Utilities that operate through that Joint Powers Agreement or similar agreement or to assign any portion of its Unsecured Credit Limit to the Joint Powers Authority, shall provide documentation that is acceptable to the CAISO and that demonstrates the Local Publicly Owned Electric Utility or public entity will assume responsibility for the financial liabilities of the Joint Powers Agency associated with the assigned or aggregated portion of the Unsecured Credit Limit. Such documentation may include a guaranty or similar instrument acceptable to the CAISO.

Unsecured Credit Limits established pursuant to this Section 12.1.1.1 shall be subject to the CAISO's consideration of the same qualitative factors that apply to all Market Participants as set forth in Section 12.1.1.2 and, accordingly, the CAISO may adjust their Unsecured Credit Limits pursuant to Section 12.1.1. The \$250 million hard cap on Unsecured Credit Limits specified in Section 12.1.1 has been set

with respect to the length of the current CAISO Payments Calendar, i.e., a maximum of ninety-five (95) Trading Days of charges outstanding. Upon implementation of payment acceleration (scheduled for 2008), the CAISO expects to recommend a reduction in the \$250 million hard cap. Any changes to the \$250 million cap will require FERC approval of an amendment to the applicable provisions of the CAISO Tariff.

12.1.1.1.1 Maximum Percentage of Tangible Net Worth and Net Assets.

For Rated and Unrated Public/Private Corporations or Rated Governmental Entities, the maximum percentage of TNW or NA is 7.5 percent (7.5%) if the Market Participant's combined default probability (CDP) is less than or equal to 0.06 percent (0.06%).

The maximum allowable percentage of 7.5% is for the highest quality firms; that is, those Market Participants with a CDP of 0.06 percent or less. The Tangible Net Worth percentage (TNWP) or Net Assets percentage (NAP) that a Market Participant qualifies for will be reduced as its credit risk increases.

For Unrated Governmental Entities, the CAISO may provide an Unsecured Credit Limit of up to five percent (5%) of NA.

With respect to either of these potential maximum percentages, a lesser amount of unsecured credit may be granted if the CAISO becomes aware of information related to a Material Change in Financial Condition or other significant information that presents a significant risk to the creditworthiness of the entity.

12.1.1.1.2 Unsecured Credit Limit Calculation Steps.

An eight-step process is used to determine Unsecured Credit Limits for Market Participants that are Rated Public/Private Corporations, Unrated Public/Private Corporations, and Rated Governmental Entities.

Step 1 – If the Market Participant has a credit rating(s) from one or more of the "Nationally Recognized Statistical Rating Organizations" (NRSRO), verify the rating(s) with the appropriate NRSRO.

Step 2 - Calculate the Market Participant's Average Rating Default Probability (ARDP).

- (a) ARDP is the sum of Credit Rating Default Probabilities divided by the total number of Credit Rating Default Probabilities used.
- (b) The median default probability calculated by Moody's KMV (i.e., MKMV) for Standard & Poor's and Moody's long-term credit rating classes is provided on the CAISO Website at <http://www.caiso.com/1bd8/1bd8b09916e50.html>. Default probabilities are available from each NRSRO.
- (c) Issuer ratings without the benefit of credit enhancement would be used in this assessment. Such ratings are also known as "counterparty" or "underlying" ratings.

Step 3 – Using Moody's KMV's CreditEdge or RiskCalc software, obtain the Market Participant's MKMV Default Probability (MKDP).

- (a) Since Moody's KMV calculates default probabilities directly, the MKMV Default Probability will be used without any mapping.

Step 4 – Calculate a combined default probability (CDP) based on one of the following methodologies:

- (a) $CDP \text{ for Rated Public/Private Corporations} = (ARDP * 50\%) + (MKDP * 50\%)$ or $(ARDP * 100\%)$ if a MKDP is not reasonably applicable.
- (b) $CDP \text{ for Unrated Public/Private Corporations} = MKDP * 100\%$
- (c) $CDP \text{ for Rated Governmentally Owned Utilities} = ARDP * 100\%$

Step 5 – Calculate the Market Participant’s Tangible Net Worth percentage (TNWP) or Net Assets percentage (NAP).

- (a) $TNWP = MAP * BDP / CDP$ for Rated/Unrated Public/Private Corporations
- (b) $NAP = MAP * BDP / CDP$ for Rated Governmental Entities

Where:

MAP = maximum allowable percentage;

BDP = base default probability;

CDP = see Step 4 above; and

If the SC’s CDP > 0.5%, the TNWP or NAP equals 0%

Step 6 – Calculate the Market Participant’s Tangible Net Worth or Net Assets.

- (a) TNW for Rated/Unrated Public/Private Corporations = Assets minus Intangibles (e.g., Good Will) minus Liabilities
- (b) NA for Rated Governmental Entities = Total Assets minus Total Liabilities

Step 7 – Calculate the Market Participant’s Unsecured Credit Limit.

- (a) $UCL = TNW * TNWP$ for Rated/Unrated Public/Private Corporations
- (b) $UCL = NA * NAP$ for Rated Governmental Entities

Step 8 – Adjust Unsecured Credit Limit downward, if warranted based on the CAISO’s review of factors in Section 12.1.1.1.

- (a) $Final\ UCL = UCL\ from\ Step\ 7 * (0 - 100\%)$

12.1.1.2 Qualitative and Quantitative Credit Strength Indicators.

In determining a Market Participant's Unsecured Credit Limit, the CAISO may rely on information gathered from financial reporting agencies, the general/financial/energy press, and provided by the Market Participant to assess its overall financial health and its ability to meet its financial obligations.

Information considered by the CAISO in this process may include the following qualitative factors:

- (a) Applicant's history;
- (b) Nature of organization and operating environment;
- (c) Management;
- (d) Contractual obligations;
- (e) Governance policies;
- (f) Financial and accounting policies;
- (g) Risk management and credit policies;
- (h) Market risk including price exposures, credit exposures and operational exposures;
- (i) Event risk; and
- (j) The state or local regulatory environment.

Material negative information in these areas may result in a reduction of up to one hundred percent (100%) in the Unsecured Credit Limit that would otherwise be granted based on the eight-step process described in Section 12.1.1.1. A Market Participant, upon request, will be provided a written analysis as to how the provisions in Section 12.1.1.1 and this section were applied in setting its Unsecured Credit Limit.

12.1.1.3 Financial Statements.

Market Participants requesting unsecured credit are required to provide financial statements so that a credit review can be completed. Based on availability, the Market Participant must submit a financial statement for the most recent financial quarter, as well as audited financial statements for the most recent three fiscal years, or the period of existence of the Market Participant, if shorter, to the CAISO or the CAISO's designee. If audited financial statements are not available, financial statements, as described below, should be submitted, signed and attested to by an officer of the Market Participant as a fair representation of the financial condition of the Market Participant in accordance with generally accepted accounting principles. The information should include, but is not limited to, the following:

- (a) If publicly traded:
 - (i) Annual and quarterly reports on Form 10-K and Form 10-Q, respectively
 - (ii) Form 8-K reports, if any
- (b) If privately held or governmentally owned:
 - (i) Management's discussion & analysis (if available)
 - (ii) Report of independent accountants (if available)
 - (iii) Financial statements, including:
 - Balance sheet
 - Income statement
 - Statement of cash flows
 - Statement of stockholder's equity
 - (iv) Notes to financial statements

If the above information is available electronically on the internet, the Market Participant may indicate in written or electronic communication where such statements are located for retrieval by the CAISO or the CAISO's designee.

12.1.1.4 Determination of Unsecured Credit Limits for Affiliates.

If any Market Participant requesting or maintaining an Unsecured Credit Limit is affiliated with one or more other entities subject to the credit requirements of this Section 12, the CAISO may consider the overall creditworthiness and financial condition of such Affiliates when determining the applicable Unsecured Credit Limit. The CAISO may determine that the maximum Unsecured Credit Limit specified in Section 12.1.1 applies to the combined activity of such Affiliates. In the event the CAISO determines that the maximum Unsecured Credit Limit applies to the combined activity of the Affiliates and the Market Participant, the CAISO shall inform the Market Participant in writing.

12.1.1.5 Notification of Material Change in Financial Condition.

Each Market Participant shall notify the CAISO in writing of a Material Change in Financial Condition, within five (5) Business Days of when the Material Change in Financial Condition is known or reasonably should be known by the Market Participant. The provision to the CAISO of a copy of a Form 10-K, Form 10-Q, or Form 8-K filed with the U.S. Securities and Exchange Commission shall satisfy the requirement of notifying the CAISO of such Material Change in Financial Condition. Alternatively, the Market Participant may direct the CAISO to the location of the information on their company website or the website of the U.S. Securities & Exchange Commission.

12.1.2 Financial Security and Financial Security Amount.

A Market Participant that does not have an Unsecured Credit Limit, or that has an Unsecured Credit Limit that is less than its Estimated Aggregate Liability, shall post Financial Security that is acceptable to the CAISO and that is sufficient to ensure that its Aggregate Credit Limit (i.e., the sum of its Unsecured Credit Limit and Financial Security Amount) is equal to or greater than its Estimated Aggregate Liability. The Financial Security posted by a Market Participant may be any combination of the following types of Financial Security provided in favor of the CAISO and notified to the CAISO under Section 12.3:

- (a) an irrevocable and unconditional letter of credit issued by a bank or financial institution that is reasonably acceptable to the CAISO;
- (b) an irrevocable and unconditional surety bond issued by an insurance company that is reasonably acceptable to the CAISO;
- (c) an unconditional and irrevocable guaranty issued by a company that is reasonably acceptable to the CAISO;
- (d) a cash deposit standing to the credit of the CAISO in an interest-bearing escrow account maintained at a bank or financial institution that is reasonably acceptable to the CAISO;
- (e) a certificate of deposit in the name of the CAISO issued by a bank or financial institution that is reasonably acceptable to the CAISO;
- (f) a payment bond certificate in the name of the CAISO issued by a bank or financial institution that is reasonably acceptable to the CAISO; or
- (g) a prepayment to the CAISO.

Financial Security instruments as listed above shall be in such form as the CAISO may reasonably require from time to time by notice to Market Participants , or in such other form as has been evaluated and approved as reasonably acceptable by the CAISO. The CAISO shall publish and maintain standardized forms related to the types of Financial Security listed above on the CAISO Website. The CAISO shall require the use of standardized forms of Financial Security to the greatest extent possible.

12.1.2.1 Additional Procedures Regarding Certain Types of Financial Security.

- (a) Unconditional and irrevocable guaranties: In those cases where a Market Participant is a subsidiary or affiliate of another entity and would like to utilize the consolidated financial statements and other relevant information of that entity for obtaining credit, a signed corporate guaranty is required. A guarantor would be considered reasonably acceptable and a corresponding Financial Security Amount would be set based on the guarantor's credit evaluation according to the same procedures that apply to the credit evaluation of a Market Participant.
- (b) Cash deposits standing to the credit of the CAISO in interest-bearing escrow accounts: Interest on a cash deposit standing to the credit of the CAISO in an interest-bearing escrow account will accrue to the Market Participant's benefit and will be added to the Market Participant's prepayment account on a monthly basis. Should a Market Participant become delinquent in payments, the Market Participant's outstanding account balance will be satisfied using deposited funds. The Market Participant must take care to replenish used funds to ensure that its Aggregate Credit Limit continues to exceed its Estimated Aggregate Liability.

- (c) Prepayments to the CAISO: Prepayments to the CAISO will be held in an interest-bearing account or another investment acceptable to the Market Participant and the CAISO, and interest on the investment will accrue at the rate as provided for in the investment. Interest will accrue to the Market Participant's benefit and will be added to the Market Participant's prepayment account on a monthly basis. Due to the additional administrative effort involved in tracking and posting interest on such prepayments, the use of this option is not encouraged.

12.1.2.2 Process for Evaluating Requests to Use Non-Standardized Forms of Financial Security.

A Market Participant that seeks permission to use a form for Financial Security other than one or more of the standardized forms posted on the CAISO Home Page shall seek such permission in a written request to the CAISO that explains the basis for the use of such non-standardized form. The CAISO shall have ten (10) Business Days from receipt of such request to evaluate it and determine whether it will be approved as reasonably acceptable. If the CAISO does not respond to such request within the ten (10) Business Day period, the request shall be deemed to have been denied. Until and unless the CAISO approves the use of a non-standardized form for Financial Security, the Market Participant that submitted such request shall be required to use one of the standardized forms for Financial Security described in this Section 12.1.2.

12.1.2.3 Expiration of Financial Security.

Each Market Participant shall ensure that the financial instruments it uses for the purpose of providing Financial Security will not expire and thereby cause the Market Participant's Aggregate Credit Limit to fall below the Market Participant's Estimated Aggregate Liability. The CAISO will treat a financial instrument that does not have an automatic renewal provision and that is not renewed or replaced within seven (7)

days of its date of expiration as being out of compliance with the standards for Financial Security contained in this Section 12 and will deem the value of such financial instrument to be zero, and will draw upon such Financial Security prior to its stated expiration if deemed necessary by the CAISO.

12.1.2.4 Risk of Loss of Financial Security Amounts Held and Invested by the CAISO.

In accordance with the CAISO's investment policy, the CAISO will invest each Financial Security Amount of a Market Participant only in bank accounts, high-quality money market accounts, and/or U.S. Treasury/Agency securities unless a specific written request is received from the Market Participant for a different type of investment and the CAISO provides its written consent to such alternative investment. A Market Participant that provides a Financial Security Amount that is held and invested by the CAISO on behalf of the Market Participant will bear all risks that such Financial Security Amount will incur a loss of principal and/or interest as a result of the CAISO's investment of such Financial Security Amount.

12.1.3 Estimated Aggregate Liability.

The CAISO will periodically calculate the Estimated Aggregate Liability of each Market Participant, based on all charges and settlement amounts for which such Market Participant is liable or reasonably anticipated by the CAISO to be liable for pursuant to the CAISO Tariff. The Estimated Aggregate Liability for each Market Participant shall be determined and applied by the CAISO consistent with the procedures set forth in the applicable Business Practice Manual. The CAISO shall upon request provide each Market Participant with information concerning the basis for the CAISO's determination of its Estimated Aggregate Liability, and the CAISO's determination may be disputed in accordance with the procedures set forth in the applicable Business Practice Manual. The CAISO shall compare each Market Participant's Estimated Aggregate Liability against its Aggregate Credit Limit on a periodic basis.

12.1.3.1 Calculation of Estimated Aggregate Liability.

12.1.3.1.1 Calculation of the Estimated Aggregate Liability Amount.

Except as described in Section 12.1.3.1.2, the CAISO shall use the method described in this Section 12.1.3.1.1 to calculate each Market Participant's Estimated Aggregate Liability. The Estimated Aggregate Liability represents the amount owed to the CAISO for all unpaid obligations, specifically, the obligations for the number of Trading Days outstanding at a given time based on the CAISO's Payments Calendar plus seven (7) Trading Days based on the allowable period for Market Participants to respond to CAISO requests for additional collateral (five (5) Business Days), and other liabilities including the value of a Market Participant's CRR portfolio, if negative. The charges the CAISO shall use to calculate Estimated Aggregate Liability shall be charges described or referenced in the CAISO Tariff. The CAISO shall calculate the Estimated Aggregate Liability for each Market Participant by aggregating the following obligations:

- Invoiced amounts, i.e., any published but unpaid amounts on Invoices;
- published amounts, i.e., amounts for Trading Days for which Settlement Statements have been issued;
- estimated amounts, i.e., amounts based on estimated Settlement amounts calculated by the Settlement system using estimated meter data, and other available operational data;
- extrapolated amounts, i.e., amounts calculated for Trading Days for which neither actual nor estimated Settlement Statements have been issued;
- CRR portfolio value, i.e., the prospective value of the CRR portfolio, if negative, as described in Section 12.6.3;
- CRR Auction limit, i.e., the maximum credit limit for participation in a CRR Auction;

- CRR Auction awards (prior to invoicing), i.e., amounts to cover winning offers at the completion of the CRR Auction but prior to invoicing;
- past-due amounts, i.e., any unpaid or past due amounts on Invoices;
- Annual FERC Fees, i.e., FERC fees for a Market Participant that has elected to pay such amounts on an annual basis that are owed and outstanding and not already captured in any other component of Estimated Aggregate Liability;
- WAC Charges, i.e., WAC amounts for the current year or future years as specified in Section 36.9.2;
- Estimated Aggregate Liability adjustments, i.e., adjustments that may be necessary as a result of analysis performed as a result of Section 12.4.2; and
- extraordinary adjustments, i.e., adjustments to Settlement amounts related to FERC proceedings, if known and estimated by the CAISO, as described in Section 12.1.3.1.3.

For a Market Participant that maintains multiple BAID numbers, the Estimated Aggregate Liability of the Market Participant as a legal entity shall be calculated by summing the Estimated Aggregate Liabilities for all such BAID numbers and comparing the sum of the Estimated Aggregate Liabilities to the Aggregate Credit Limit of the Market Participant. Market Participants may recommend changes to the liability estimates produced by the CAISO's Estimated Aggregate Liability calculation through the dispute procedures described in Section 12.4.2.

12.1.3.1.2 Calculation Methodology Applicable to New Market Participants.

Each new Market Participant (and each Market Participant that has previously been inactive) is required to have an initial Aggregate Credit Limit that is sufficient to cover a minimum of forty-five (45) Trading Days of estimated obligations . This initial credit requirement is based on anticipated transactions in the CAISO Markets, and shall be considered to be equal to the Market Participant's Estimated Aggregate Liability until the CAISO obtains sufficient data from its automated calculation of Estimated Aggregate Liability as described in Section 12.1.3.1.1 to begin relying on that calculation.

12.1.3.1.3 Special Circumstances

12.1.3.1.3.1 Daily Adjustments and Disputes.

Charges associated with daily adjustments and disputes that are regularly calculated by the CAISO Settlement system will be included in the CAISO's determinations of Estimated Aggregate Liability as the charges are calculated.

12.1.3.1.3.2 FERC Refund Orders.

The CAISO will assess its ability to reasonably calculate the charges associated with a refund before the CAISO's Settlement system is re-run. If the CAISO can reasonably apportion the refund charges to specific Market Participants, it will include the amounts in its calculation of Estimated Aggregate Liability for those Market Participants and will request Financial Security from them accordingly. If the CAISO determines that complexities of a FERC refund order preclude the CAISO from reasonably being able to include refunds in its calculation of Estimated Aggregate Liability, the CAISO will not request Financial Security associated with the required refunds until the refunds are processed through the CAISO Settlement system. However, if feasible, the CAISO will make available to Market Participants, for informational purposes only, an aggregate forecast of the effect that providing the refunds will have on the CAISO's calculation of Estimated Aggregate Liability.

12.1.3.1.3.3 CAISO ADR Procedures.

The CAISO will handle transactions associated with the CAISO ADR Procedures in the same manner as transactions associated with refunds provided pursuant to Section 12.1.3.1.3.2.

12.2 Review of Creditworthiness.

The CAISO may review the creditworthiness of any Market Participant that delays or defaults in making payments due under the CAISO Tariff and, as a consequence of that review, may require such Market Participant , whether or not it has an Unsecured Credit Limit, to provide credit support in the form of any of the following types of Financial Security:

- (a) an irrevocable and unconditional letter of credit by a bank or financial institution reasonably acceptable to the CAISO;
- (b) a cash deposit standing to the credit of an interest-bearing escrow account maintained at a bank or financial institution reasonably acceptable to the CAISO;
- (c) an irrevocable and unconditional surety bond posted by an insurance company reasonably acceptable to the CAISO;
- (d) a payment bond certificate in the name of the CAISO from a financial institution reasonably acceptable to the CAISO; or
- (e) a prepayment to the CAISO.

The CAISO may require the Market Participant to maintain such Financial Security for at least one (1) year from the date of such delay or default.

12.3 Posting and Releases of Financial Security.

Each Market Participant required to provide a Financial Security Amount under Section 12.1.2 shall notify the CAISO of the initial Financial Security Amount that it wishes to provide at least fifteen (15) days in advance and shall ensure that the CAISO has received such Financial Security Amount prior to the date the Market Participant commences activity through the CAISO, or the date the CRR Holder or Candidate CRR Holder participates in the applicable auction of CRRs. A Market Participant may at any time increase its Financial Security Amount by providing additional Financial Security in accordance with Section 12.1.2. A Market Participant may request that its Financial Security Amount be reduced or released by making its request not fewer than fifteen (15) days prior to the date on which the reduction or release is requested to occur. The CAISO shall evaluate the request and inform the Market Participant within ten (10) Business Days either that a reduction or release of the Financial Security Amount is permissible, that a reduction or release of the Financial Security Amount is impermissible, or that the CAISO requires more information from the Market Participant in order to make its determination. The CAISO may decline to reduce or release a Financial Security Amount or may release a lesser amount for any of the following reasons:

- (a) The Estimated Aggregate Liability for the Market Participant cannot be accurately determined due to a lack of supporting Settlement charge information.
- (b) The most recent liabilities of the Market Participant are volatile to a significant degree and a reduction or release of the Financial Security Amount would present a high likelihood that, after the Financial Security Amount was reduced or released, the Estimated Aggregate Liability for the Market Participant, as calculated by the CAISO, would exceed its Aggregate Credit Limit.

- (c) The Market Participant has provided notice or otherwise demonstrated that it is terminating or significantly reducing its participation in the CAISO Markets. The CAISO may retain a portion of the Financial Security Amount to ensure that the Market Participant is adequately secured with respect to pending liabilities that relate to Settlement re-runs or other liabilities for which the Market Participant may be responsible under this CAISO Tariff.

12.3.1 Self-Supply of UDC Demand.

Notwithstanding anything to the contrary in the CAISO Tariff, a Scheduling Coordinator or UDC that is an Original Participating Transmission Owner or is a Scheduling Coordinator for an Original Participating Transmission Owner shall not be precluded by Section 12.3 from scheduling transactions that serve a UDC's Demand from

- (1) a resource that the UDC owns; and
- (2) a resource that the UDC has under contract to serve its Demand.

12.4 Calculation of Ongoing Financial Security Requirements.

Following the date on which a Market Participant commences trading, if the Market Participant's Estimated Aggregate Liability, as calculated by the CAISO, at any time exceeds its Aggregate Credit Limit, the CAISO shall direct the Market Participant to post an additional Financial Security Amount within five (5) Business Days that is sufficient to ensure that the Market Participant's Aggregate Credit Limit is at least equal to its Estimated Aggregate Liability. The CAISO shall also notify a Market Participant if at any time its Estimated Aggregate Liability exceeds ninety percent (90%) of its Aggregate Credit Limit. For the purposes of calculating the Market Participant's Estimated Aggregate Liability, the CAISO shall include (1) outstanding charges for Trading Days for which Settlement data is available, and (2) an estimate of charges for Trading Days for which Settlement data is not yet available. To estimate charges

for Trading Days for which Settlement data is not yet available, the CAISO will consider available historical Settlement data, and other available operational and market data as described in the applicable Business Practice Manual.

12.4.1 Resolution of a CAISO Request for an Additional Financial Security Amount.

A Market Participant has five (5) Business Days to resolve a CAISO request for additional Financial Security. Within the five (5) Business Days, the Market Participant must either demonstrate to the CAISO's satisfaction that the CAISO's Financial Security request is entirely or partially unnecessary, or post the required Financial Security Amount calculated by the CAISO. If the CAISO and the Market Participant are unable to agree on the appropriate level of Financial Security during the five (5) Business Day review period, the Market Participant must post the additional Financial Security and may continue with the dispute process described in Section 12.4.2. Any excess Financial Security Amounts will be returned to the Market Participant if the dispute process finds in favor of the Market Participant.

12.4.2 Dispute Process Regarding a CAISO Request for an Additional Security Amount.

Market Participants may dispute the Estimated Aggregate Liability calculated by the CAISO and, as a result, the CAISO may reduce or cancel a requested Financial Security adjustment. The following steps are required for a Market Participant to dispute a Financial Security request resulting from the CAISO's calculation of Estimated Aggregate Liability:

- (1) Request by the Market Participant to review the CAISO calculation.
- (2) A reasonable and compelling situation presented, as determined by the Market Participant's CAISO client representative.
- (3) Documentation of facts and circumstances that evidence that the CAISO's calculation of Estimated Aggregate Liability results in an excessive and unwarranted Financial Security posting requirement.
- (4) Approval by the CAISO Manager and/or Director of Customer Services and Industry Affairs and approval by the CAISO Treasurer.

- (5) The CAISO may decline to adjust the initial Estimated Aggregate Liability, as calculated by the CAISO, if the Market Participant has had Financial Security shortfalls in the past twelve (12) months (i.e., it has been shown that the Market Participant's Aggregate Credit Limit at times during the preceding twelve (12) months has been insufficient to cover the Market Participant's Estimated Aggregate Liability).

In no such case shall a CAISO request for increased Financial Security remain outstanding for more than five (5) Business Days. Either the above process is to be completed within five (5) Business Days from the date of the CAISO request for additional Financial Security, or the Market Participant is to post additional Financial Security within the five (5) Business Days and continue this process, which may result in a return of posted Financial Security back to the Market Participant if the results of the dispute process are found to favor the Market Participant.

Factors for consideration in the event this dispute process is utilized include: weighing the risk of using the lower figure to the potential detriment of market creditors if the Market Participant is under-secured and defaults, against the desire not to impose additional potentially unwarranted costs on a Market Participant; equity and consistency of treatment of Market Participants in the dispute process; and the evidentiary value of the information provided by the Market Participant in the dispute process.

12.5 CAISO Enforcement Actions Regarding Under-Secured Market Participants.

If a Market Participant's Estimated Aggregate Liability, as calculated by the CAISO, at any time exceeds its Aggregate Credit Limit, the CAISO may take any or all of the following actions:

- (a) The CAISO may withhold a pending payment distribution.

- (b) The CAISO may limit trading, which may include rejection of Bids, including Self-Schedules, and/or limiting other CAISO Market activity, including limiting eligibility to participate in a CRR Allocation or CRR Auction. In such case, the CAISO shall notify the Market Participant of its action and the Market Participant shall not be entitled to participate in the CAISO Markets or CRR Auctions or submit further Bids, including Self-Schedules, or otherwise participate in the CAISO Markets until the Market Participant posts an additional Financial Security Amount that is sufficient to ensure that the Market Participant's Aggregate Credit Limit is at least equal to its Estimated Aggregate Liability.
- (c) The CAISO may require the Market Participant to post an additional Financial Security Amount in lieu of an Unsecured Credit Limit for a period of time.
- (d) The CAISO may restrict, suspend, or terminate the Market Participant's CRR Entity Agreement or any other service agreement.
- (e) The CAISO may resell the CRR Holder's CRRs in whole or in part, including any Long Term CRRs, in a subsequent CRR Auction or bilateral transaction, as appropriate.
- (f) The CAISO will not implement the transfer of a CRR if the transferee or transferor has an Estimated Aggregate Liability in excess of its Aggregate Credit Limit.

In addition, the CAISO may restrict or suspend a Market Participant's right to submit further Bids, including Self-Schedules, or require the Market Participant to increase its Financial Security Amount if at any time such Market Participant's potential additional liability for Imbalance Energy and other CAISO charges is determined by the CAISO to be excessive by comparison with the likely cost of the amount of Energy reflected in Bids or Self-Schedules submitted by the Market Participant.

12.6 Credit Obligations Applicable to CRRs.

12.6.1 Credit Requirements for CRR Allocations.

Subject to applicable requirements of Section 36.9.2 concerning the prepayment of Wheeling Access Charges, Load Serving Entities eligible to participate in any CRR Allocation are not required to provide additional Financial Security in advance of a CRR Allocation.

12.6.2 Credit Requirements for CRR Auctions.

To establish available credit for participating in any CRR Auction, each CRR Holder or Candidate CRR Holder must have an Unsecured Credit Limit or have provided Financial Security in a form consistent with Section 12.1.2. Each CRR Holder or Candidate CRR Holder may choose to designate a portion of its Unsecured Credit Limit and/or posted Financial Security specifically for the CRR Auction by notifying the CAISO of the CRR Holder's or Candidate CRR Holder's intent. Alternatively, the CRR Holder or Candidate CRR Holder may choose to post additional Financial Security solely to cover its participation in the CRR Auction by notifying the CAISO of the purpose for the additional Financial Security. Each CRR Holder or Candidate CRR Holder that participates in a CRR Auction shall ensure that its Aggregate Credit Limit in excess of its Estimated Aggregate Liability is the greater of \$500,000 or the sum of the absolute values of all of its bids for CRRs submitted in the relevant CRR Auction. A CRR Holder or Candidate CRR Holder that fails to satisfy this requirement shall not be permitted to participate in the relevant CRR Auction.

12.6.3 Credit Requirements for the Holding of CRRs.

12.6.3.1 Credit Requirements Generally.

- (a) Each CRR Holder, whether it obtains CRRs through a CRR Allocation or a CRR Auction, must maintain an Aggregate Credit Limit in excess of its Estimated Aggregate Liability including the credit requirement of the CRR portfolio determined as described in this Section 12.6.3. CRR Holders obtaining CRRs in the initial CRR Allocation will be required to comply with the credit requirements associated with such CRRs as determined by the CAISO after completion of the initial CRR Auction. The CAISO shall issue a Market Notice after completion of the initial CRR Auction to announce that CRR Holders obtaining CRRs in the initial CRR Allocation must comply with such credit requirements.
- (b) Each CRR Holder shall be required to ensure that its Aggregate Credit Limit is sufficient to satisfy the credit requirements described in this Section 12.6.3. CRRs are evaluated on a portfolio basis as follows. If a CRR Holder owns more than one CRR, such CRR Holder shall be subject to an overall credit requirement that is equal to the sum of the individual credit requirements applicable to each of the CRRs held by such CRR Holder. If this sum is positive, the amount will be added to the CRR Holder's Estimated Aggregate Liability. However, if the sum is negative, the CRR Holder's Estimated Aggregate Liability shall not be reduced.

- (c) The CAISO shall reevaluate the credit requirements for holding CRRs, and shall adjust the credit requirements accordingly, not less than monthly. The CAISO may adjust the credit requirements for holding CRRs with terms of one year or less more frequently than monthly at the CAISO's discretion to account for changes in the monthly auction prices for CRRs. The CAISO may also adjust the credit requirements for holding Long Term CRRs annually, to reflect the changes in auction prices of one-year CRRs in annual auctions, and to reflect updates to Credit Margins based on actual Locational Marginal Price data derived from market operations.
- (d) In cases where the ownership of a CRR is to be transferred through either the Secondary Registration System or through Load Migration, the CAISO shall evaluate and adjust the credit requirements for both the current owner of the CRR and the prospective owner of the CRR as appropriate prior to the transfer. If additional Financial Security is required from either the current or prospective owner, the transfer will not be completed until such Financial Security has been provided to and accepted by the CAISO.

12.6.3.2 Calculation of the Credit Amount Required to Hold a CRR With a Term of One Year or Less.

Each CRR Holder that holds a CRR with a term of one year or less shall be subject to a credit requirement (\$/MW) equal to the negative of the most recent CRR Auction Price of such CRR plus the Credit Margin for such CRR.

12.6.3.3 Calculation of the Credit Amount Required to Hold a Long Term CRR.

Each CRR Holder that holds a Long Term CRR shall be subject to a credit requirement (\$/MW) equal to (i) the negative of the most recent CRR Auction Price of a CRR with the same CRR Source and CRR Sink as the Long Term CRR but with only a one-year term, plus (ii) the Credit Margin calculated for the one-year CRR. If there is less than one year remaining in the term of a Long Term CRR, the credit requirement shall be determined pursuant to Section 12.6.3.2.

12.6.3.4 Calculation of Credit Margin.

The Credit Margin (\$/MW) for a CRR is equal to (i) the Expected Congestion Revenue minus (ii) the Fifth Percentile Congestion Revenue of such CRR. Both values will be based on the probability distribution of Congestion revenue of such CRR calculated using historical Locational Marginal Price data, when available, and proxy values, including data taken from Locational Marginal Price studies conducted by the CAISO, until such time as historical Locational Marginal Price data is available, with the details of such calculation published in a Business Practice Manual. The CAISO may reassess its determinations regarding the Credit Margin determination at any time and shall require additional Financial Security if the reassessment results in an increase in a CRR Holder's Estimated Aggregate Liability that is not covered by a CRR Holder's Aggregate Credit Limit (consisting of the CRR Holder's Unsecured Credit Limit and/or Financial Security).

12.7 Credit Obligation for New Responsible Utilities for RMR Costs.

If a Responsible Utility first executed the TCA after April 1, 1998 (a New Responsible Utility) and if:

- (i) the senior unsecured debt of the New Responsible Utility is rated or becomes rated at less than A- from Standard & Poor's ("S&P") or A3 from Moody's Investment Services ("Moody's"), and
- (ii) Such ratings do not improve to A- or better from S&P or A3 or better from Moody's within 60 days,

the New Responsible Utility shall issue and confirm to the CAISO an irrevocable and unconditional letter of credit in an amount equal to three times the highest monthly payment invoiced by the CAISO to the New Responsible Utility (or the prior Responsible Utility) in connection with services under Reliability Must-Run Contracts in the last 3 months for which invoices have been issued. The letter of credit must be issued by a bank or other financial institution whose senior unsecured debt rating is not less than A from S&P and A2 from Moody's. The letter of credit shall be in such form as the CAISO may reasonably require from time to time by notice to the New Responsible Utility and shall authorize the CAISO or the RMR Owner to draw on the letter of credit for deposit solely into the RMR Owner Facility Trust Account in an amount equal to any amount due and not paid by the Responsible Utility under the CAISO Invoice. The security provided by the New Responsible Utility pursuant to this Section is intended to cover the New Responsible Utility's outstanding liability for payments it is liable to make to the CAISO under this Section, including monthly payments, any reimbursement for capital improvement, termination fees and any other payments to which the CAISO is liable under Reliability Must-Run Contracts.

13 DISPUTE RESOLUTION.

13.1 Applicability.

13.1.1 General Applicability.

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

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

13.1.2 Disputes Involving Government Agencies.

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

13.1.3 Injunctive and Declaratory Relief.

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

13.2 Negotiation and Mediation.

13.2.1 Negotiation.

The CAISO and Market Participants (party or parties) shall make good-faith efforts to negotiate and resolve any dispute between them arising under CAISO Documents prior to invoking the CAISO ADR Procedures outlined herein. Each party shall designate an individual with authority to negotiate the matter in dispute to participate in such negotiations.

13.2.2 Statement of Claim.

In the event a dispute is not resolved through such good-faith negotiations, any one of the parties may submit a statement of claim, in writing, to each other disputing party, the CAISO ADR Committee, and the CAISO Governing Board, which submission shall commence the CAISO ADR Procedures. The statement of claim shall set forth in reasonable detail (i) each claim, (ii) the relief sought, including the proposed award, if applicable, (iii) a summary of the grounds for such relief and the basis for each claim, (iv) the parties to the dispute, and (v) the individuals having knowledge of each claim. The other parties to the dispute shall similarly submit their respective statements of claim within fourteen (14) days of the date of the initial statement of claim or such longer period as the chair of the CAISO ADR Committee may permit following an application by the responding party. If any responding party wishes to submit a counterclaim in response to the statement of claim, it shall be included in such party's responsive statement of claim. A summary of the statements of claim shall be published by the CAISO on the CAISO's secure communication system, and any other method adopted by the CAISO ADR Committee. No Market Participant shall be considered as having received notice of a claim decided or relief granted by a decision made under these procedures unless the summary of the statements of claim published by the CAISO includes such claim or relief.

13.2.3 Selection of Mediator.

After submission of the statements of claim, the parties may request mediation, if at least seventy-five percent (75%) of the disputing parties so agree, except that where a dispute involves three parties, at least two of the parties must agree to mediation. If the parties agree to mediate, the chair of the CAISO ADR Committee shall distribute to the parties by facsimile or other electronic means a list containing the names of at least seven prospective mediators with mediation experience, or with technical or business experience in the electric power industry, or both, as he or she shall deem appropriate to the dispute. The parties shall either agree upon a mediator from the list provided or from any alternative source, or alternate in striking names from the list with the last name on the list becoming the mediator. The first party to strike off a name from the list shall be determined by lot. The parties shall have seven days from the date of receipt of the CAISO ADR Committee chair's list of prospective mediators to complete the mediator selection process and appoint the mediator, unless the time is extended by mutual agreement. The mediator shall comply with the requirements of Section 13.3.2.

13.2.4 Mediation.

The mediator and representatives of the disputing parties, with authority to settle the dispute, shall within fourteen (14) days after the mediator's date of appointment schedule a date to mediate the dispute. Matters discussed during the mediation shall be confidential and shall not be referred to in any subsequent proceeding. With the consent of all disputing parties, a resolution may include referring the dispute directly to a technical body (such as a WECC technical advisory panel) for resolution or an advisory opinion, or referring the dispute directly to FERC. The CAISO shall publish notice of the referral of the dispute on the CAISO's secure communication system, and any other method adopted by the CAISO ADR Committee.

13.2.5 Demand for Arbitration.

If the disputing parties have not succeeded in negotiating a resolution of the dispute within thirty (30) days of the initial statement of claim or, if within that period the parties agreed to mediate, within thirty (30) days of the parties first meeting with the mediator, such parties shall be deemed to be at impasse and any such disputing party may then commence the arbitration process, unless the parties by mutual agreement agree to extend the time. A party seeking arbitration shall provide notice of its demand for arbitration to the other disputing parties, the CAISO ADR Committee and the CAISO Governing Board, which shall publish notice of such demand in the CAISO newsletter or electronic bulletin board, and any other method adopted by the CAISO ADR Committee.

13.3 Arbitration.

13.3.1 Selection of Arbitrator.

13.3.1.1 Disputes Under \$1,000,000.

Where the total amount of claims and counterclaims in controversy is less than \$1,000,000 (exclusive of costs and interest), the disputing parties shall select an arbitrator from a list containing the names of at least ten (10) qualified individuals supplied by the CAISO ADR Committee, or if the CAISO is a party to the dispute, the names of at least ten (10) qualified individuals supplied by the American Arbitration Association within 14 days following submission of the demand for arbitration. If the parties cannot agree upon an arbitrator within fourteen (the) stated time, they shall take turns striking names from the list of proposed arbitrators. The first party to strike-off a name shall be determined by lot. This process shall be repeated until one name remains on the list, and that individual shall be the designated arbitrator.

13.3.1.2 Disputes of \$1,000,000 or Over.

Where the total amount of claims and counterclaims in controversy is \$1,000,000 or more (exclusive of interest and costs), the disputing parties may agree on any person to serve as a single arbitrator, or shall endeavor in good faith to agree on a single arbitrator from a list of ten (10) qualified individuals provided by the CAISO ADR Committee, or if the CAISO is a party to the dispute, the names of at least ten (10) qualified individuals supplied by the American Arbitration Association within fourteen (14) days following submission of the demand for arbitration. If the parties are unable to agree on a single arbitrator within the stated time, the party or parties demanding arbitration, and the party or parties responding to the demand for arbitration, shall each designate an arbitrator. Each designation shall be from the CAISO ADR Committee list of arbitrators no later than the tenth (10th) day thereafter. The two arbitrators so chosen shall then choose a third arbitrator.

13.3.2 Disclosures Required of Arbitrators.

The designated arbitrator(s) shall be required to disclose to the parties any circumstances which might preclude him or her from rendering an objective and impartial determination. Each designated arbitrator shall disclose:

- (a) Any direct financial or personal interest in the outcome of the arbitration;
- (b) Any information required to be disclosed by California Code of Civil Procedure Section 1281.9.; and
- (c) Any existing or past financial, business, professional, or personal interest that are likely to affect impartiality or might reasonably create an appearance of partiality or bias.

The designated arbitrator shall disclose any such relationships that he or she personally has with any party or its counsel, or with any individual whom he or she has been told will be a witness. Designated arbitrators should also disclose any such relationship involving members of their families or their current

employers, partners, or business associates. All designated arbitrators shall make a reasonable effort to inform themselves of any interests or relationships described above. The obligation to disclose interests, relationships, or circumstances that might preclude an arbitrator from rendering an objective and impartial determination is a continuing duty that requires the arbitrator to disclose, at any stage of the arbitration, any such interests, relationships, or circumstances that arise, or are recalled or discovered. If, as a result of the continuing disclosure duty, an arbitrator makes a disclosure which is likely to affect his or her partiality, or might reasonably create an appearance of partiality or bias or if a party independently discovers the existence of such circumstances, a party wishing to object to the continuing use of the arbitrator must provide written notice of its objection to the other parties within ten (10) days of receipt of the arbitrator's disclosure or the date of a party's discovery of the circumstances giving rise to that party's objection. Failure to provide such notice shall be deemed a waiver of such objection. If a party timely provides a notice of objection to the continuing use of the arbitrator the parties shall attempt to agree whether the arbitrator should be dismissed and replaced in the manner described in Section 13.3.1. If within ten (10) days of a party's objection notice the parties have not agreed how to proceed the matter shall be referred to the CAISO ADR Committee for resolution.

13.3.3 Arbitration Procedures.

The CAISO ADR Committee shall compile and make available to the arbitrator and the parties standard procedures for the arbitration of disputes, which procedures (i) shall include provision, upon good cause shown, for intervention or other participation in the proceeding by any party whose interests may be affected by its outcome, (ii) shall conform to the requirements specified herein, and (iii) may be modified or adopted for use in a particular proceeding as the arbitrator deems appropriate, in accordance with Section 13.3.4. The procedures adopted by the CAISO ADR Committee shall be based on the latest edition of the American Arbitration Association Commercial Arbitration Rules, to the extent such rules are not inconsistent with this Section 13. Except as provided herein, all parties shall be bound by such procedures.

13.3.4 Modification of Arbitration Procedures.

In determining whether to modify the standard procedures for use in the pending matter, the arbitrator shall consider (i) the complexity of the dispute, (ii) the extent to which facts are disputed, (iii) the extent to which the credibility of witnesses is relevant to a resolution, (iv) the amount in controversy, and (v) any representations made by the parties. Alternatively, the parties may, by mutual agreement, modify the standard procedures. In the event of a disagreement between the arbitrator and the agreement of the parties regarding arbitration procedures to be utilized, the parties' agreement shall prevail.

13.3.5 Remedies.

13.3.5.1 Arbitrator's Discretion.

The arbitrator shall have the discretion to grant the relief sought by a party, or determine such other remedy as is appropriate, unless the parties agree to conduct the arbitration "baseball" style. Unless otherwise expressly limited herein, the arbitrator shall have the authority to award any remedy or relief available from FERC, or any other court of competent jurisdiction. Where any CAISO Document leaves any matter to be agreed between the parties at some future time and provides that in default of agreement the matter shall be referred to the CAISO ADR Procedures, the arbitrator shall have authority to decide upon the terms of the agreement which, in the arbitrator's opinion, it is reasonable that the parties should reach, having regard to the other terms of the CAISO Document concerned and the arbitrator's opinion as to what is fair and reasonable in all the circumstances.

13.3.5.2 "Baseball" Arbitration.

If the parties agree to conduct the arbitration "baseball" style, the parties shall submit to the arbitrator and exchange with each other their last best offers in the form of the award they consider the arbitrator should make, not less than seven (7) days in advance of the date fixed for the hearing, or such other date as the arbitrator may decide. If a party fails to submit its last best offer in accordance with this Section, that party shall be deemed to have accepted the offer proposed by the other party. The arbitrator shall be limited to awarding only one of the proposed offers, and may not determine an alternative or compromise remedy.

13.3.6 Summary Disposition.

The procedures for arbitration of a dispute shall provide a means for summary disposition of a demand for arbitration, or a response to a demand for arbitration, that in the reasoned opinion of the arbitrator does not have a good faith basis in either law or fact. If the arbitrator determines that a demand for arbitration or response to a demand for arbitration does not have a good faith basis in either law or fact, the arbitrator shall have discretion to award the costs of the time, expenses, and other charges of the arbitrator to the prevailing party. A determination made under this Section is subject to appeal pursuant to Section 13.4.

13.3.7 Discovery Procedures.

The procedures for the arbitration of a dispute shall include adequate provision for the discovery of relevant facts, including the taking of testimony under oath, production of documents and other things, the presentation of evidence, the taking of samples, conducting of tests, and inspection of land and tangible items. The nature and extent of such discovery shall be determined as provided herein and shall take into account (i) the complexity of the dispute, (ii) the extent to which facts are disputed, (iii) the extent to which the credibility of witnesses is relevant to a resolution, and (iv) the amount in controversy. The forms and methods for taking such discovery shall be as described in the Federal Rules of Civil Procedure, except as modified pursuant to Section 13.3.4.

13.3.8 Evidentiary Hearing.

The arbitration procedures shall provide for an evidentiary hearing, with provision for the cross-examination of witnesses, unless all parties consent to the resolution of the matter on the basis of a written record. The forms and methods for taking evidence shall be determined by the arbitrator(s) and modified pursuant to Section 13.3.4. The arbitrator may require such written or other submissions from the parties as he or she may deem appropriate, including submission of direct and rebuttal testimony of

witnesses in written form. The arbitrator may exclude any evidence that is irrelevant, immaterial, unduly repetitious or prejudicial, or privileged. The arbitrator shall compile a complete evidentiary record of the arbitration which shall be available to the parties on its completion upon request.

13.3.9 Confidentiality.

Subject to the other provisions of this CAISO Tariff, any party may claim that information contained in a document otherwise subject to discovery is "Confidential" if such information would be so characterized under the Federal Rules of Evidence. The party making such claim shall provide to the arbitrator in writing the basis for its assertion. If the claim of confidentiality is confirmed by the arbitrator, he or she shall establish requirements for the protection of such documents or other information designated as "Confidential" as may be reasonable and necessary to protect the confidentiality and commercial value of such information. Any party disclosing information in violation of these provisions or requirements established by the arbitrator, unless such disclosure is required by federal or state law or by a court order, shall thereby waive any right to introduce or otherwise use such information in any judicial, regulatory, or other legal or dispute resolution proceeding, including the proceeding in which the information was obtained.

13.3.10 Timetable.

Promptly after the appointment of the arbitrator, the arbitrator shall set a date for the issuance of the arbitration decision, which shall be no later than six (6) months (or such date as the parties and the arbitrator may agree) from the date of the appointment of the arbitrator, with other dates, including the dates for an evidentiary hearing or other final submissions of evidence, set in light of this date. The date for the evidentiary hearing or other final submission of evidence shall not be changed, absent extraordinary circumstances. The arbitrator shall have the power to impose sanctions, including dismissal of the proceeding, for dilatory tactics or undue delay in completing the arbitration proceedings.

13.3.11 Decision.

13.3.11.1 Except as provided below with respect to "baseball" style arbitration, the arbitrator shall issue a written decision granting the relief requested by one of the parties, or such other remedy as is appropriate, if any, and shall include findings of fact and law. The arbitration decision shall be based on (i) the evidence in the record, (ii) the terms of the relevant CAISO Documents, (iii) applicable United States federal law, including the FPA and any applicable FERC regulations and decisions, and international treaties or agreements as applicable, and (iv) applicable state law. Additionally, the arbitrator may consider relevant decisions in previous arbitration proceedings. A summary of the disputed matter and the arbitrator's decision shall be published in a CAISO newsletter or electronic bulletin board and any other method adopted by the CAISO ADR Committee, and maintained by the CAISO ADR Committee.

13.3.11.2 In arbitration conducted "baseball" style, the arbitrator shall issue a written decision adopting one of the awards proposed by the parties, and shall include findings of fact and law. The arbitration decision shall be based on (i) the evidence in the record, (ii) the terms of the relevant CAISO Documents, (iii) applicable United States federal law, including the FPA and any applicable FERC regulations and decisions, and international treaties or agreements as applicable, and (iv) applicable state law. If the arbitrator concludes that no proposed award is consistent with the factors enumerated in (i) through (iv) above, or addresses all of the issues in dispute, the arbitrator shall specify how each proposed award is deficient and direct that the parties submit new proposed awards that cure the identified deficiencies. A summary of the disputed matter and the arbitrator's decision shall be published in a CAISO newsletter or electronic bulletin board, and any other method adopted by the CAISO ADR Committee. An award shall not be deemed to be precedential.

13.3.11.3 Where a panel of arbitrators is appointed pursuant to Section 13.3.1.2, a majority of the arbitrators must agree on the decision.

13.3.12 Compliance.

Unless the arbitrator's decision is appealed under Section 13.4, the disputing parties shall, upon receipt of the decision, immediately take whatever action is required to comply with the award to the extent the award does not require regulatory action. An award that is not appealed shall be deemed to have the same force and effect as an order entered by the FERC or any court of competent jurisdiction.

13.3.13 Enforcement.

Following the expiration of the time for appeal of an award pursuant to Section 13.4.3, any party may apply to FERC or any court of competent jurisdiction for entry and enforcement of judgment based on the award.

13.3.14 Costs.

The costs of the time, expenses, and other charges of the arbitrator shall be borne by the parties to the dispute, with each side on an arbitrated issue bearing its pro-rata share of such costs, and each party to an arbitration proceeding bearing its own costs and fees. If the arbitrator determines that a demand for arbitration or response to a demand for arbitration was made in bad faith, the arbitrator shall have discretion to award the costs of the time, expenses, and other charges of the arbitrator to the prevailing party. Notwithstanding the above, at the discretion of the arbitrator, the winning party in any dispute which has resulted in the enforcement of an important right affecting the public interest shall not be required to pay any of the costs of the arbitrator and may recover such of its own reasonable attorney fees, expert witness fees and other reasonable costs from the losing party to the dispute if (a) a significant benefit, whether pecuniary or non-pecuniary, has been conferred on the general public, (b) the necessity and financial burden of private enforcement are such as to make the award appropriate, and (c) such fees should not, in the interest of justice, be paid out of the recovery.

13.4 Appeal of Award.

13.4.1 Basis for Appeal.

A party may apply to the FERC or any court of competent jurisdiction to hear an appeal of an arbitration award only upon the grounds that the award is contrary to or beyond the scope of the relevant CAISO Documents, United States federal law, including, without limitation, the FPA, and any FERC regulations and decisions, or state law. Appeals shall, unless otherwise ordered by FERC or the court of competent jurisdiction, conform to the procedural limitations set forth in this Section 13.4.

13.4.2 Appellate Record.

The parties intend that FERC or the court of competent jurisdiction should afford substantial deference to the factual findings of the arbitrator. No party shall seek to expand the record before the FERC or court of competent jurisdiction beyond that assembled by the arbitrator, except (i) by making reference to legal authority which did not exist at the time of the arbitrator's decision, or (ii) if such party contends the decision was based upon or affected by fraud, collusion, corruption, misconduct or misrepresentation.

13.4.3 Procedures for Appeals.

13.4.3.1 If a party to an arbitration desires to appeal an award, it shall provide a notice of appeal to the CAISO Governing Board, all parties and the arbitrator within fourteen (14) days following the date of the award. The appealing party must likewise provide notice to the CAISO ADR Committee, which shall publish notice of the appeal on the CAISO's secure communication system, and any other method adopted by the CAISO ADR Committee.

Within ten (10) days of the filing of the notice of appeal, the appealing party must file an appropriate application, petition or motion with the FERC to trigger review under the FPA or with a court of competent jurisdiction. Such filing shall state that the subject matter has been the subject of an arbitration pursuant to the relevant CAISO Document.

13.4.3.2 Within thirty (30) days of filing the notice of appeal (or such period as FERC or the court of competent jurisdiction may specify) the appellant shall file the complete evidentiary record of the

arbitration and a copy of the award with FERC or with the court of competent jurisdiction. The appellant shall serve copies of a description of all materials included in the submitted evidentiary record.

13.4.4 Award Implementation.

Implementation of the award shall be deemed stayed pending an appeal unless and until, at the request of a party, the FERC or the court of competent jurisdiction to which an appeal has been filed, issues an order dissolving, shortening, or extending such stay. However, a summary of each appeal shall be published in a CAISO newsletter or electronic bulletin board, and any other method adopted by the CAISO ADR Committee.

13.4.5 Judicial Review of FERC Orders.

FERC orders resulting from appeals shall be subject to judicial review pursuant to the FPA.

13.5 Allocation of Awards Payable by or to the CAISO.

13.5.1 Allocation of an Award.

If the CAISO must pay an award to a party pursuant to good faith negotiations or the CAISO ADR Procedures, the CAISO will recover the amount of the award from Market Participants and Scheduling Coordinators. If the CAISO receives an award from a party pursuant to good faith negotiations or the CAISO ADR Procedures, the CAISO will flow back the amount of the award to Market Participants and Scheduling Coordinators.

13.5.2 Timing of Adjustments.

Upon determination that an award is payable by or to the CAISO pursuant to good faith negotiations or the CAISO ADR Procedures, the CAISO shall calculate the amounts payable to and receivable from the party, Market Participants, and Scheduling Coordinators, as soon as reasonably practical, and shall show any required adjustments as a debit or a credit in a subsequent Initial Settlement Statement T+38BD or, in the case of an amount payable by the CAISO to a party, as soon as the CAISO and that party may agree.

13.5.3 Method of Allocation.

13.5.3.1 Allocation to Market Participants.

The CAISO will use best efforts to determine which Market Participant(s) is or are responsible for and/or benefit from payment of an award by or to the CAISO and to allocate receipt of or payment for the award equitably to such Market Participant(s). In undertaking the allocation, the CAISO shall consider the extent of a Market Participant's participation in affected markets and the CAISO Tariff in effect on the applicable Trading Day(s), and may consider any other relevant factor, including but not limited to, applicable contracts.

13.5.3.2 Residual Amounts.

Any awards for which the CAISO is unable to identify Market Participants in accordance with 13.5.3.1 and any award amounts that the CAISO is unable to collect that are not covered by Section 11.29.17.1 will be allocated to all Scheduling Coordinators through neutrality adjustments.

14 FORCE MAJEURE INDEMNIFICATION AND LIMITATIONS ON LIABILITY.

14.1 Uncontrollable Forces.

Neither the CAISO nor a Market Participant will be considered in default of any obligation under this CAISO Tariff if prevented from fulfilling that obligation due to the occurrence of an Uncontrollable Force.

14.2 Responsibilities of Affected Entity.

In the event of the occurrence of an Uncontrollable Force, which prevents the CAISO or a Market Participant from performing any of its obligations under this CAISO Tariff, the affected entity shall (i) if it is the CAISO, immediately notify the Market Participants in writing of the occurrence of such Uncontrollable Force and, if it is a Market Participant, immediately notify the CAISO in writing of the occurrence of such Uncontrollable Force, (ii) not be entitled to suspend performance of its obligations under this CAISO Tariff in any greater scope or for any longer duration than is required by the Uncontrollable Force, (iii) use its best efforts to mitigate the effects of such Uncontrollable Force, remedy its inability to perform and resume full performance of its obligations hereunder, (iv) in the case of the CAISO, keep the Market Participants apprised of such efforts, and in the case of the Market Participants, keep the CAISO apprised of such efforts, in each case on a continual basis and (v) provide written notice of the resumption of its performance of its obligations hereunder.

14.3 Strikes, Lockouts or Labor Disputes.

Notwithstanding any of the foregoing, the settlement of any strike, lockout or labor dispute constituting an Uncontrollable Force shall be within the sole discretion of the entity involved in such strike, lockout or labor dispute and the requirement that an entity must use its best efforts to mitigate the effects of the Uncontrollable Force and/or remedy its inability to perform and resume full performance of its obligations hereunder shall not apply to strikes, lockouts, or labor disputes.

14.4 Market Participant's Indemnity.

Each Market Participant, to the extent permitted by law, shall indemnify the CAISO and hold it harmless against all losses, damages, claims, liabilities, costs or expenses (including legal expenses) arising from any act or omission of the Market Participant except to the extent that they result from the CAISO's default under this CAISO Tariff or gross negligence or intentional wrongdoing on the part of the CAISO or of its officers, directors or employees.

14.5 Limitation on Liability.

14.5.1 Liability for Damages.

Except as provided for in Section 13.3.14, the CAISO shall not be liable in damages to any Market Participant for any losses, damages, claims, liability, costs or expenses (including legal expenses) arising from the performance or non-performance of its obligations under this CAISO Tariff, including but not limited to any adjustments made by the CAISO in Inter-SC Trades, except to the extent that they result from gross negligence or intentional wrongdoing on the part of the CAISO.

14.5.2 Exclusion of Certain Types of Loss.

The CAISO shall not be liable to any Market Participant under any circumstances for any consequential or indirect financial loss including but not limited to loss of profit, loss of earnings or revenue, loss of use, loss of contract or loss of goodwill except to the extent that it results from except to the gross negligence or intentional wrongdoing on the part of the CAISO.

14.6 Potomac Economics, Ltd. Limitation Of Liability.

Potomac Economics, Ltd. shall not be liable in damages to any Market Participant for any losses, damages, claims, liability, costs or expenses (including legal expenses) arising from its calculation of reference levels under its Consultant Agreement with the CAISO dated as of September 3, 2002, except to the extent that they result from gross negligence or intentional wrongdoing of Potomac Economics, Ltd.

15 REGULATORY FILINGS.

Any amendment or other modification of any provision of this CAISO Tariff must be in writing and approved by the CAISO Governing Board in accordance with the bylaws of the CAISO. Any such amendment or modification shall be effective upon the date it is permitted to become effective by FERC. Nothing contained herein shall be construed as affecting, in any way, the right of the CAISO to furnish its services in accordance with this CAISO Tariff, or any tariff, rate schedule or Scheduling Coordinator Agreement which results from or incorporates this CAISO Tariff, or unilaterally to make an application to FERC for a change in rates, terms, conditions, charges, classifications of service, Scheduling Coordinator Agreement, rule or regulation under FPA Section 205 and pursuant to the FERC's rules and regulations promulgated thereunder. Nothing contained in this CAISO Tariff or any Scheduling Coordinator Agreement shall be construed as affecting the ability of any Market Participant receiving service under this CAISO Tariff to exercise its rights under Section 206 of the FPA and FERC's rules and regulations thereunder.

16 EXISTING CONTRACTS.

16.1 Continuation of Rights and Obligations of Non-Participating TOs Under Existing Contracts.

The transmission service rights and obligations of Non-Participating TOs under Existing Contracts, including all terms, conditions and rates of the Existing Contracts, as they may change from time to time under the terms of the Existing Contracts, will continue to be honored by the parties to those contracts, for the duration of those contracts.

16.1.1 Participating TO Obligation.

If a Participating TO is a party to an Existing Contract under which Existing Rights are provided, the Participating TO shall attempt to negotiate changes to the Existing Contract to align the contract's scheduling and operating provisions with the CAISO's scheduling and operational procedures, rules and protocols, to align operations under the contract with CAISO operations, and to minimize the contract parties' costs of administering the contract while preserving their financial rights and obligations.

In addition, the Participating TO shall attempt to negotiate changes to provisions in the Existing Contract to ensure that whenever transmission services under the Existing Contract are used to deliver power to a Market Participant that is subject to Access Charges under this CAISO Tariff, no duplicative charge for access to the CAISO Controlled Grid will be charged under the Existing Contract. For purposes of such negotiations, there shall be a presumption that any charges in an Existing Contract that were designed to recover the embedded cost of transmission facilities within the CAISO Controlled Grid will be fully recovered through the Access Charges established under Section 26.1.

16.1.2 Right to Use and Ownership of Facilities.

If a Non-Participating TO has an Existing Contract with a Participating TO under which the Non-Participating TO's transmission facilities, or a portion thereof, are subject to use by the Participating TO, the Non-Participating TO's rights to the use and ownership of its facilities shall remain unchanged, regardless of the Participating TO's act of turning over the Participating TO's Entitlement to use the Non-Participating TO's facilities to the extent possible to the Operational Control of the CAISO. The CAISO will accept valid ETC Self-Schedules from a Participating TO that is the Scheduling Coordinator for the holder of Existing Rights, or from holders of Existing Rights that are Scheduling Coordinators, or that are represented by a Scheduling Coordinator other than the Participating TO. ETC Self-Schedules submitted by Scheduling Coordinators to the CAISO, which include the use of Existing Rights, must be submitted in accordance with Section 16.1 and Section 30. The CAISO may refuse to accept ETC Self-Schedules submitted pursuant to Existing Contracts that do not meet the requirements of the principles, protocols and rules referred to in this Section 16.1.

16.1.3 Existing Contract Dispute Resolution.

The CAISO will, if requested, advise parties to Existing Contracts regarding the operational aspects of any Existing Contract renegotiations that they undertake.

If the parties to an Existing Contract are unable to reach agreement on the changes needed to meet the requirements of this CAISO Tariff, any disputes related thereto shall be addressed using the dispute resolution provisions of the Existing Contract, including any remedies as are provided by law. The rights of the parties to seek changes or to challenge such changes, under the FPA or as otherwise provided by law, are preserved consistent with the terms of the Existing Contract. Unless and until the necessary changes to the Existing Contract are made, all terms and conditions of the Existing Contracts will continue to be honored by the parties to the Existing Contracts.

16.1.4 Conversion of Participating TOs' Rights and Obligations Under Existing Contracts.

Parties who are entitled to transmission service rights under Existing Contracts and who choose to become Participating TOs must, at the time of becoming a Participating TO convert those rights to Converted Rights in accordance with Section 4.3.1.6.

16.2 [NOT USED]

16.3 [NOT USED]

16.4 Transmission Rights and Transmission Curtailment Instructions.

16.4.1 Responsibility to Create TRTC Instructions.

Each Participating TO and Existing Rights holder will work with the CAISO to develop the Transmission Rights and Transmission Curtailment (TRTC) Instructions that allow Existing Contracts to be exercised in a way that: (i) maintains the existing scheduling and curtailment priorities under the Existing Contract; (ii) is minimally burdensome to the CAISO (i.e., creates the least impact on the CAISO's preferred operational policies and procedures); (iii) to the extent possible, imposes no additional financial burden on either the Participating TO or the holder of Existing Rights (beyond that in the Existing Contract); (iv) consistent with the terms of the Existing Contracts, makes as much transmission capacity not otherwise utilized by the holder of Existing Rights available as possible to the CAISO for allocation to Market Participants; (v) is minimally burdensome to the Participating TO and the Existing Rights holder from an operational point of view; and (vi) does not require the CAISO to interpret or underwrite the economics of the Existing Contract. The parties to Existing Contracts will attempt to jointly develop and agree on any TRTC Instructions that will be submitted to the CAISO. The parties to an Existing Contract shall also be responsible to submit to the CAISO any other necessary operating instructions based on their contract interpretations needed by the CAISO to enable the CAISO to perform its duties.

16.4.2 Responsible PTO for Multiple Participating TO Parties to an Existing Contract.

To the extent there is more than one Participating TO providing transmission service under an Existing Contract or there is a set of Existing Contracts which are interdependent from the point of view of submitting instructions to the CAISO involving more than one Participating TO, the relevant Participating TOs will designate a single Participating TO as the responsible PTO and will notify the CAISO accordingly. If no such responsible PTO is designated by the relevant Participating TOs or the CAISO is not notified of such designation, the CAISO shall designate one of them as the responsible PTO and notify the relevant Participating TOs accordingly. The responsible PTO designated pursuant to this section shall have the same responsibility as the Participating TO under this Section 16.4.

16.4.3 Scheduling Coordinator Responsibilities.

The Scheduling Coordinator designated by the parties to an Existing Contract as the responsible entity for submitting ETC Self-Schedules for the relevant Existing Contract shall submit ETC Self-Schedules consistent with the terms and conditions specified in the TRTC Instructions.

16.4.4 Submission of TRTC Instructions.

For each Existing Contract, the Participating TO providing transmission service under the Existing Contract (or the Responsible PTO identified in Section 16.4.2) shall be obligated to submit the TRTC Instructions to the CAISO electronically on behalf of the holders of Existing Rights, unless the parties to the Existing Contract agree otherwise. The Participating TO shall notify the CAISO in writing the identity of the responsible party for submission of the TRTC Instructions as decided by the parties to the Existing Contract and the term of such agreement between the parties to the Existing Contract. The Participating TO shall undertake all obligations with respect to the submission of the TRTC Instructions to the CAISO and any subsequent obligations that follow with respect to the creation, management and updates to the TRTC Instructions. The CAISO is responsible for implementing only one set of TRTC Instructions for each Existing Contract and only those TRTC Instructions that have been received and accepted by the

CAISO. The Participating TO shall submit the TRTC Instructions to the CAISO associated with Existing Contracts or sets of interdependent Existing Contracts thirty (30) days prior to the date on which the scheduling or curtailment of the use of the Existing Rights is to change or commence.

16.4.5 TRTC Instructions Content.

TRTC Instructions will include the following information at a minimum and such other information as the CAISO may reasonably require the Participating TO to provide to enable the CAISO to carry out its functions under the CAISO Tariff, Operating Procedures and Business Practice Manuals:

- (1) A unique Contract Reference Number for each source and sink combination applicable to the Existing Contract (i.e., the CRN that will be assigned by the CAISO and communicated to the Participating TO that references a single Existing Contract or a set of interdependent Existing Contracts for each source and sink combination);
- (2) Whether the instruction can be exercised independent of the CAISO's day-to-day involvement ("Yes/No");
- (3) Name of an operational single point of contact for instructions and a 24-hour a day telephone number for the Participating TO contact for Existing Contract issues or the agreed upon party;
- (4) Name(s) and number(s) of Existing Contract(s) that are represented by the unique CRN;
- (5) The following information as stored in the Master File: (a) the applicable Point(s) of Receipt and Point(s) of Delivery); (b) for each Point of Receipt, the resource names for the physical resources as the eligible sources (eligible physical sources include Generating Units and System Resources), and for each Point of Delivery, the resource names for the physical resources as the eligible sinks

(eligible physical sinks include Load PNodes, Custom Load Aggregation Points and System Resources); (c) for each physical source or sink, the maximum Existing Rights capacity (MW) that can be scheduled as an Existing Right under the Existing Contract; and (d) for each physical source and sink, the Scheduling Coordinator(s) and their Business Associate Identification (BAID) that is(are) eligible to submit ETC Self-Schedules utilizing these sources and sinks;

- (6) Names of the party(ies) to the Existing Contract(s);
- (7) The Scheduling Coordinator BAID that is entitled to the Settlement of reversal of Congestion Charges;
- (8) Type(s) of service rights by the holder of the Existing Rights, by type of service (firm, conditional firm, or non-firm), with priorities for firm and conditional firm transmission services and maximum amounts of service rights in MW;
- (9) Instructions for the allowable timeframes at which the ETC Self-Schedules and ETC Self-Schedule changes may be submitted to the CAISO, which include whether the Scheduling Coordinator may submit ETC Self-Schedules or ETC Self-Schedule changes: (a) into the DAM; (b) into the HASP and the RTM; (c) after the close of submitting Bids into the HASP and the RTM, but before twenty (20) minutes before the applicable Trading Hour of the Trading Day; and (d) at or after twenty (20) minutes before the applicable Trading Hour of the Trading Day; in addition, the TRTC Instructions may also include any additional comments and restrictions on the submission time of ETC Self-Schedules and ETC Self-Schedule changes;
- (10) Term or service period(s) of the Existing Contract(s);

- (11) Any special procedures that would require the CAISO to implement curtailments in any manner different from pro rata reduction of the transfer capability of the transmission line; any such TRTC Instructions submitted to the CAISO must be clear, unambiguous, and not require the CAISO to make any judgments or interpretations as to the meaning intent, results, or purpose of the curtailment procedures or the Existing Contract and the section of the Existing Contract that provides this right for reference, otherwise, they will not be accepted by the CAISO;
- (12) The forecasted usage patterns for each Existing Contract for the upcoming annual period of the annual CRR release processes as well as for the upcoming monthly period of the monthly CRR release processes, which will consist of hourly MWh data over the whole year for those resources that will use the Existing Contract; this information will be considered by the CAISO in managing its accounting for usage of Existing Rights in the release of CRRs; this information shall not be used by the CAISO to validate ETC Self-Schedules when submitted by Scheduling Coordinators and therefore shall not affect the Existing Rights holder's ability to utilize its rights under the Existing Contract;
- (13) Whether or not the Existing Contract provides for the right to self-provide Ancillary Services; and
- (14) Specification of any contract requirements in the ETC that warrants special consideration in the implementation of the physical rights under the ETC.

16.4.6 Changes and Updates to TRTC Instructions.

Updates or changes to the TRTC Instructions must be submitted to the CAISO through a revised set of TRTC Instructions by the Participating TO, on an as needed or as required basis determined by the parties to the Existing Contracts. The CAISO will implement the updated or changed TRTC Instructions as soon as practicable but no later than seven (7) days after receiving clear and unambiguous details of

the updated or changed instructions under normal conditions. If the CAISO finds the TRTC Instructions to be inconsistent with the CAISO Tariff, the CAISO will notify the Participating TO within forty-eight (48) hours after receipt of the updated or changed TRTC Instructions indicating the nature of the problem and allowing the Participating TO to resubmit the TRTC Instructions as if they were new, updated or changed TRTC Instructions. If the CAISO finds the updated or changed TRTC Instructions to be acceptable, the CAISO will time-stamp the updated TRTC Instructions as received, confirm such receipt to the Participating TO, and indicate the time at which the updated TRTC Instructions take effect if prior to the seven (7) day deadline referred to above. In the event of a System Emergency, the CAISO will implement such submitted changes to the TRTC Instructions as soon as practical.

16.4.7 Treatment of TRTC Instructions.

16.4.7.1 TRTC Instructions Can Be Exercised Independently.

To the extent that the TRTC Instructions can be exercised independently of the CAISO by the parties to the Existing Contract and the results forwarded to the CAISO, the TRTC Instructions shall be exercised by the Participating TOs, and the outcomes shall be forwarded to the CAISO. The determination of whether the TRTC Instructions can be “exercised independently of the CAISO by the parties to the Existing Contract” shall be made using the same procedures described in Section 16.4.8.

16.4.7.2 TRTC Instructions Cannot Be Exercised Independently.

To the extent that the TRTC Instructions cannot be exercised independently of the CAISO and the results forwarded to the CAISO (because, for example, they require iteration with the CAISO’s Bid submission and scheduling process, would unduly interfere with the CAISO’s management of the Real-Time Market, including curtailments, or would unduly interfere with the ability of the holder of rights to exercise its rights), the TRTC Instructions will be provided to the CAISO for day-to-day implementation. The TRTC Instructions will be provided by the Participating TO to the CAISO for implementation unless the parties to

the Existing Contracts otherwise agree that the holder of the Existing Rights will do so. For these TRTC Instructions, the Scheduling Coordinators representing the holders of Existing Rights will submit their Bids to the CAISO for implementation in accordance with the TRTC Instructions. In this case, the CAISO shall act as the scheduling agent for the Participating TO with regard to Existing Rights.

16.4.8 CAISO Role in Existing Contracts.

The CAISO will have no role in interpreting Existing Contracts. The parties to an Existing Contract will, in the first instance, attempt jointly to agree on any TRTC Instructions that will be submitted to the CAISO. In the event that the parties to the Existing Contract cannot agree upon the TRTC Instructions submitted by the parties to the Existing Contract, the dispute resolution provisions of the Existing Contract, if applicable, shall be used to resolve the dispute; provided that, until the dispute is resolved, and unless the Existing Contract specifies otherwise, the CAISO shall implement the Participating TO's TRTC Instructions. If both parties to an Existing Contract are Participating TOs and the parties cannot agree to the TRTC Instructions submitted by the parties, until the dispute is resolved, and unless the Existing Contract specifies otherwise, the CAISO shall implement the TRTC Instructions of the first Participating TO for which the Existing Contract is an Encumbrance. The CAISO shall not be responsible for resolution of any disputes that arise over the accuracy of the TRTC Instructions consistent with its obligations in Section 16.4.5.

16.4.9 Implementation of TRTC Instructions.

The CAISO shall determine, based on the information provided by the Participating TOs under TRTC Instructions, the transmission capacities that (i) must be reserved for firm Existing Rights at Scheduling Points, (ii) may be allocated for use as CAISO transmission service (i.e., new firm uses), (iii) must be reserved by the CAISO for conditional firm Existing Rights, and (iv) remain for any non-firm Existing Rights for which a Participating TO has no discretion over whether or not to provide such non-firm service.

The CAISO shall coordinate the scheduling of Existing Rights with the scheduling of CAISO transmission service, using the CAISO's Bid submission rules. In doing so, the CAISO shall create an automated day-to-day verification process based on parameters provided by the Participating TO for the Existing Contract to serve as the basis for ETC Self-Schedule validation. The Participating TO will be responsible for: (1) the accuracy of the data files against which the CAISO will validate the ETC Self-Schedule; and (2) providing the data file to the holder of Existing Rights as well as the CAISO.

The CAISO shall recognize that the obligations, terms or conditions of Existing Contracts may not be changed without the voluntary consent of all parties to the contract (unless such contract may be changed pursuant to any applicable dispute resolution provisions in the contract or pursuant to Section 205 or Section 206 of the FPA and the FERC's Rules and Regulations or as otherwise provided by law).

The parties to Existing Contracts shall remain liable for their performance under the Existing Contracts. The CAISO shall be liable in accordance with the provisions of this CAISO Tariff for any damage or injury caused by its non-compliance with the TRTC Instructions submitted to it pursuant to this Section 16.4.

Unless specified otherwise, in the event that the dispute resolution mechanisms prescribed in an Existing Contract, including all recourses legally available under the contract, cannot, in the first instance, result in a resolution of such a dispute, the CAISO ADR Procedures will be used to resolve any disputes between the CAISO and the Participating TO regarding any aspects of the implementation of this Section 16.4, including the reasonableness of a Participating TO's TRTC Instructions or any other decision rules which the Participating TO may submit to the CAISO as part of the TRTC Instructions. The holders of Existing Rights under the Existing Contract shall have standing to participate in the CAISO ADR Procedures.

16.5 Treatment of Existing Contracts for Transmission Service.

The CAISO will accommodate Existing Rights, so that the holders of Existing Rights will receive the same priorities (in scheduling, curtailment, assignment and other aspects of transmission system usage) to which they are entitled under their Existing Contracts.

In addition, scheduling deadlines and operational procedures associated with Existing Rights will be honored by the CAISO, provided such information is explicitly included in the TRTC Instructions. The CAISO will accommodate and honor Existing Rights as follows:

- (1) For Existing Rights that permit Interchange Schedule changes over Scheduling Points with other Balancing Authority Areas, the CAISO will reserve transmission capacity equal to the Existing Rights transmission capacity and make a corresponding adjustment in its determination of ATC. For Existing Rights that permit Interchange Schedule changes after the Market Close of the Day-Ahead Market, the CAISO will reserve transmission capacity equal to the unscheduled ETC amount of transmission capacity for that Scheduling Point.
- (2) For Existing Rights within the CAISO Balancing Authority Area, the CAISO will only set-aside capacity associated with the Existing Rights to the extent that the Scheduling Coordinator submits a valid ETC Self-Schedule in the Day-Ahead Market.
- (3) In the HASP, the CAISO will give valid ETC Self-Schedules priority over other non-ETC Day-Ahead Schedules and HASP Bids. In the event of a reduction in capacity on the transmission path associated with the Existing Right, the CAISO will honor the Existing Rights priority in accordance with this Section 16.
- (4) When the Existing Contract permits, the CAISO will allow the holder of Existing Rights to make changes to the scheduled amounts of Supply after the submission of HASP ETC Self-Schedules in accordance with the TRTC Instructions established for such changes. The CAISO will, as necessary, redispatch non-ETC resources to accommodate valid ETC Self-Schedule changes in Real-Time.

- (5) All contractual provisions that have been communicated to the CAISO in writing in accordance with this Section 16 by the parties to the Existing Contracts, shall be honored by the CAISO and the parties to the Existing Contracts and shall be implemented by the CAISO in accordance with the terms and conditions of the relevant Existing Contracts so notified.

16.5.1 System Emergency Exceptions.

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

16.6 Valid ETC Self-Schedules.

The CAISO will accept a valid ETC Self-Schedule from a Scheduling Coordinator. That Scheduling Coordinator shall be either the holder of Existing Rights or its designee, the Participating TO, (in the case that no Scheduling Coordinator has been so identified by the parties to the Existing Contract, the Participating TO shall be the Scheduling Coordinator for the holder of the Existing Contract). ETC Self-Schedules submitted by Scheduling Coordinators to the CAISO, which use Existing Rights, must be submitted in accordance with this CAISO Tariff.

16.6.1 Validation of ETC Self-Schedules.

An ETC Self-Schedule is a valid ETC Self-Schedule when the CAISO has determined that the ETC Self-Schedule, submitted to the CAISO pursuant to the requirements for Bids in Sections 30, properly reflects Existing Rights consistent with the TRTC Instructions, is labeled with a unique Existing Contract identifier, and includes balanced sources and sinks, within the ETC's capacity limits.

16.6.2 Treatment of Invalid ETC Self-Schedules.

16.6.2.1 Inconsistent with the TRTC Instructions.

Except for the reasons listed below in 16.6.2, if the CAISO finds that the ETC Self-Schedule is not consistent with the TRTC Instructions, the CAISO shall find that the ETC Self-Schedule is not valid. If the CAISO finds the ETC Self-Schedule to be invalid, the CAISO shall notify the Scheduling Coordinator and convert the ETC Self-Schedule to an ordinary Self-Schedule and treat the ETC Self-Schedule as an ordinary Self-Schedule as such for terms of scheduling priority and Settlements.

16.6.2.2 Unbalanced ETC Self-Schedules.

If the ETC Self-Schedule is not balanced, the ETC Self-Schedule will not be a valid ETC Self-Schedule and the CAISO will: (i) remove any scheduling priority for the entire ETC Self-Schedule; (ii) apply the ETC Settlement treatment pursuant to Sections 11.2.1.5 and 11.5.7.1 to the valid balanced portions only; and (iii) assess any charges, and make any payments, consistent with the treatment of ordinary Self-Schedules for the unbalanced portions.

16.6.2.3 Exceeds Capacity Limits in Existing Contracts as Reflected in TRTC Instructions.

If the ETC Self-Schedule exceeds the capacity limits in Existing Contracts as reflected in TRTC Instructions, the ETC Self-Schedule will not be a valid ETC-Self-Schedule and the CAISO will: (i) remove any scheduling priority for the entire ETC Self-Schedule; (ii) apply the ETC Settlement treatment pursuant to Sections 11.2.1.5 and 11.5.7.1 to the valid balanced portions within the capacity limits of the Existing Contract as reflected in the TRTC Instructions; and (iii) assess any charges, and make any payments, consistent with the treatment of ordinary Self-Schedules for the portions in excess of the capacity limits of the Existing Contract as reflected in the TRTC Instructions.

16.6.3 Treatment of Valid ETC Self-Schedules.

The resulting valid ETC Self-Schedules shall have the following Settlement treatment:

- (1) The CAISO will apply the ETC Settlement treatment in Sections 11.2.1.5 and 11.5.7.1.
- (2) The CAISO shall base the Marginal Cost of Losses on LMP differentials at the Existing Contract source(s) and sink(s) identified in the valid ETC Self-Schedule.
- (3) The holders of Existing Rights will not be entitled to an allocation of revenues from the CAISO, including Access Charge revenue related to those Existing Rights.
- (4) Parties with Existing Rights shall continue to pay for Transmission Losses or Ancillary Services requirements in accordance with such Existing Contracts as they may be modified or changed in accordance with the terms of the Existing Contract. The Participating TOs shall continue to provide Transmission Losses and any other Ancillary Services to the holder of the rights under an Existing Contract as may be required by the Existing Contract. The CAISO will charge Scheduling Coordinators submitting the ETC Self-Schedule for Transmission Losses and Ancillary Services in accordance with the CAISO Tariff and any shortfall or surplus between the CAISO charges and the Existing Rights shall be settled bilaterally between the Existing Contract parties or through the relevant TO Tariff. To enable holders of Existing Rights to determine whether the CAISO's calculations result in any associated shortfall or surplus and to enable the parties to the Existing Contracts to settle the differences bilaterally or through the relevant TO Tariff, the CAISO shall calculate and provide the Scheduling

Coordinator's Settlements the amounts paid for the MCL for the amounts of MWh submitted with a valid ETC Self-Schedule. Each Participating TO will be responsible for recovering any deficits or crediting any surpluses associated with differences in Transmission Losses and Transmission Loss requirements and/or Ancillary Services requirements, through its bilateral arrangements or its Transmission Owner Tariff.

16.6.4 Notification to Scheduling Coordinators of CAISO Determination.

After performing validation of the ETC Self-Schedule, and prior to taking any action pursuant to Section 16.6.2, the CAISO will make an automated validation notice available to the Scheduling Coordinator indicating whether the ETC Self-Schedule is valid or invalid. If an ETC Self-Schedule involves more than one Scheduling Coordinator, the complete validation of the chain of ETC Self-Schedules will occur when the last Scheduling Coordinator submits its ETC Self-Schedule. At that time, the CAISO will make an automated validation notice available to each Scheduling Coordinator registered as associated with the chain of ETC Self-Schedules. The CAISO can accommodate corrections submitted by a Scheduling Coordinator to an ETC Self-Schedule up to Market Close of the Day-Ahead Market as further described in the applicable Business Practice Manual.

16.7 [NOT USED]

16.8 [NOT USED]

16.9 The HASP.

16.9.1 Scheduling Deadlines.

Those holders of Existing Rights who have Existing Rights as reflected in the TRTC Instructions that allow scheduling after the close of the Day-Ahead Market may submit ETC Self-Schedules for the use of those rights by the deadline for the Market Close for the HASP. Submission of schedule changes beyond the Market Close for the HASP permitted by the ETC will be treated as provided in Section 33.3.

16.10 The CAISO's Real-Time Process.

Consistent with this Section 16, the CAISO will honor those scheduling flexibilities that may be exercised by holders of Existing Rights through their respective Scheduling Coordinators during the CAISO's Real-Time Market to the extent that such flexibilities do not interfere with or jeopardize the safe and reliable operation of the CAISO Controlled Grid or Balancing Authority Area operations.

16.11 Inter-Balancing Authority Area Changes to Bids that Rely on Existing Rights.

Changes to ETC Self-Schedules that occur during the CAISO's Real-Time Market that involve changes to CAISO Balancing Authority Area imports or exports with other Balancing Authority Areas (that is, inter-Balancing Authority Area changes to ETC Self-Schedules) will be allowed and will be recorded by the CAISO based upon notification received from the Scheduling Coordinator representing the holder of the Existing Rights. The Scheduling Coordinator representing the holder of the Existing Right must notify the CAISO of any such changes to external import/export in submitted ETC Self-Schedules. The Scheduling Coordinator representing the holder of the Existing Right must notify the CAISO of Real-Time Market changes to external import/export Interchange Schedules in submitted ETC Self-Schedules, by telephone. The timing and content of any such notification must be consistent with the TRTC Instructions previously submitted to the CAISO by the Responsible PTO. The CAISO will manually adjust or update the HASP Intertie Schedule for the Scheduling Coordinator to conform with the other Balancing Authority Area's net ETC Self-Schedule in Real-Time, and the notifying Scheduling Coordinator will be responsible for and manage any resulting Energy imbalance. These Imbalance Energy deviations will be priced and charged to the Scheduling Coordinator representing the holder of Existing Rights in accordance with the Real-Time LMP.

16.12 Intra-Balancing Authority Area Changes to Schedules that Rely on Existing Rights.

Changes to ETC Self-Schedules that occur during the CAISO's Real-Time processes that do not involve changes to CAISO Balancing Authority Area imports or exports with other Balancing Authority Areas (that is, intra-Balancing Authority Area changes to Schedules) will be allowed and will give rise to Imbalance Energy deviations. These Imbalance Energy deviations will be priced and charged to the Scheduling Coordinator representing the holder of Existing Rights in accordance with the Real-Time LMP.

17 Transmission Ownership Rights (TORs).

Transmission Ownership Rights represent transmission capacity on facilities that are located within the CAISO Balancing Authority Area that are either wholly or partially owned by an entity that is not a Participating TO. This Section 17 shall apply to the TORs of Non-Participating TOs. In any case in which (i) the CAISO has entered into a bilateral agreement with a Non-Participating TO regarding its TORs or (ii) a Participating TO has entered into a bilateral agreement with a Non-Participating TO regarding its TORs, which agreement has been accepted by FERC, the provisions of the agreement shall prevail over any conflicting provisions of this Section 17. Where the provisions of this Section 17 do not conflict with the provisions of the FERC-accepted agreement, the provisions of this Section 17 shall apply to the subject TORs.

17.1 Transmission Rights and Transmission Curtailment Instructions.

17.1.1 Responsibility to Create TRTC Instructions.

To enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, each Non-Participating TO holding a TOR must work with the CAISO to develop the TRTC Instructions that allow the TOR to be accommodated in a way that: (i) maintains the existing scheduling and curtailment priorities of the TOR holder; (ii) is minimally burdensome to the CAISO (i.e., creates the least impact on the CAISO's preferred operational policies and procedures); (iii) to the extent possible, imposes no additional financial burden on the TOR holder (beyond that set forth in an applicable Existing Contract or any other contract pertaining to the TOR); (iv) is minimally burdensome to the TOR holder from an operational point of view; and (v) does not require the CAISO to interpret or underwrite the economics of any applicable Existing Contract. To enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, the parties holding joint ownership interests and Entitlements in facilities including TORs must attempt to jointly develop and agree on any TRTC Instructions that will be submitted to the CAISO, as provided in Section 17.1.6.

17.1.2 TOR Scheduling Coordinator Responsibilities.

To enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, each TOR holder must designate a Scheduling Coordinator as the responsible entity for submitting TOR Self-Schedules for the relevant TOR. The designated Scheduling Coordinator shall submit TOR Self-Schedules consistent with the terms and conditions specified in the TRTC Instructions.

17.1.3 Submission of TRTC Instructions.

For each TOR, the Non-Participating TO holding the TOR shall be obligated to submit TRTC Instructions to the CAISO electronically, unless the Non-Participating TO specifies to the CAISO otherwise. The Non-Participating TO shall notify the CAISO in writing the identity of the responsible party for submission of the TRTC Instructions, subject to the terms of any applicable Existing Contract that may specify the responsible party for submission of the TRTC Instructions and the term of such agreement between the parties to the Existing Contract. The Non-Participating TO shall undertake all obligations with respect to the submission of the TRTC Instructions to the CAISO and any subsequent obligations that follow with respect to the creation, management and updates to the TRTC Instructions. The CAISO is responsible for implementing only one set of TRTC Instructions for each TOR and for implementing only those TRTC Instructions that have been received and accepted by the CAISO. The Non-Participating TO shall submit the TRTC Instructions to the CAISO associated with its TORs thirty (30) days prior to the date on which the scheduling or curtailment of the use of the TORs is to change or commence.

17.1.4 TRTC Instructions Content.

TRTC Instructions will include the following information at a minimum and such other information as the CAISO may reasonably require the Non-Participating TO holder of a TOR to provide to enable the CAISO to carry out its functions under the CAISO Tariff, Operating Procedures and Business Practice Manuals:

- (1) A unique Contract Reference Number for each source and sink combination applicable to the TOR (i.e., the CRN that will be assigned by the CAISO and communicated to the Non-Participating TO that references a single TOR or a set of interdependent TORs for each source and sink combination);
- (2) Whether the instruction can be exercised independent of the CAISO's day-to-day involvement ("Yes/No");
- (3) Name of an operational single point of contact for instructions and a 24-hour a day telephone number for the Non-Participating TO contact for TOR issues or the agreed upon party;
- (4) Name(s) and number(s) of TOR(s) that are represented by the unique CRN;
- (5) The following information, as stored in the Master File: (a) the applicable Point(s) of Receipt and Point(s) of Delivery); (b) for each Point of Receipt, the resource names for the physical resources as the eligible sources (eligible physical sources include Generating Units and System Resources), and for each Point of Delivery, the resource names for the physical resources as the eligible sinks (eligible physical sinks include Load PNodes, Custom Load Aggregation Points and System Resources); (c) for each physical source or sink, the maximum capacity (MW) that can be scheduled as a TOR under the Existing Contract; and (d) for each physical source and sink, the Scheduling Coordinator(s) and their Business Associate Identification (BAID) that is (are) eligible to submit TOR Self-Schedules utilizing these sources and sinks;
- (6) Names of the party(ies) holding the TOR(s) and the parties to any agreements applicable to the TORs;

- (7) The Scheduling Coordinator BAID that is entitled to the Settlement of reversal of Congestion Charges;
- (8) Amount of TORs, in maximum MW, that may be utilized under the relevant TRTC Instructions;
- (9) Instructions for the allowable timeframes at which the TOR Self-Schedules and TOR Self-Schedule changes may be submitted to the CAISO, which include whether the Scheduling Coordinator may submit TOR Self-Schedules or TOR Self-Schedule changes: (a) into the DAM; (b) into the HASP and the RTM; (c) after the close of submitting Bids into the HASP and the RTM, but before twenty (20) minutes before the applicable Trading Hour of the Trading Day; and (d) at or after twenty (20) minutes before the applicable Trading Hour of the Trading Day; in addition, the Non-Participating TO may also provide any additional comments and restrictions on the submission time of TOR Self-Schedules and TOR Self-Schedule changes;
- (10) Term of ownership interest in the TOR(s) and of any agreements applicable to the TOR(s);
- (11) Any special procedures that would require the CAISO to implement curtailments in any manner different than pro rata reduction of the transfer capability of the transmission line; any such instructions submitted to the CAISO must be clear, unambiguous, and not require the CAISO to make any judgments or interpretations as to the meaning, intent, results, or purpose of the curtailment procedures or of any applicable Existing Contract, otherwise, they will not be accepted by the CAISO; and
- (12) Whether or not the TOR provides the right to self-provide Ancillary Services.

17.1.5 Changes and Updates to TRTC Instructions.

Updates or changes to the TRTC Instructions must be submitted to the CAISO through a revised set of TRTC Instructions by the Non-Participating TO, on an as needed or as required basis. The CAISO will implement the updated or changed TRTC Instructions as soon as practicable but no later than seven (7) days after receiving clear and unambiguous details of the updated or changed instructions under normal conditions. If the CAISO finds the TRTC Instructions to be inconsistent with the CAISO Tariff, the CAISO will notify the Non-Participating TO within forty-eight (48) hours after receipt of the updated or changed TRTC Instructions indicating the nature of the problem and allowing the Non-Participating TO to resubmit the TRTC Instructions as if they were new, updated or changed TRTC Instructions. If the CAISO finds the updated or changed TRTC Instructions to be acceptable, the CAISO will time-stamp the updated TRTC Instructions as received, confirm such receipt to the Non-Participating TO, and indicate the time at which the updated instructions take effect if prior to the seven (7) day deadline referred to above. In the event of a System Emergency, the CAISO will implement such submitted changes to the TRTC Instructions as soon as practical.

17.1.6 CAISO Role in Accepting TRTC Instructions.

The parties holding joint ownership interests and Entitlements in a facility including a TOR must, in the first instance, attempt jointly to agree on any TRTC Instructions that will be submitted to the CAISO. In the event that the parties holding joint ownership interests and Entitlements in a facility including a TOR cannot agree upon the TRTC Instructions, the dispute resolution provisions of any applicable Existing Contract shall be used to resolve the dispute; provided that, until the dispute is resolved, and unless the applicable Existing Contract specifies otherwise, the CAISO shall implement the Participating TO's TRTC Instructions, if one of the parties holding a joint ownership interest or an Entitlement in the facility is a Participating TO. If no party holding a joint ownership interest or Entitlement in a facility including a TOR is a Participating TO and the parties cannot agree to the TRTC Instructions to be submitted by the

parties, until the dispute is resolved, the CAISO shall implement the TRTC Instructions of the Non-Participating TO with the greatest ownership interest in the TOR. The CAISO shall not be responsible for resolution of any disputes that arise over the accuracy of the TRTC Instructions consistent with its obligations in Section 17.1.4.

17.1.7 Implementation of TRTC Instructions.

The CAISO shall determine, based on the information provided by the Non-Participating TOs under TRTC Instructions, the transmission capacities that must be reserved for TORs at Scheduling Points.

The CAISO shall coordinate the scheduling of TORs with the scheduling of CAISO transmission service, using the CAISO's Bid submission rules. In doing so, the CAISO shall create an automated day-to-day verification process based on parameters provided by the Non-Participating TO for the TOR to serve as the basis for TOR Self-Schedule validation. The Non-Participating TO will be responsible for: (1) the accuracy of the data files against which the CAISO will validate the TOR Self-Schedule; and (2) providing the data file to the CAISO.

The TOR holders shall remain liable for their performance under any applicable Existing Contracts or other agreements pertaining to their TORs. The CAISO shall be liable in accordance with the provisions of this CAISO Tariff for any damage or injury caused by its non-compliance with the TRTC Instructions submitted to it pursuant to this Section 17.1.

Unless specified otherwise, in the event that the dispute resolution mechanisms prescribed in an Existing Contract applicable to a TOR, including all recourses legally available under the contract, cannot, in the first instance, result in a resolution of such a dispute, the CAISO ADR Procedures will be used to resolve any disputes between the CAISO and the Non-Participating TO regarding any aspects of the implementation of this Section 17.1, including the reasonableness of a Non-Participating TO's TRTC Instructions or any other decision rules which the Non-Participating TO may submit to the CAISO as part of the TRTC Instructions. The holders of TORs shall have standing to participate in the CAISO ADR Procedures.

17.2 Treatment of TORs.

The CAISO will accommodate TORs, so that the holders of TORs will receive the same priorities (in scheduling, curtailment, assignment and other aspects of transmission system usage) to which they are entitled under any applicable Existing Contracts or other agreements pertaining to the operation of their TORs.

In addition, scheduling deadlines and operational procedures associated with TORs will be honored by the CAISO, provided such information is explicitly included in the TRTC Instructions. The CAISO will accommodate and honor TORs as follows:

- (1) The CAISO will reserve transmission capacity equal to the TOR transmission capacity and make a corresponding adjustment in its determination of ATC. The CAISO will not limit parallel flow from flowing on TOR transmission capacity consistent with the redispatch provisions of Section 17.2(3), just as the CAISO does not limit TOR Self-Schedules from flowing on non-TOR transmission. There shall be no compensation for parallel flow for either the CAISO or the TOR holder.
- (2) In the HASP, the CAISO will give valid TOR Self-Schedules priority over other non-TOR Day-Ahead Schedules and HASP Bids. In the event of a reduction in capacity on the transmission path associated with the TOR, the CAISO will honor the TOR priority in accordance with this Section 17.
- (3) The CAISO will allow the holder of a TOR to make changes to the scheduled amounts of supply after the submission of HASP TOR Self-Schedules in accordance with the TRTC Instructions established for such changes. The CAISO will, as necessary, redispatch non-TOR resources to accommodate valid TOR Self-Schedule changes in Real-Time.

- (4) The CAISO will allow the holder of a TOR to self-provide Ancillary Services, which will include the ability of the holder of a TOR to import Ancillary Services at Scheduling Points with the CAISO.
- (5) The submission of a TOR Self-Schedule change that is authorized pursuant to an applicable existing agreement between the CAISO and the TOR holder shall not affect the application of the IFM Congestion Credit or the HASP and RTM Congestion Credit, and the IFM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules or the RTM Marginal Cost of Losses Credit for Eligible TOR Self-Schedules for a TOR Self-Schedule that satisfies the applicable requirements of Sections 17.4.1 and 17.5.

17.2.1 System Emergency Exceptions.

As set forth in Section 4.2.1, all Market Participants, including Scheduling Coordinators, Utility Distribution Companies, Participating TOs, Participating Generators, Participating Loads, Balancing Authorities (to the extent the agreement between the Balancing Authority and the CAISO so provides), and MSS Operators within the CAISO Balancing Authority Area and all System Resources must comply fully and promptly with the CAISO's Dispatch Instructions and operating orders, unless such operation would impair public health or safety. The CAISO will honor the terms of TORs, provided that in a System Emergency and circumstances in which the CAISO considers that a System Emergency is imminent or threatened, to enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, holders of TORs must follow CAISO operating orders even if those operating orders directly conflict with the terms of applicable Existing Contracts or any other contracts pertaining to the TORs, unless such operating orders are inconsistent with the terms of an agreement between the CAISO and a Balancing Authority. In the event of a conflict between the CAISO Tariff and an agreement

between the CAISO and a Balancing Authority, the agreement will govern. For this purpose CAISO operating orders to shed Load shall not be considered as an impairment to public health or safety. This section does not prohibit a Scheduling Coordinator from modifying its Bid or re-purchasing Energy in the HASP or RTM.

17.3 Valid TOR Self-Schedules.

The CAISO will accept a valid TOR Self-Schedule from a Scheduling Coordinator. That Scheduling Coordinator shall be either the holder of the TOR or its designee. TOR Self-Schedules submitted by Scheduling Coordinators to the CAISO must be submitted in accordance with this CAISO Tariff.

17.3.1 Validation of TOR Self-Schedules.

A TOR Self-Schedule is a valid TOR Self-Schedule when the CAISO has determined that the TOR Self-Schedule, submitted to the CAISO pursuant to the requirements for Bids in Section 30, properly reflects TORs consistent with the TRTC Instructions, is labeled with a unique TOR identifier, and includes balanced sources and sinks, within the TOR capacity limits.

17.3.2 Treatment of Invalid TOR Self-Schedules.

17.3.2.1 Inconsistent with the TRTC Instructions.

Except for the reasons listed below in 17.3.2, if the CAISO finds that the TOR Self-Schedule is not consistent with the TRTC Instructions, the CAISO shall find that the TOR Self-Schedule is not valid. If the CAISO finds the TOR Self-Schedule to be invalid, the CAISO shall notify the Scheduling Coordinator and convert the TOR Self-Schedule to an ordinary Self-Schedule and treat the TOR Self-Schedule as an ordinary Self-Schedule as such for terms of scheduling priority and Settlements.

17.3.2.2 Unbalanced TOR Self-Schedules.

If the TOR Self-Schedule is not balanced, the TOR Self-Schedule will not be a valid TOR Self-Schedule and the CAISO will: (i) remove any scheduling priority for the entire TOR Self-Schedule; (ii) apply the TOR Settlement treatment pursuant to Sections 11.2.1.5 and 11.5.7.1 to the valid balanced portions only; and (iii) assess any charges and make any payments consistent with the treatment of ordinary Self-Schedules for the unbalanced portions.

17.3.2.3 Exceeds Capacity Limits for TORs as Reflected in TRTC Instructions.

If the TOR Self-Schedule exceeds the capacity limits of the TOR as reflected in TRTC Instructions, the TOR Self-Schedule will not be a valid TOR-Self-Schedule and the CAISO will: (i) remove any scheduling priority for the entire TOR Self-Schedule; (ii) apply the TOR Settlement treatment pursuant to Sections 11.2.1.5 and 11.5.7.1 to the valid balanced portions within the capacity limits of the TOR as reflected in the TRTC Instructions; and (iii) assess any charges and make any payments consistent with the treatment of ordinary Self-Schedules for the portions in excess of the capacity limits of the TOR as reflected in the TRTC Instructions.

17.3.3 Treatment of Valid TOR Self-Schedules.

The resulting valid TOR Self-Schedules shall have the following Settlement treatment:

- (1) The CAISO will apply the TOR Settlement treatment in Sections 11.2.1.5 and 11.5.7.
- (2) The CAISO shall base the Marginal Cost of Losses on LMP differentials at the Points of Receipt and Points of Delivery identified in the valid TOR Self-Schedule; provided, however, that if a specific loss percentage exists in applicable agreement between the TOR holder and the CAISO, the CAISO will apply the IFM and RTM Marginal Cost of Losses Credit as provided in Sections 11.2.1.7 and 11.5.7.2.
- (3) The CAISO will assess only charges applicable to Ancillary Services, Imbalance Energy, and Transmission Losses for the use of a TOR and will not assess charges for neutrality, UFE, transmission Access Charges, Minimum Load Costs, or other charges that might otherwise be applicable to the Demand or exports served solely over the TOR. The CAISO will assess charges applicable to

Ancillary Services for the use of a TOR only to the extent that the CAISO must procure Ancillary Services for the TOR holder because Ancillary Services are not self-provided by the TOR holder. The CAISO will assess charges applicable to Imbalance Energy for the use of a TOR only if the CAISO must procure Imbalance Energy for the TOR holder.

- (4) The holders of TORs will not be entitled to an allocation of revenues from the CAISO, including Access Charge revenues; provided that the Scheduling Coordinator for the TOR holder shall be allocated the applicable amount of IFM Marginal Losses Surplus Credit in accordance with the provisions of Section 11.2.1.6, except for any TOR Self-Schedule that received the IFM Marginal Cost of Losses Credit.
- (5) Parties with TORs shall continue to pay for Transmission Losses or Ancillary Services requirements in accordance with any Existing Contracts applicable to those TORs as they may be modified or changed in accordance with the terms of the Existing Contract. Any affected Participating TOs shall continue to provide Transmission Losses and any other Ancillary Services to the holder of a TOR subject to an Existing Contract as may be required by the Existing Contract. As described in Section 17.3.3(3) above, the CAISO will charge Scheduling Coordinators submitting the TOR Self-Schedule the charges applicable to Transmission Losses, Ancillary Services, and Imbalance Energy in accordance with the CAISO Tariff (e.g., the Transmission Losses Charge based on the Marginal Cost of Losses), and any shortfall or surplus between the CAISO charges and the provisions of any applicable Existing Contract shall be settled bilaterally between the Existing Contract parties or through the relevant TO Tariff. To enable holders of TORs to determine whether the CAISO's calculations result

in any associated shortfall or surplus and to enable the parties to the Existing Contracts to settle the differences bilaterally or through the relevant TO Tariff, the CAISO shall calculate and provide the Scheduling Coordinator's Settlements the amounts paid for the MCL for the amounts of MWh submitted with a valid TOR Self-Schedule. Each Participating TO will be responsible for recovering any deficits or crediting any surpluses associated with differences in Transmission Losses and Transmission Loss requirements and/or Ancillary Services requirements, through its bilateral arrangements or its Transmission Owner Tariff.

17.3.4 Notification to Scheduling Coordinators of CAISO Determination.

After performing validation of the TOR Self-Schedule, and prior to taking any action pursuant to 17.6.2, the CAISO will make an automated validation notice available to the Scheduling Coordinator indicating whether the TOR Self-Schedule is valid or invalid. If a TOR Self-Schedule involves more than one Scheduling Coordinator, the complete validation of the chain of TOR Self-Schedules will occur when the last Scheduling Coordinator submits its TOR Self-Schedule. At that time, the CAISO will make an automated validation notice available to each Scheduling Coordinator registered as associated with the chain of TOR Self-Schedules. The CAISO can accommodate corrections submitted by a Scheduling Coordinator to a TOR Self-Schedule up to Market Close of the Day-Ahead Market as further described in the applicable Business Practice Manual.

17.4 The HASP.

17.4.1 Scheduling Deadlines.

Holders of TORs may submit TOR Self-Schedules for the use of those rights by the deadline for the Market Close for the HASP.

17.5 The CAISO's Real-Time Process.

Consistent with this Section 17, the CAISO will honor those scheduling flexibilities that may be exercised by holders of TORs through their respective Scheduling Coordinators during the CAISO's Real-Time Market to the extent that such flexibilities do not interfere with or jeopardize the safe and reliable operation of the CAISO Controlled Grid or Balancing Authority Area operations.

17.6 Inter-Balancing Authority Area Changes to Bids that Rely on TORs.

Changes to TOR Self-Schedules that occur during the CAISO's Real-Time Market that involve changes to CAISO Balancing Authority Area imports or exports with other Balancing Authority Areas (that is, inter-Balancing Authority Area changes to TOR Self-Schedules) will be allowed and will be recorded by the CAISO based upon notification received from the Scheduling Coordinator representing the holder of the TOR. The Scheduling Coordinator representing the holder of the TOR must notify the CAISO of any such changes to external import/export in submitted TOR Self-Schedules. The Scheduling Coordinator representing the holder of the TOR must notify the CAISO of Real-Time Market changes to external import/export Interchange Schedules in submitted TOR Self-Schedules, by telephone. The timing and content of any such notification must be consistent with the TRTC Instructions previously submitted to the CAISO by the Non-Participating TO. The CAISO will manually adjust or update the HASP Intertie Schedule for the Scheduling Coordinator to conform with the other Balancing Authority Area's net TOR Self-Schedule in Real-Time, and the notifying Scheduling Coordinator will be responsible for and manage any resulting Energy imbalance. These Imbalance Energy deviations will be priced and charged to the Scheduling Coordinator representing the holder of the TOR in accordance with the Real-Time LMP.

17.7 Intra-Balancing Authority Area Changes to Schedules that Rely on TORs.

Changes to TOR Self-Schedules that occur during the CAISO's Real-Time processes that do not involve changes to CAISO Balancing Authority Area imports or exports with other Balancing Authority Areas (that is, intra-Balancing Authority Area changes to Schedules) will be allowed and will give rise to Imbalance Energy deviations. These Imbalance Energy deviations will be priced and charged to the Scheduling Coordinator representing the holder of the TOR in accordance with the Real-Time LMP.

17.8 Continuation of Rights and Obligations of Non-Participating TOs Regarding TORs and Under Existing Contracts Applicable to TORs.

The transmission service rights and obligations of Non-Participating TOs under Existing Contracts applicable to their TORs, including all terms, conditions and rates of the Existing Contracts, as they may change from time to time under the terms of the Existing Contracts, will continue to be honored by the parties to those contracts, for the duration of those contracts.

17.8.1 Participating TO Obligation.

If a Participating TO is a party to an Existing Contract with provisions applicable to a TOR of a Non-Participating TO, the Participating TO shall attempt to negotiate changes to the Existing Contract to align the contract's scheduling and operating provisions with the CAISO's scheduling and operational procedures, rules and protocols, to align operations under the contract with CAISO operations, and to minimize the contract parties' costs of administering the contract while preserving their financial rights and obligations.

17.8.2 Right to Use and Ownership of TORs.

If a Non-Participating TO has an Existing Contract with a Participating TO under which the Non-Participating TO's TORs, or a portion thereof, are subject to use by the Participating TO, the Non-Participating TO's rights to the use and ownership of its TORs shall remain unchanged, regardless of the Participating TO's act of turning over the Participating TO's Entitlement to use the Non-Participating TO's TORs to the extent possible to the Operational Control of the CAISO.

The CAISO will accept valid TOR Self-Schedules from holders of TORs that are Scheduling Coordinators or that are represented by a Scheduling Coordinator. TOR Self-Schedules submitted by Scheduling Coordinators to the CAISO must be submitted in accordance with Sections 17 and 30. The CAISO may refuse to accept TOR Self-Schedules that do not meet the requirements of the principles, protocols and rules referred to in this Section 17.

17.8.3 Dispute Resolution for Existing Contracts Applicable to TORs.

The CAISO will, if requested, advise parties to Existing Contracts applicable to TORs regarding the operational aspects of any Existing Contract renegotiations that they undertake.

If the parties to an Existing Contract applicable to a TOR are unable to reach agreement on the changes needed to meet the requirements of this CAISO Tariff, any disputes related thereto shall be addressed using the dispute resolution provisions of the Existing Contract, including any remedies as are provided by law. The rights of the parties to seek changes or to challenge such changes, under the FPA or as otherwise provided by law, are preserved consistent with the terms of the Existing Contract. Unless and until the necessary changes to the Existing Contract are made, all terms and conditions of the Existing Contracts will continue to be honored by the parties to the Existing Contracts.

17.9 Conversion of Participating TOs' TORs and Rights and Obligations Under Existing Contracts Applicable to TORs.

Non-Participating TOs holding TORs and who choose to become Participating TOs must, at the time of becoming a Participating TO, turn over Operational Control of those TORs to the CAISO in accordance with Section 4.3.1 and convert any Existing Contract rights associated with those TORs to Converted Rights in accordance with Section 4.3.1.6.

17.10 TOR Operational Obligations.

To enable the CAISO to exercise its responsibilities as Balancing Authority in accordance with Applicable Reliability Criteria, each Non-Participating TO must operate its ownership interests in facilities in which it holds a TOR in accordance with Good Utility Practice and Applicable Reliability Criteria.

18

[NOT USED]

[Ten Sheet Numbers Reserved for Future Filings.]

19 DEMAND FORECASTS.

19.1 Scheduling Coordinator and Load Serving Entity Demand Forecast Responsibilities.

19.1.1 Applicability to Scheduling Coordinators and Load Serving Entities.

This Section 19.1 shall apply to each Scheduling Coordinator that must submit a Demand Forecast pursuant to Section 4.5.3.7 or the provisions of Section 40, and each Load Serving Entity on whose behalf such Demand Forecasts are submitted.

19.1.2 Avoiding Duplication.

Each Scheduling Coordinator submitting a Demand Forecast to the CAISO, and each Load Serving Entity on whose behalf such Demand Forecast is submitted, shall ensure, to the best of their ability, that any Demand Forecast submitted to the CAISO is not duplicated in another Scheduling Coordinator's Demand Forecast.

19.1.3 Required Performance.

Each Scheduling Coordinators submitting a Demand Forecast to the CAISO, and each Load Serving Entity on whose behalf such Demand Forecast is submitted, shall take all necessary actions to provide a Demand Forecasts that reflects reasonable forecast accuracy standards.

19.3 [NOT USED]

20 CONFIDENTIALITY.

20.1 CAISO.

The CAISO shall maintain the confidentiality of all of the documents, data and information provided to it by any Market Participant that are treated as confidential or commercially sensitive under Section 20.2; provided, however, that the CAISO need not keep confidential: (1) information that is explicitly subject to public data exchange pursuant to Section 6; (2) information that the CAISO or the Market Participant providing the information is required to disclose pursuant to this CAISO Tariff, or applicable regulatory requirements (provided that the CAISO shall comply with any applicable limits on such disclosure); or (3) information that becomes available to the public on a non-confidential basis (other than as a result of the CAISO's breach of this CAISO Tariff).

20.2 Confidential Information.

The following information provided to the CAISO by Scheduling Coordinators shall be treated by the CAISO as confidential:

- (a) individual Bids;
- (b) CRR bids and other CRR Allocation nomination information;
- (c) transactions between Scheduling Coordinators, including Inter-SC Trades;
- (d) individual Generator Outage programs unless a Generator makes a change to its Generator Outage program which causes Congestion in the short term (i.e. one month or less), in which case, the CAISO may publish the identity of that Generator; and

- (e) The following information related to the resource adequacy program in accordance with Section 40:
 - (i) Annual and monthly Resource Adequacy Plans and Supply Plans;
 - (ii) Demand Forecasts; and
 - (iii) Information on existing import contracts.

- (f) The following information related to the Transmission Planning Process in accordance with Section 24:
 - (1) Information received under Sections 24.2.3.2 and 24.2.3.3 to the extent such information has been designated as confidential in accordance with the Business Practice Manual;
 - (2) Information, the release of which may harm competitive markets, as determined by the CAISO's Department of Market Monitoring;
 - (3) Information received by the CAISO pursuant to agreements and contracts, executed prior to December 21, 2007, that preclude the release of the information;
 - (4) Information that involves proprietary analytical tools, computer codes, or any other material that is protected by intellectual property rights held by the CAISO, Project Sponsor, Market Participant or other third-party; and
 - (5) Critical Energy Infrastructure Information.

However, composite documents, data, and other information that may be developed based on confidential information under this Section shall not be deemed confidential if the composite documents, data, and other information do not disclose any confidential information of any individual Scheduling Coordinator, Market Participant, or other third-party or Critical Energy Infrastructure Information.

20.3 Other Parties.

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

20.4 Disclosure.

Notwithstanding anything in this Section 20 to the contrary,

- (a) The CAISO: (i) shall publish individual Bids, provided that such data are published no sooner than six (6) months after the Trading Day with respect to which the Bid was submitted and in a manner that does not reveal the specific resource or the name of the Scheduling Coordinator submitting the Bid, but that allows the bidding behavior of individual, unidentified resources and Scheduling Coordinators to be tracked over time; and (ii) may publish data sets analyzed in any public report issued by the CAISO or by the Market Surveillance Committee, provided that such data sets shall be published no sooner than six (6) months after the latest Trading Day to which data in the data set apply, and in a manner that does not reveal any specific resource or the name of any Scheduling Coordinator submitting Bids included in such data sets.

- (b) If the CAISO is required by applicable laws or regulations, or in the course of administrative or judicial proceedings, to disclose information that is otherwise required to be maintained in confidence pursuant to this Section 20, the CAISO may disclose such information; provided, however, that as soon as the CAISO learns of the disclosure requirement and prior to making such disclosure, the CAISO shall notify any affected Market Participant of the requirement and the terms thereof. The Market Participant may, at its sole discretion and own cost, direct any challenge to or defense against the disclosure requirement and the CAISO shall cooperate with such affected Market Participant to the maximum extent practicable to minimize the disclosure of the information consistent with applicable law. The CAISO shall cooperate with the affected Market Participant to obtain proprietary or confidential treatment of confidential information by the person to whom such information is disclosed prior to any such disclosure.
- (c) The CAISO may disclose confidential or commercially sensitive information, without notice to an affected Market Participant, in the following circumstances:
 - (i) If the FERC, or its staff, during the course of an investigation or otherwise, requests information that is confidential or commercially sensitive. In providing the information to FERC or its staff, the CAISO shall take action consistent with 18 C.F.R. §§ 1b.20 and 388.112, and request that the information be treated as confidential and non-public by the FERC and its staff and that the information be withheld from public

disclosure. The CAISO shall provide the requested information to the FERC or its staff within the time provided for in the request for information. The CAISO shall notify an affected Market Participant within a reasonable time after the CAISO is notified by FERC or its staff that a request for disclosure of, or decision to disclose, the confidential or commercially sensitive information has been received, at which time the CAISO and the affected Market Participant may respond before such information would be made public; or

- (ii) In order to maintain reliable operation of the CAISO Control Area, the CAISO may share critical operating information, system models, and planning data with other WECC Reliability Coordinators, who have executed the Western Electricity Coordinating Council Confidentiality Agreement for Electric System Data, or are subject to similar confidentiality requirements; or
- (iii) In order to maintain reliable operation of the CAISO Control Area, the CAISO may share individual Generating Unit Outage information with the operations engineering and the outage coordination division(s) of other Balancing Authorities, Participating TOs, MSS Operators and other transmission system operators engaged in the operation and maintenance of the electric supply system whose system is significantly affected by the Generating Unit and who have executed the Western Electricity Coordinating Council Confidentiality Agreement for Electric System Data.

- (d) Notwithstanding the provisions of Section 20.2(e), information submitted through Resource Adequacy Plans and Supply Plans in accordance with Section 40 may be provided to:
- (i) the Scheduling Coordinator(s) and/or Market Participant(s) involved in a dispute or discrepancy as to whether a resource is properly identified in a Resource Adequacy Plan or a Supply Plan only to the limited extent necessary to identify the disputed transaction and the relevant counterparty or counterparties.
 - (ii) the regulatory entity, whether the CPUC, other Local Regulatory Authority, or federal agency, with jurisdiction over a Load Serving Entity involved in a dispute or discrepancy as to whether a resource is properly identified in a Resource Adequacy Plan or the Supply Plan, or otherwise identified by the CAISO as exhibiting a potential deficiency in demonstrating compliance with resource adequacy requirements adopted by the CPUC, other Local Regulatory Authority, or federal agency, as applicable. The information provided shall be limited to the particular dispute, discrepancy, or deficiency.
 - (iii) the California Energy Commission with respect to Demand Forecast information provided to the CAISO under Sections 40.2.2.3 and 40.2.3.3(b) to the extent the CAISO seeks, and the California Energy Commission grants, confidential treatment of such information pursuant to California Public Resources Code Section 25322 and related regulations.

- (e) Notwithstanding the provisions of Section 20.2(f), information submitted through the Transmission Planning Process may be disclosed as follows:
- (i) Critical Energy Infrastructure Information may be provided to a requestor where such person is employed or designated by a Market Participant or electric utility regulatory agency within California to receive CEII, the requestor submits a statement as to the need for the CEII, and the requestor executes and returns to the CAISO the form of the non-disclosure agreement and non-disclosure statement included as part of the Business Practice Manual. The CAISO may, at its sole discretion, reject a request for CEII and upon such rejection, the requestor will be directed to utilize the FERC procedures for access to the requested CEII.
 - (ii) Information that is confidential under Section 20.2(f)(i) or 20.2(f)(ii) may be disclosed to any individual designated by a Market Participant, electric utility regulatory agency within California, or other stakeholder that signs and returns to the CAISO the form of the non-disclosure agreement, nondisclosure statement and certification that the individual is or represents a non-Market Participant, which is any person or entity not involved in a marketing, sales, or brokering function as market, sales, or brokering are defined in FERC's Standards of Conduct for Transmission Providers (18 C.F.R. § 358 et seq.), included as part of the Business Practice Manual; and

- (iii) Data base and other transmission planning information obtained from the WECC, or its successor, may be disclosed to individuals designated by a Market Participant, electric utility regulatory agency within California, or other stakeholder in accordance with the procedures set forth in the Business Practice Manual.

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

20.5 Confidentiality.

The CAISO shall implement and maintain a system of communications with Scheduling Coordinators that includes the strict use of passwords for access to data to ensure compliance with Section 20. Access within the CAISO to such data on CAISO's communications systems, including databases and backup files, shall be strictly limited to authorized CAISO personnel through the use of passwords and other appropriate means.

21 **[NOT USED]**

22 MISCELLANEOUS.

22.1 Audits.

22.1.1 Materials Subject to Audit.

The CAISO's financial books, cost statements, accounting records and all documentation pertaining to its operation as a state chartered independent institution which controls the operation of the CAISO Controlled Grid to ensure open, non-discriminatory transmission access to all Market Participants and promotes the efficient use and reliable operation of the CAISO Controlled Grid in accordance with this CAISO Tariff, are subject to audit in the manner prescribed below:

22.1.2 CAISO Audit Committee.

The CAISO Governing Board shall have overall audit responsibility for the CAISO. The CAISO Audit Committee shall make recommendations to the CAISO Governing Board in relation to the approval, initiation and scheduling of the following audits:

22.1.2.1 Certified Financial Statement Audit.

Each year, an audit by an external independent certified public accounting firm shall be performed. This audit will be conducted in accordance with generally accepted auditing standards to verify that the CAISO's financial statements are in compliance with generally accepted accounting principles and fairly present, in all material respects, the financial position, results of operation and cash flows for the audit period. The audit report will be addressed to the CAISO Governing Board, copies will be provided to the CAISO Audit Committee, and, upon request, to Market Participants.

22.1.2.2 Review of Compliance with Operations Policies and Procedures.

Each year, an independent review shall be conducted of the CAISO management's compliance with its operations policies and procedures. The CAISO Audit Committee will appoint an independent party to perform this review. This review may also include material issues raised by Market Participants and approved by the CAISO Audit Committee for inclusion in the review. The report will be addressed to the CAISO Governing Board, copies provided to the CAISO Audit Committee, and upon request, to Market Participants.

22.1.2.3 Code of Conduct Audits.

On a periodic basis, but not less than once a year, an independent accounting firm shall conduct a management review of governors, officers, employees, substantially full-time consultants, or contractors of the CAISO for compliance with the CAISO Code of Conduct to ensure adherence to the highest standards of lawful and ethical conduct in their activities. The audit report shall be addressed to the CAISO Audit Committee with copies provided to the CAISO Governing Board and, upon request, to Market Participants.

22.1.2.4 Interim Audits.

At such other intervals agreed upon by a majority of the CAISO Audit Committee members, audits may be undertaken for specific issues and concerns of Market Participants that the CAISO Audit Committee believes, at its sole discretion, to be of significant and critical magnitude to the CAISO. Such audits will be conducted by an independent accounting firm. The costs of such an audit will be borne by the requesting Market Participant(s), unless the CAISO Audit Committee determines otherwise. Interim audits will be conducted during normal business hours, after reasonable notice has been given to the CAISO, and in accordance with the guidelines to be established by the CAISO Audit Committee.

22.1.3 Audit Results.

Exceptions identified as a result of an audit will be reviewed with the CAISO Audit Committee. The results of the audits and actions to be taken by the CAISO as a result of the audit shall be mailed to Market Participants upon request.

22.1.4 Availability of Records.

The CAISO will provide full and complete access to all financial books, cost statements, accounting records, and all documentation pertaining to the requirements of the specific audits being performed. Records relating to audits will be retained until the records retention requirements of the CAISO are satisfied or until the audit issues are fully resolved, whichever is the later. The right of access to records does not require the creation of new records, reports, studies, or evaluations not already available.

22.1.5 Confidentiality of Information.

All proprietary information obtained through any audits will remain strictly confidential. All auditors shall sign a confidentiality agreement prior to being accepted as auditors by the CAISO Audit Committee.

22.1.6 Payments.

Any payments agreed to between Market Participants and the CAISO as a result of an audit, or directed by FERC, or disclosed by the CAISO in reviews of its own books and records shall include Interest computed at the rate calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 C.F.R. § 35.19(a)(2)(iii) (as amended from time to time) from the due date to the date such adjustments are due.

22.2 Assignment.

Obligations and liabilities under this CAISO Tariff and any Scheduling Coordinator Agreement or other agreements giving contractual effect to this CAISO Tariff shall be binding on the successors and assigns of the parties to such agreements. No assignment of any Scheduling Coordinator Agreement or other agreements giving contractual effect to this CAISO Tariff shall relieve the original party from its obligations or liabilities to the CAISO under this CAISO Tariff or any such agreement arising or accruing due prior to the date of assignment.

22.3 Term and Termination.

22.3.1 This CAISO Tariff shall become effective on the date it is permitted to become effective by the FERC.

22.3.2 This CAISO Tariff shall terminate upon approval of termination by the CAISO Governing Board in accordance with the bylaws of the CAISO and receipt of any necessary regulatory approval from FERC.

22.4 Notice.

22.4.1 Effectiveness.

Any notice, demand, or request in accordance with this CAISO Tariff, unless otherwise provided in this CAISO Tariff, shall be in writing and shall be deemed properly served, given, or made: (a) upon delivery if delivered in person, (b) five (5) days after deposit in the mail if sent by first class United States mail, postage prepaid, (c) upon receipt of confirmation by return facsimile if sent by facsimile, or (d) upon delivery if delivered by prepaid commercial courier service.

22.4.2 Addresses.

Notices to the CAISO shall be sent to such address as shall be notified by the CAISO to Market Participants from time to time. Notices issued by the CAISO to any Scheduling Coordinator shall be delivered to the address of the representative designated to receive notices for the Scheduling Coordinator included in the Scheduling Coordinator Agreement. Notices to any Market Participant other than a Scheduling Coordinator shall be delivered by the CAISO to the address given to it by the Market Participant. The CAISO and any Market Participant may at any time change their address for notice by notifying the other party in writing.

22.4.3 Notice of Changes in Operating Procedures and Business Practice Manuals.

The CAISO will issue notice of any proposed changes to any Operating Procedure or Business Practice Manual. The effective date of any change or proposed change in any Operating Procedure or Business Practice Manual shall be established as part of the change management process set forth in Section 22.11 but will be no earlier than at least thirty (30) days from the date of publication of a Market Notice describing the change or proposed change, unless: (1) a different notice period is specified by state or federal law, (2) the change is reasonably required to address an emergency affecting the CAISO Controlled Grid or its operations, or (3) the change is to a provision of a Business Practice Manual that is necessitated by emergency circumstances specific to that Business Practice Manual. Such circumstances include, but are not limited to, any change necessary to ensure that the Business Practice Manual is consistent with the CAISO Tariff or any applicable law, regulation, NERC or WECC operating policies, guidelines and standards, or FERC order, in which case the CAISO shall give Market Participants as much notice as is reasonably practicable. Any notices issued under this provision shall be issued in accordance with the procedures set out in Section 22.11.

22.5 Waiver.

Any waiver at any time by the CAISO or any Market Participant of its rights with respect to any default under this CAISO Tariff, or with respect to any other matter arising in connection with this CAISO Tariff, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this CAISO Tariff. Any delay short of the statutory period of limitations in asserting or enforcing any right shall not constitute or be deemed a waiver.

22.6 Staffing and Training To Meet Obligations.

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

22.7 Accounts and Reports.

The CAISO shall notify Market Participants of any significant change in the accounting treatment or methodology of any costs or any change in the accounting procedures, which is expected to result in a significant cost increase to any Market Participant. Such notice shall be given at the earliest possible time, but no later than, sixty (60) days before implementation of such change.

22.8 Applicable Law and Forum.

This CAISO Tariff shall be governed by and construed in accordance with the laws of the State of California, except its conflict of laws provisions. Market Participants irrevocably consent that any legal action or proceeding arising under or relating to this CAISO Tariff to which the CAISO ADR Procedures do not apply, shall be brought in any court of the State of California or any federal court of the United States of America located in the State of California. Market Participants irrevocably waive any objection

that they may have now or in the future to said courts in the State of California as the proper and exclusive forum for any legal action or proceeding arising under or related to this CAISO Tariff.

22.9 Consistency with Federal Laws and Regulations.

- (a) Nothing in the CAISO Tariff shall compel any person or federal entity to: (1) violate federal statutes or regulations; or (2) in the case of a federal agency, to exceed its statutory authority, as defined by any applicable federal statutes, regulations, or orders lawfully promulgated thereunder. If any provision of this CAISO Tariff is inconsistent with any obligation imposed on any person or federal entity by federal law or regulation to that extent, it shall be inapplicable to that person or federal entity. No person or federal entity shall incur any liability by failing to comply with a CAISO Tariff provision that is inapplicable to it by reason of being inconsistent with any federal statutes, regulations, or orders lawfully promulgated thereunder; provided, however, that such person or federal entity shall use its best efforts to comply with the CAISO Tariff to the extent that applicable federal laws, regulations, and orders lawfully promulgated thereunder permit it to do so.
- (b) If any provision of this CAISO Tariff requiring any person or federal entity to give an indemnity or impose a sanction on any person is unenforceable against a federal entity, the CAISO shall submit to the Secretary of Energy or other appropriate Departmental Secretary a report of any circumstances that would, but for this provision, have rendered a federal entity liable to indemnify any person or incur a sanction and may request the Secretary of Energy or other appropriate Departmental Secretary to take such steps as are necessary to give effect to any provisions of this CAISO Tariff that are not enforceable against the federal entity.

- (c) To the extent that the CAISO suffers any loss as a result of being unable to enforce any indemnity as a result of such enforcement being in violation of federal laws or regulations to which it is entitled under the CAISO Tariff under this Section or otherwise, it shall be entitled to recover such loss through the Grid Management Charge.

22.10 [NOT USED]

22.11 Operating Procedures and Business Practice Manuals Development and Amendment Process.

The CAISO shall prepare, maintain, promulgate and update the Operating Procedures and Business Practice Manuals. The Operating Procedures and Business Practice Manuals shall be consistent with the CAISO Tariff, and any NERC or WECC operating policies, guidelines and standards, and shall be available on the CAISO Website, provided that the CAISO shall not make available on the CAISO Website any portions of CAISO Operating Procedures that are confidential. The CAISO shall establish a stakeholder process as set forth in Section 22.11.1 and in a Business Practice Manual for BPM change management in order to ensure that all affected parties have an opportunity to comment on and shape the proposed nature of any proposed changes to any Business Practice Manual. Under that process, the CAISO and stakeholders shall consider whether any amendments to the CAISO Tariff are necessary in order to ensure the consistency of the CAISO Tariff and the Business Practice Manuals.

22.11.1 Process for Revisions of Business Practice Manuals.

Revisions of Business Practice Manuals shall be made in accordance with the process set forth in this Section 22.11.1, provided that the details and procedures for submittal and consideration of a BPM Proposed Revision Request (PRR) and other elements of the BPM change management process shall be set forth in a separate Business Practice Manual for BPM change management.

22.11.1.1 BPM Proposed Revision Request Submittal.

A request to make any change to a BPM, including any attachments thereto that are incorporated by reference, and any changes to the BPM PRR must be initiated through a submittal of a BPM PRR, except as provided in Section 22.4.3 or 22.11.1.2.

The following entities may submit a BPM PRR:

- (1) Any Market Participant;
- (2) Local Regulatory Authority;
- (3) CAISO management; and
- (4) Any other entity that meets the following qualifications:
 - (a) The entity must represent a Market Participant in dealings with the CAISO or operate in the CAISO Markets, and
 - (b) The entity must demonstrate that the entity (or those it represents) is affected by the subject section(s) of the BPM.

BPM PRRs shall be submitted electronically to the CAISO in the form and manner described in the Business Practice Manual for BPM change management. The BPM PRR shall include a description of the requested revision, the reason for the suggested change, the impacts and benefits of the suggested change, a list of affected BPM sections and subsections, general administrative information, suggested language for the requested revision, and for BPM PRRs submitted by CAISO management, a BPM PRR impact analysis.

22.11.1.2 BPM Proposed Revision Request Processing.

The CAISO shall review the BPM PRR for completeness and shall notify the submitter if the BPM PRR is incomplete, including the reasons for its determination, based upon the timelines provided in the BPM for BPM change management. An incomplete BPM PRR shall not receive further consideration until it is completed. In order to pursue the revision requested, a submitter must submit a completed version of the BPM PRR with the deficiencies corrected. If a submitted BPM PRR is complete or once a BPM PRR is corrected, the CAISO shall post the completed or corrected BPM PRR to the CAISO Website and publish a Market Notice of such posting.

22.11.1.3 BPM PRR Coordinator.

The consideration and disposition of BPM PRRs shall be led by a BPM change management coordinator. The BPM change management coordinator shall be an identified employee of the CAISO with responsibility for ensuring that BPM PRRs are processed and reviewed in accordance with the provisions of the Business Practice Manual for BPM change management. The BPM change management coordinator shall also be responsible for submitting a report to the CAISO Governing Board at each regularly scheduled CAISO Governing Board meeting that includes (1) the status of pending BPM PRRs, (2) a summary of proposed revisions that have been accepted, and (3) a summary of proposed revisions that have been rejected and the reason(s) that the proposed revisions have been rejected, including the positions of stakeholders, and any decision on appeal as provided in Section 22.11.1.6.

22.11.1.4 Types and Treatment of BPM PRRs.

Each BPM PRR shall be preliminarily classified into one of the following categories by the BPM change management coordinator in consultation with internal CAISO business units, the submitter, and representatives from potentially affected stakeholders for purposes of review in accordance with its scope and significance.

- (a) Category A – Clarifications of existing BPM language, grammatical errors, and revisions with minor significance.
- (b) Category B – Revisions that may be substantial significance, including changes to the CAISO or Market Participants' systems. In the case of a proposed change affecting the CAISO's systems, the CAISO will prepare a BPM PRR impact analysis, if not already prepared, in accordance with the procedures set forth in the Business Practice Manual. The CAISO shall post the completed BPM PRR impact analysis to the CAISO Website and publish a Market Notice of such posting. Comments may be filed concerning the BPM PRR impact analysis. The comments must be delivered electronically to the CAISO within ten (10) Business Days or otherwise as specified in a Market Notice. Comments shall be posted to the CAISO Website.
- (c) Category C – Revisions that are beyond the scope of the BPM or that may require revisions to the CAISO Tariff. For such proposed revisions, the CAISO will identify additional processes that may need to be undertaken in the consideration of the requested change beyond the BPM PRR process.

22.11.1.5 BPM PRR Review and Action.

Any interested stakeholder or CAISO management may comment on a posted BPM PRR in accordance with the process set forth in the Business Practice Manual for BPM change management. To receive consideration, comments must be delivered electronically to the CAISO within ten (10) Business Days or otherwise as specified in a Market Notice. Comments shall be posted to the CAISO Website. After their

comment periods have expired, BPM PRRs shall be considered by the CAISO at a regularly established monthly public meeting or specially-noticed meeting dedicated to that purpose. Following any meeting to consider pending BPM PRRs and subject to the standards set forth in Section 22.11.1.4, the BPM change management coordinator shall issue a recommendation for action on each pending BPM PRR and shall publish for public comment a report on the recommendation in accordance with the procedures set forth in the Business Practice Manual for BPM change management. The report shall be sufficiently detailed and shall be published in a timeframe that allows interested stakeholders a meaningful opportunity to provide written comment. The BPM change management coordinator shall publish a final decision on any BPM PRR after considering stakeholder comments and all relevant impacts on their business needs and after the PRR recommendation report and comments concerning have been discussed at a BPM change management meeting, in accordance with procedures set forth in the Business Practice Manual for BPM change management.

22.11.1.6 Right to Appeal to CAISO.

Any entity eligible to submit a BPM PRR under Section 22.11.1.1 may, within ten (10) Business Days, appeal in writing the outcome of any BPM PRR to a committee comprising at least three CAISO executives established in accordance with procedures set forth in the Business Practice Manual for BPM change management. The CAISO will establish a standing meeting time for the BPM appeals committee to be used if needed and will establish the composition of the BPM appeals committee, including alternates in the case of schedule or other conflicts. Standing meeting dates and the BPM appeals committee composition will be established at least three months in advance. The CAISO may change the meeting time with ten (10) Business Days notice if required to accommodate schedules of the members of the BPM appeals committee. The executive sponsor of a BPM PRR may not sit in review of any appeal of a final decision regarding that same BPM PRR but may participate in and be present during the public discussion of any appeal. The CAISO committee will review the appeal and publish its decision to

the appealing party and to the CAISO Website. If not satisfied with the decision on appeal, the appellant may raise concerns it may have with the CAISO Governing Board at the next regularly scheduled Board meeting through the public comment period or through prior letter to the Governing Board.

22.11.1.7 CAISO Expedited Action in Emergency Circumstances.

Notwithstanding the provisions of Section 22.11.1.1, the CAISO may take expedited action to change or clarify a provision of a BPM under emergency circumstances. In addition to the circumstances identified in Section 22.4.3, emergency circumstances exist whenever the CAISO determines in good faith that (i) failure to implement a change or clarification to a BPM on an expedited basis would substantially and adversely affect System Reliability or security or the competitiveness or efficiency of the CAISO Markets, and (ii) there is insufficient time to comply with the BPM PRR procedures set forth in Section 22.11.1.

The CAISO shall take reasonable steps to communicate with Market Participants and any other directly-affected entities prior to taking expedited action if practicable. If the CAISO takes expedited action to change or clarify a provision of a BPM in emergency circumstances, the CAISO shall promptly issue a Market Notice and submit a BPM PRR to examine the necessity of the change and its impacts.

22.11.1.8 Urgent Requests by Entities for BPM Revisions.

An entity submitting a BPM PRR may request that the BPM PRR be considered on an urgent basis and may be required to show reasonable necessity for such an urgent request. The BPM change management coordinator may designate a BPM PRR for urgent consideration if the BPM change management coordinator determines that such BPM PRR (1) requires immediate attention due to (i) serious concerns about CAISO System Reliability or market operations under the unmodified language or (ii) the crucial nature of Settlement activity conducted pursuant to any Settlement formula, and (2) is of a nature that allows for rapid implementation without negative consequences to the reliability and integrity of the CAISO's system or market operations. The BPM change management coordinator shall consider

the urgent BPM PRR at its next regularly scheduled meeting, or at a special meeting called by the BPM change management coordinator to consider the urgent BPM PRR. Any revisions to a BPM that take effect pursuant to an urgent BPM PRR shall be subject to a BPM PRR impact analysis.

22.11.2 Changes to Business Practice Manual for BPM Change Management.

Any changes to the Business Practice Manual for BPM change management shall require CAISO Governing Board approval.

22.12 [Not Used]

22.13 Scheduling Responsibilities and Obligations.

Nothing in this CAISO Tariff is intended to permit or require the violation of federal or California law concerning hydro-generation and Dispatch, including but not limited to fish release requirements, minimum and maximum dam reservoir levels for flood control purposes, and in-stream flow levels. In carrying out its functions, the CAISO will comply with and will have the necessary authority to give instructions to Participating TOs and Market Participants to enable it to comply with requirements of environmental legislation and environmental agencies having authority over the CAISO in relation to Environmental Dispatch and will expect that submitted Bids, including Self-Schedules will support compliance with the requirements of environmental legislation and environmental agencies having authority over Generators in relation to Environmental Dispatch. In contracting for Ancillary Services and Imbalance Energy the CAISO will not act as principal but as agent for and on behalf of the relevant Scheduling Coordinators.

ARTICLE II – TRANSMISSION SERVICE

23 CATEGORIES OF TRANSMISSION CAPACITY.

References to new firm uses shall mean any use of CAISO transmission service, except for uses associated with Existing Rights or TORs. Prior to the start of the Day-Ahead Market, for each Balancing Authority Area Transmission Interface, the CAISO will allocate the forecasted Total Transfer Capability of the Transmission Interface to four categories. This allocation will represent the CAISO's best estimates at the time, and is not intended to affect any rights provided under Existing Contracts or TORs. The CAISO's forecast of Total Transfer Capability for each Balancing Authority Area Transmission Interface will depend on prevailing conditions for the relevant Trading Day, including, but not limited to, the effects of parallel path (unscheduled) flows and/or other limiting operational conditions. This information will be posted on OASIS in accordance with this CAISO Tariff. The four categories are as follows:

- (a) transmission capacity that must be reserved for firm Existing Rights;
- (b) transmission capacity that may be allocated for use as CAISO transmission service (i.e., "new firm uses");
- (c) transmission capacity that may be allocated by the CAISO for conditional firm Existing Rights; and
- (d) transmission capacity that may remain for any other uses, such as non-firm Existing Rights for which the Responsible PTO has no discretion over whether or not to provide such non-firm service.

24 TRANSMISSION EXPANSION.

24.1 Determination of Need for Proposed Transmission Projects.

A Participating TO, Market Participant, the CAISO, the CPUC, or CEC may propose a transmission system addition or upgrade, and the CAISO will determine, in accordance with this Section 24.1, whether the transmission addition or upgrade is needed, where it will (1) promote economic efficiency, (2) maintain System Reliability, (3) satisfy the requirements of a Location Constrained Resource Interconnection Facility, or (4) maintain the simultaneous feasibility of allocated Long-Term CRRs. CAISO management can determine the need for transmission additions or upgrades with an estimated capital investment of less than \$50 million without CAISO Governing Board approval. The determination of need by CAISO management for transmission additions or upgrades with an estimated capital cost of \$50 million or more must be approved by the CAISO Governing Board.

24.1.1 Economically Driven Projects.

The determination that a transmission addition or upgrade is needed to promote economic efficiency shall be made in accordance with this Section 24 and the Business Practice Manual in any of the following ways:

- (a) Where a Project Sponsor proposes a Merchant Transmission Facility and demonstrates to the CAISO the financial capability to pay the full cost of construction and operation of the Merchant Transmission Facility. The Merchant Transmission Facility must mitigate all operational concerns identified under Section 24.5 to the satisfaction of the CAISO, in consultation with the Participating TO(s) in whose PTO Service Territory the Merchant Transmission Facility will be located, and ensure the continuing feasibility of allocated Long Term CRRs over the length of their terms. To ensure that the Project Sponsor is

financially able to pay the construction and operating costs of the Merchant Transmission Facility, and where the Participating TO is not the Project Sponsor and is to construct the Merchant Transmission Facility under Section 24.1, the CAISO in cooperation with the Participating TO may require (1) a demonstration of creditworthiness (e.g., an appropriate credit rating), or (2) sufficient security in the form of an unconditional and irrevocable letter of credit or other similar security sufficient to meet its responsibilities and obligations for the full costs of the transmission addition or upgrade.

- (b) Where a Project Sponsor, the CPUC, or CEC proposes a transmission addition or upgrade during the Request Window and the project is approved by the CAISO Governing Board, or a Participating TO proposes a transmission upgrade or addition to an existing transmission facility with an estimated capital cost of less than \$50 million in accordance with the Study Plan and the project is included in the CAISO annual Transmission Plan. In determining whether to approve the project, the CAISO Governing Board or CAISO management, as applicable, shall consider the degree to which, if any, the benefits of the project outweigh the costs, in accordance with the procedures and using the technical studies set forth in the Business Practice Manual. The benefits of the project may include, but need not be limited to, a calculation of any reduction in production costs, Congestion costs, Transmission Losses, capacity or other electric supply costs resulting from improved access to cost-efficient resources, and environmental costs. The cost of the project must consider any estimated costs identified under Section 24.1.4 to maintain the simultaneous feasibility of allocated Long Term CRRs for the length of their term. The CAISO management

or CAISO Governing Board, as appropriate, in determining whether to approve or recommend the project, shall also consider the comparative costs and benefits of viable alternatives to the proposed transmission upgrade or addition, including (1) other transmission additions or upgrades, or the effects of other transmission additions or upgrades proposed under Section 24.2 during the Transmission Planning Process cycle, (2) Demand-side management, (3) acceleration or expansion of any transmission upgrade or addition already approved by the CAISO Governing Board or included in any CAISO annual Transmission Plan, or (4) Generation.

- (c) Where the CAISO proposes a transmission addition or upgrade during the CAISO's Transmission Planning Process and the project is approved by the CAISO Governing Board or included in the CAISO annual Transmission Plan, as appropriate. In determining whether to approve the CAISO proposed transmission addition or upgrade, the CAISO Governing Board and CAISO management shall apply the same factors set forth in Section 24.1.1(b). If approved by the CAISO Governing Board or CAISO management, as appropriate, the CAISO will designate one or more of the Participating TOs with PTO Service Territories in which the terminus of the transmission addition or upgrade will be located to act as Project Sponsor. Where two or more Participating TOs are designated as Project Sponsors, such CAISO designation will include the proportionate responsibility between or among Participating TOs to own, construct, and finance the transmission addition or upgrade. If a

Participating TO refuses to act as a Project Sponsor under this Section 24.1.1(c), the CAISO will first request other designated Participating TO(s) to assume the remainder or greater proportionate responsibility, and if no other Participating TO had been designated or is willing to increase its proportionate responsibility, the CAISO may solicit bids to finance, own, and construct the transmission addition or upgrade.

24.1.1.1 Information Requirements for Economic Transmission Projects.

The Project Sponsor and relevant Participating TOs shall provide any necessary assistance and information to the CAISO to enable the CAISO to determine that a transmission upgrade or addition is needed to promote economic efficiency, and will perform all studies required by the adopted Study Plan in a manner consistent with the Business Practice Manual. A Project Sponsor of an economically driven transmission upgrade or addition to promote economic efficiency under Section 24.1.1 shall also provide in its proposal a statement whether the proposed upgrade or addition will be a Merchant Transmission Facility.

24.1.2 Reliability Driven Projects.

The CAISO in coordination with each Participating TO with a PTO Service Territory will, consistent with the procedures set forth in the Business Practice Manual, identify the need for any transmission additions or upgrades required to ensure System Reliability consistent with all Applicable Reliability Criteria and CAISO Planning Standards. In making this determination, the CAISO, in coordination with each Participating TO with a PTO Service Territory and other Market Participants, shall consider lower cost alternatives to the construction of transmission additions or upgrades, such as acceleration or expansion of existing projects, Demand-side management, Remedial Action Schemes, appropriate Generation, interruptible Loads or reactive support. The CAISO shall direct each Participating TO with a PTO Service Area, as a registered Transmission Planner with NERC, to perform the necessary studies, based on the

Unified Planning Assumptions and Study Plan as set forth in Section 24.2.3 and in accordance with the Business Practice Manual, to determine the facilities needed to meet all Applicable Reliability Criteria and CAISO Planning Standards. The Participating TO with a PTO Service Area shall provide the CAISO and other Market Participants with all information relating to the studies performed under this Section, subject to any limitation provided in Section 20.2. The CAISO shall be free to propose any transmission upgrades or additions it deems necessary to ensure System Reliability consistent with Applicable Reliability Criteria and CAISO Planning Standards. The Participating TO with a PTO Service Territory in which the transmission upgrade or addition deemed needed under this Section 24.1.2 is to be located shall be the Project Sponsor, with the responsibility to construct, own and finance, and maintain such transmission upgrade or addition.

24.1.3 Location Constrained Resource Interconnection Facility Projects.

The CAISO, CPUC, CEC, a Participating TO or any other Market Participant may propose a transmission addition as a Location Constrained Resource Interconnection Facility. A proposal shall include the following information, to the extent available:

- (a) Information showing that the proposal meets the requirements of Section 24.1.3.1; and
- (b) A description of the proposed facility, including the following information:
 - (1) Transmission studies demonstrating that the proposed facility satisfies Applicable Reliability Criteria and CAISO Planning Standards;
 - (2) Identification of the most feasible and cost-effective alternative transmission additions, which may include network upgrades, that would accomplish the objective of the proposal;
 - (3) A planning level cost estimate for the proposed facility and all proposed alternatives;

- (4) An assessment of the potential for the future connection of further transmission additions that would convert the proposed facility into a network transmission facility, including conceptual plans;
- (5) The estimated in-service date of the proposed facility; and
- (6) A conceptual plan for connecting potential LCRIGs, if known, to the proposed facility.

24.1.3.1 Criteria for Qualification as a Location Constrained Resource Interconnection Facility.

- (a) The CAISO shall conditionally approve a facility as a Location Constrained Resource Interconnection Facility if it determines that the facility is needed and all of the following requirements are met:
 - (1) The facility is to be constructed for the primary purpose of connecting to the CAISO Controlled Grid two or more Location Constrained Resource Interconnection Generators in an Energy Resource Area, and at least one of the Location Constrained Resource Interconnection Generators is to be owned by an entity(ies) that is not an Affiliate of the owner(s) of another Location Constrained Resource Interconnection Generator in that Energy Resource Area;
 - (2) The facility will be a High Voltage Transmission Facility;
 - (3) At the time of its in-service date, the facility will not be a network facility and would not be eligible for inclusion in a Participating TO's TRR other than as an LCRIF; and
 - (4) The facility meets Applicable Reliability Criteria and CAISO Planning Standards.

- (b) The proponent of a facility that has been determined by the CAISO to meet the requirements of Section 24.1.3.1(a) shall provide the CAISO with information concerning the requirements of this subsection not less than ninety (90) days prior to the planned commencement of construction, and the facility shall qualify as a Location Constrained Resource Interconnection Facility if the CAISO determines that both of the following requirements are met:
- (1) The addition of the capital cost of the facility to the High Voltage TRR of a Participating TO will not cause the aggregate of the net investment of all LCRIFs (net of the portion of the capital costs of LCRIFs credited to Participating TOs' TRRs pursuant to Section 26.6 included in the High Voltage TRRs of all Participating TOs to exceed fifteen percent (15%) of the aggregate of the net investment of all Participating TOs in all High Voltage Transmission Facilities reflected in their High Voltage TRRs in effect at the time of the CAISO's evaluation of the facility; and
- (2) Existing or prospective owners of LCRIGs have demonstrated their intention to connect LCRIGs to the facility consistent with the requirements of Section 24.1.3.2.
- (c) Each Participating TO shall report annually to the CAISO the amount of its net investment in LCRIFs, the portion of the capital costs of LCRIFs credited to its TRR, and its net investment in High Voltage Transmission Facilities reflected in its High Voltage TRR, to enable the CAISO to make the determination required under Section 24.1.3.1(b)(1).

24.1.3.2 Demonstration of Interest in a Location Constrained Resource Interconnection Facility.

A proponent of an LCRIF must demonstrate interest in the LCRIF equal to sixty percent (60%) or more of the capacity of the facility in the following manner:

- (a) the proponent's demonstration must include a showing that LCRIGs that would connect to the facility and would have a combined capacity equal to at least twenty-five percent (25%) of the capacity of the facility have executed Large Generator Interconnection Agreements or Small Generator Interconnection Agreements, as applicable; and
- (b) to the extent the showing pursuant to Section 24.1.3.2(a) does not constitute sixty percent (60%) of the capacity of the LCRIF, the proponent's demonstration of the remainder of the required minimum level of interest must include a showing that additional LCRIGs have demonstrated interest in the LCRIF by one of the following methods:
 - (i) executing a firm power sales agreement for the output of the LCRIG for a period of five years or longer;
 - (ii) being in the CAISO's interconnection queue and paying a deposit to the CAISO equal to the sum of the minimum deposits required of an Interconnection Customer for all studies performed in accordance with the Large Generator Interconnection Procedures (Appendix U) or Small Generator Interconnection Procedures (Appendix S), as applicable to the LCRIG, less the amount of any deposits actually paid by the LCRIG for such studies. The deposit shall be credited toward such study costs. If

- the LCRIF is not approved or is withdrawn by the proponent, any deposit paid under this provision shall be refundable to the extent it exceeds costs incurred by the CAISO for such studies; or
- (iii) paying a deposit to the CAISO equal to five percent (5%) of the LCRIG's pro rata share of the capital costs of a proposed LCRIF. The deposit shall be credited toward study costs performed in connection with the Large Generator Interconnection Procedures (Appendix U) or Small Generator Interconnection Procedures (Appendix S), whichever is applicable. If the LCRIF is not approved or is withdrawn by the proponent, any deposit paid under this provision shall be refundable to the extent it exceeds the costs incurred by the CAISO for such studies.

24.1.3.3 Coordination With Transmission Additions Proposed by Non-Participating TOs.

In the event that a facility proposed as an LCRIF would connect to LCRIGs in an Energy Resource Area that would also be connected by a transmission facility that is in existence or is proposed to be constructed by an entity that is not a Participating TO and that does not intend to place that facility under the Operational Control of the CAISO, the CAISO shall coordinate with the entity owning or proposing that transmission facility through any regional planning process to avoid the unnecessary construction of duplicative transmission additions to connect the same LCRIGs to the CAISO Controlled Grid.

24.1.3.4 Evaluation of Location Constrained Resource Interconnection Facilities.

In evaluating whether a proposed LCRIF that meets the requirements of Section 24.1.3.1 is needed, and for purposes of ranking and prioritizing LCRIF projects, the CAISO will consider the following factors:

- (a) Whether, and if so, the extent to which, the facility meets or exceeds applicable CAISO Planning Standards, including standards that are Applicable Reliability Criteria.

- (b) Whether, and if so, the extent to which, the facility has the capability and flexibility both to interconnect potential LCRIGs in the Energy Resource Area and to be converted in the future to a network transmission facility.
- (c) Whether the projected cost of the facility is reasonable in light of its projected benefits, in comparison to the costs and benefits of other alternatives for connecting Generating Units or otherwise meeting a need identified in the CAISO Transmission Planning Process, including alternatives that are not LCRIFs. In making this determination, the CAISO shall take into account, among other factors, the following:
 - (1) The potential capacity of LCRIGs and the potential Energy that could be produced by LCRIGs in each Energy Resource Area;
 - (2) The capacity of LCRIGs in the CAISO's interconnection queue for each Energy Resource Area;
 - (3) The projected cost and in-service date of the facility in comparison with other transmission facilities that could connect LCRIGs to the CAISO Controlled Grid;
 - (4) Whether, and if so, the extent to which, the facility would provide additional reliability or economic benefits to the CAISO Controlled Grid;
and
 - (5) Whether, and if so, the extent to which, the facility would create a risk of stranded costs.

24.1.4 Maintaining the Feasibility of Allocated Long Term CRRs.

The CAISO is obligated to ensure the continuing feasibility of Long Term CRRs that are allocated by the CAISO over the length of their terms. In furtherance of this requirement the CAISO shall, as part of its annual Transmission Planning Process cycle, test and evaluate the simultaneous feasibility of allocated Long Term CRRs, including, but not limited to, when acting on the following types of projects: (a) planned or proposed transmission projects; (b) Generating Unit or transmission retirements; (c) Generating Unit interconnections; and (d) the interconnection of new Load. Pursuant to such evaluations the CAISO shall identify the need for any transmission additions or upgrades required to ensure the continuing feasibility of allocated Long Term CRRs over the length of their terms. In assessing the need for transmission additions or upgrades to maintain the feasibility of allocated Long Term CRRs, the CAISO, in coordination with the Participating TOs and other Market Participants, shall consider lower cost alternatives to the construction of transmission additions or upgrades, such as acceleration or expansion of existing projects; Demand-side management; Remedial Action Schemes; constrained-on Generation; interruptible Loads; reactive support; or in cases where the infeasible Long Term CRRs involve a small magnitude of megawatts, ensuring against the risk of any potential revenue shortfall using the CRR Balancing Account and uplift mechanism in Section 11.2.4. As part of the CAISO's Transmission Planning Process, the Participating TOs and Market Participants shall provide the necessary assistance and information to the CAISO to allow it to assess and identify transmission additions or upgrades that may be necessary under Section 24.1.4. To the extent a transmission upgrade or addition is deemed needed to maintain the feasibility of allocated Long Term CRRs in accordance with this Section and included in the CAISO's annual Transmission Plan, the CAISO will designate the Participating TO(s) with a PTO Service Territory in which the transmission upgrade or addition is to be located as the Project Sponsor(s), responsible to construct, own and/or finance, and maintain such transmission upgrade or addition.

24.2 Transmission Planning and Coordination.

The CAISO shall perform the CAISO's Transmission Planning Process on an annual cycle in accordance with the terms of this CAISO Tariff, the Transmission Control Agreement, and the Business Practice Manual. The Transmission Planning Process shall, at a minimum:

- (a) Coordinate and consolidate the transmission needs of the CAISO Balancing Authority Area into a single plan, which will be assessed on the basis of maintaining the reliability of the CAISO Controlled Grid in accordance with Applicable Reliability Criteria and CAISO Planning Standards, in a manner that promotes the economic efficiency of the CAISO Controlled Grid and considers federal and state environmental and other policies affecting the provision of Energy.
- (b) Reflect a planning horizon covering a minimum of ten (10) years that considers transmission enhancements and expansions, Demand Forecasts, Demand-side management, and capacity forecasts relating to generation technology type, additions and retirements, and such other factors as the CAISO determines are relevant.
- (c) Seek to avoid unnecessary duplication of facilities and ensure the simultaneous feasibility of the CAISO Transmission Plan and the transmission plans of interconnected Balancing Authority Areas, and otherwise coordinate with regional and sub-regional transmission planning processes and entities in accordance with Section 24.8.

- (d) Identify existing and projected limitations of the CAISO Controlled Grid's physical, economic or operational capability or performance and identify transmission upgrades and additions, including alternatives thereto, deemed needed in accordance with Section 24.1 to address the existing and projected limitations.
- (e) Account for any effects on the CAISO Controlled Grid of the interconnection of Generating Units on the Distribution System under the Wholesale Distribution Access Tariffs of the Participating TOs, including an assessment of the deliverability of such Generating Units on a basis comparable to the Deliverability Assessment performed under Appendix U.

24.2.1 CAISO Planning Standards Committee.

The CAISO shall maintain a Planning Standards Committee, which shall be open to participation by all Market Participants, electric utility regulatory agencies within California, and other interested parties, to review, provide advice on, and propose modifications to CAISO Planning Standards for consideration by CAISO management and the CAISO Governing Board. The Planning Standards Committee shall meet, at a minimum, on an annual basis prior to publication of the draft Unified Planning Assumptions and Study Plan under Section 24.2.3; however, additional meetings, web conferences, teleconferences may be scheduled as needed. Meetings of the Planning Standards Committee shall be noticed by Market Notice and such notice shall be posted to the CAISO Website. Teleconference capability will be made available for all meetings of the Planning Standards Committee. The CAISO Vice President of Planning and Infrastructure Development or his or her designee shall serve as chair of the Planning Standards Committee. All materials addressed at or relating to such meetings, including agendas, presentations, background papers, party comments, and minutes shall be posted to the CAISO Website. The chair of

the Planning Standards Committee shall seek approval by the CAISO Governing Board of any modifications to the CAISO Planning Standards, as those CAISO Planning Standards exist as of the effective date of Section 24.2, and must include in the report to the CAISO Governing Board a summary of the positions of parties with respect to the proposed modifications to the CAISO Planning Standards and the ground(s) for rejecting modifications, if any, proposed by Market Participants or other interested parties.

24.2.2 Request Window.

Market Participants may propose Economic Planning Studies and transmission upgrades or additions for inclusion in the annual Transmission Plan during a Request Window. The duration of the Request Window will be set forth in the Business Practice Manual and will occur in the year prior to the year in which the Transmission Plan is prepared. Proposals for Economic Planning Studies and transmission upgrades or additions must use the forms and satisfy the information and technical requirements set forth in the Business Practice Manual. Proposals for transmission additions or upgrades must be within or connect to the CAISO Balancing Authority Area or CAISO Controlled Grid and proposals for Economic Planning Studies must be intended to promote competition or economic efficiency of serving Load within the CAISO Balancing Authority Area, but may relate to Congestion relief or transmission capacity expansion outside the CAISO Balancing Authority Area. The following proposals will only be considered in the Transmission Plan if proposed during the Request Window:

- (a) Economic transmission upgrades or additions proposed under Section 24.1.1, except for projects costing less than \$50 million that are identified through Participating TO proposals provided pursuant to the Study Plan;
- (b) Location Constrained Resource Interconnection Facilities under Section 24.1.3 not identified by the CAISO as part of Interconnection Studies performed under the LGIP set forth in Appendix U;

- (c) Demand response programs that are proposed for inclusion in the base case or assumptions for the Transmission Plan or as alternatives to transmission additions or upgrades;
- (d) Generation projects that are proposed as solutions to Congestion identified in previously published Economic Planning Studies, for inclusion in long-term planning studies, or as alternatives to transmission additions or upgrades; and
- (e) Requests for Economic Planning Studies.

24.2.2.1 CAISO Assessment of Request Window Proposals.

Following the submittal of a proposal for a transmission addition or upgrade, Demand response program, or generation project during the Request Window in accordance with Section 24.2.2, the CAISO will determine whether the proposal will be included in the Unified Planning Assumptions or Study Plan as appropriate. A proposal can only be included in the Unified Planning Assumptions or Study Plan upon the determination by the CAISO that:

- (a) the proposal satisfies the information requirements for the particular type of project submitted as set forth in templates included in the Business Practice Manual;
- (b) the proposal is not functionally duplicative of transmission upgrades or additions that have previously been approved by the CAISO; and
- (c) the proposal, if a sub-regional or regional project that affects other interconnected Balancing Authority Areas has been reviewed by the appropriate sub-regional or regional planning entity, is not inconsistent with such sub-regional or regional planning entity's preferred solution or project, and has been determined to be appropriate for inclusion in the CAISO Study Plan, rather than, or in addition to, being included in or deferred to the planning process of the sub-regional or regional planning entity.

In accordance with the schedule and procedures set forth in the Business Practice Manual, the CAISO will notify the Market Participant submitting the proposal of any deficiencies in the proposal and provide the Market Participant an opportunity to correct the deficiencies. The failure to correct the deficiency precludes the proposal from inclusion in the Study Plan. The CAISO will notify the Market Participant submitting the proposal whether or not the proposal will be included in the Study Plan.

24.2.2.2 CAISO Assessment of Requests for Economic Planning Studies Received During the Request Window.

Following the submittal of a request for an Economic Planning Study during the Request Window in accordance with Section 24.2.2, the CAISO will determine whether the request shall be designated as a High Priority Economic Planning Study for inclusion in the Unified Planning Assumptions and Study Plan.

In making the determination, the CAISO will consider:

- (a) Whether the requested Economic Planning Study seeks to address Congestion identified by the CAISO in the Congestion Data Summary published for the applicable Transmission Planning Process cycle and the magnitude, duration, and frequency of that Congestion;
- (b) Whether the requested Economic Planning Study addresses delivery of Generation from Location Constrained Resource Interconnection Generators or network transmission facilities intended to access Generation from an Energy Resource Area (ERA) or similar resource area assigned a high priority by the CPUC or CEC;
- (c) Whether the requested Economic Planning Study is intended to address Local Capacity Area Resource requirements; or

- (d) Whether resource and Demand information indicates that Congestion described in the Economic Planning Study request is projected to increase over the planning horizon used in the Transmission Planning Process and the magnitude of that Congestion.

In accordance with the schedule and procedures set forth in the Business Practice Manual, the CAISO will post to the CAISO Website the list of selected High Priority Economic Planning Studies to be included in the draft Unified Planning Assumptions and Study Plan. The CAISO may assess requests for Economic Planning Studies individually or in combination where such requests may have common or complementary effects on the CAISO Controlled Grid. The CAISO will perform a maximum of five High Priority Economic Planning Studies; however, the CAISO retains discretion to perform greater than five High Priority Economic Planning Studies should stakeholder requests or patterns of Congestion or anticipated Congestion so warrant.

24.2.3 Additional Planning Information.

24.2.3.1 Information Provided by Participating TOs.

In addition to any information that must be provided to the CAISO under the NERC Reliability Standards for Modeling, Data and Analysis (NERC MOD Standards), Participating TOs shall provide the CAISO on an annual or periodic basis in accordance with the schedule and procedures and in the form required by the Business Practice Manual any information and data reasonably required by the CAISO to perform the Transmission Planning Process, including, but not limited to: (1) modeling data for power flow, including reactive power, short-circuit and stability analysis; (2) a description of the total Demand to be served from each substation, including a description of any Energy efficiency programs reflected in the total Demand; (3) the amount of any interruptible Loads included in the total Demand (including conditions under which an interruption can be implemented and any limitations on the duration and frequency of interruptions);

(4), a description of Generating Units to be interconnected to the Distribution System of the Participating TO, including generation type and anticipated Commercial Operation Date; (5) detailed power system models of their transmission systems that reflect transmission system changes, including equipment replacement not requiring approval by the CAISO; (6) Distribution System modifications; (7) transmission network information, including line ratings, line length, conductor sizes and lengths, substation equipment ratings, circuits on common towers and with common rights-of-ways and cross-overs, special protection schemes, and protection setting information; and (8) Contingency lists.

24.2.3.2 Information Provided by Participating Generators.

In addition to any information that must be provided to the CAISO under the NERC Reliability Standards for Modeling, Data and Analysis (NERC MOD Standards), Participating Generators shall provide the CAISO on an annual or periodic basis in accordance with the schedule, procedures and in the form required by the Business Practice Manual any information and data reasonably required by the CAISO to perform the Transmission Planning Process, including, but not limited to (1) modeling data for short-circuit and stability analysis and (2) data, such as term, and status of any environmental or land use permits or agreements the expiration of which may affect that the operation of the Generating Unit.

24.2.3.3 Information Requested from Load Serving Entities.

In addition to any information that must be provided to the CAISO under the NERC Reliability Standards for Modeling, Data and Analysis (NERC MOD Standards), the CAISO shall solicit from Load Serving Entities through their Scheduling Coordinators information required by, or anticipated to be useful to, the CAISO in its performance of the Transmission Planning Process, including, but not limited to (1) long-term resource plans; (2) existing long-term contracts for resources and transmission service outside the CAISO Balancing Authority Area; (3) resource capacity and Energy Bid information received through requests for offers or similar solicitations; and (4) Demand Forecasts, including forecasted effect of Energy efficiency and Demand response programs.

24.2.3.4 Information Requested from Interconnected Balancing Authority Areas, Sub-Regional Planning Groups and Electric Utility Regulatory Agencies.

In accordance with Section 24.8 , the CAISO shall obtain or solicit from interconnected Balancing Authority Areas, regional and sub-regional planning groups within the WECC, the CPUC, the CEC, and Local Regulatory Authorities information required by, or anticipated to be useful to, the CAISO in its performance of the Transmission Planning Process, including, but not limited to (1) long-term transmission system plans; (2) long-term resource plans; (3) generation interconnection queue information; (4) Demand Forecasts; and (5) any other data necessary for the development of power flow, short-circuit, and stability cases over the planning horizon of the CAISO Transmission Planning Process.

24.2.3.5 Obligation to Provide Updated Information.

If material changes to the information provided under Sections 24.2.3.1 and 24.2.3.2 occur during the annual Transmission Planning Process, the providers of the information must provide notice to the CAISO of the changes.

24.2.4 Unified Planning Assumptions and Study Plan.

24.2.4.1 Additional Projects and Data for Development of the Unified Planning Assumptions and Study Plan.

The CAISO will develop Unified Planning Assumptions and Study Plan using information and data received during the Request Window and under Section 24.2.3. The CAISO will also use the following in the development of the Unified Planning Assumptions and Study Plan:

- (1) WECC base cases for the relevant planning horizon;
- (2) transmission upgrades and additions approved by the CAISO and scheduled to be energized within the planning horizon;
- (3) Location Constrained Resource Interconnection Facilities conditionally approved under Section 24.1.3.1(a);

- (4) Network Upgrades identified pursuant to Section 25, Appendix U or Appendix W relating to the CAISO's Large Generator Interconnection Procedures and Appendix AA relating to the CAISO's Small Generator Interconnection Procedures;
- (5) operational solutions validated by the CAISO to address Local Capacity Area Resource requirements;
- (6) regulatory initiatives, as appropriate, including state regulatory agency initiated programs;
- (7) Energy Resource Areas or similar resource areas identified as high priority by the CPUC or CEC; and
- (8) results and analyses from Economic Planning Studies or other assessments that may have identified potentially needed transmission upgrades or additions performed in past CAISO Transmission Planning Process cycles.

24.2.4.2 General Scope of Unified Planning Assumptions and Study Plan.

The Unified Planning Assumptions and Study Plan shall, at a minimum, describe:

- (a) the planning data and assumptions to be used, to the maximum extent possible, as a base case for each technical study to be performed in the Transmission Planning Process cycle, including, but not limited, to those related to Demand Forecasts and distribution, generation capacity additions and retirements, and transmission system modifications;
- (b) a list of each technical study to be performed in the Transmission Planning Process cycle and a summary of the technical study's objective or purpose;

- (c) a description of any modifications to the planning data and assumptions developed as the general base case in Section 24.2.4.2(a) made in each technical study performed in the Transmission Planning Process cycle;
- (d) a description of the software tools, methodology and other criteria used in each technical study performed in the Transmission Planning Process cycle;
- (e) the identification of any entities directed to perform a particular technical study or portions of a technical study;
- (f) a proposed schedule for all stakeholder meetings to be held as part of the Transmission Planning Process cycle, and means for notification of any changes thereto, the location on the CAISO Website of information relating to the technical studies performed in the Transmission Planning Process cycle, and the name of a contact person at the CAISO for each technical study performed in the Transmission Planning Process cycle;
- (g) a list and description of each Economic Planning Study studied by the CAISO as a High Priority Economic Planning Study under Section 24.9; and
- (h) to the maximum extent practicable, and where applicable, identify appropriate sensitivity analyses, including project or solution alternatives, to be performed as part of technical studies.

24.2.4.3 Preparation of Draft and Final Unified Planning Assumptions and Study Plan.

- (a) Following review of relevant information, the CAISO will prepare and post on the CAISO Website a draft Unified Planning Assumptions and Study Plan. The CAISO will issue a Market Notice announcing the availability such draft, soliciting comments, and scheduling a stakeholder conference(s) as required by Section 24.2.4.3(c).

- (b) All comments from stakeholders on the draft Unified Planning Assumptions and Study Plan will be posted by the CAISO to the CAISO Website.
- (c) Subsequent to the posting of the draft Unified Planning Assumptions and Study Plan, the CAISO will conduct a minimum of one stakeholder meeting open to Market Participants, electric utility regulatory agencies, and other interested parties to review, discuss, and recommend modifications to the draft Unified Planning Assumptions and Study Plan. Additional stakeholder meetings, web conferences, or teleconferences may be scheduled as needed. All stakeholder meetings, web conferences, or teleconferences shall be noticed by Market Notice and such notice shall be posted to the CAISO Website.
- (d) Following the stakeholder conference(s) required by Section 24.2.4.2(c), and under the schedule set forth in the Business Practice Manual, the CAISO will determine and publish to the CAISO Website the final Unified Planning Assumptions and Study Plan in accordance with the procedures set forth in the Business Practice Manual.

24.2.5 Development and Approval of Transmission Plan.

24.2.5.1 Technical Studies.

- (a) In accordance with the Unified Planning Assumptions and Study Plan and the procedures and deadlines in the Business Practice Manual, the CAISO will perform, or direct the performance by third parties of, technical studies and other assessments necessary for the Transmission Plan and Transmission Planning Process, post the preliminary results on the CAISO Website, conduct a minimum of one stakeholder conference, and provide an opportunity for comments of the preliminary results. Additional stakeholder meetings, web conferences, or

teleconferences may be scheduled as needed. All stakeholder meetings, web conferences, or teleconferences shall be noticed by Market Notice and such notice shall be posted to the CAISO Website.

- (b) All technical studies, whether performed by the CAISO or third party under the direction of the CAISO, must utilize the Unified Planning Assumptions for the particular technical study to the maximum extent practical, and deviations from the Unified Planning Assumptions for the particular technical study must be documented in the preliminary and final results of each technical study. The CAISO will measure the results of the studies against NERC planning standards, WECC planning standards, and the CAISO Planning Standards, and other criteria established by the Business Practice Manual. After consideration of the comments received on the preliminary results, the CAISO will complete, or direct the completion of, the technical studies and post the final study results on the CAISO Website.

24.2.5.2 Development of Transmission Plan.

- (a) In accordance with the schedule and procedures in the Business Practice Manual, the CAISO will post a draft Transmission Plan. The CAISO will subsequently conduct a stakeholder conference regarding the draft Transmission Plan and solicit comments, consistent with the timelines and procedures set forth in the Business Practice Manual. Additional stakeholder meetings, web conferences, or teleconferences may be scheduled as needed. All stakeholder meetings, web conferences, or teleconferences shall be noticed by Market Notice and such notice shall be posted to the CAISO Website. After consideration of comments, the CAISO will post a final Transmission Plan to the CAISO Website.

- (b) The draft and final Transmission Plan may include, but is not limited to: (1) the results of technical studies performed under the Study Plan; (2) determinations, recommendations, and justifications for the need, according to Section 24.1 for identified transmission upgrades and additions; (3) assessments of transmission upgrades and additions not proposed under Section 24.1 and for which need has not been formally determined by the CAISO Governing Board or management, as applicable, under Section 24.1, but which have been identified by the CAISO as potential solutions to transmission needs studied during the Transmission Planning Process cycle; (3) results of Economic Planning Studies performed during the Transmission Planning Process cycle; and (4) an update on the status of transmission upgrades or additions previously approved by the CAISO, including identification of mitigation plans, if necessary, to address any potential delay in the anticipated completion of an approved transmission upgrade or addition.
- (c) The Transmission Plan may not include the results of certain technical studies performed as part of the Transmission Planning Process cycle identified in the Unified Planning Assumptions and Study Plan that were scheduled for completion after publication of the Transmission Plan for the Transmission Planning Process cycle.

24.2.5.3 Approval by the CAISO Governing Board.

The CAISO will present the Transmission Plan to the CAISO Governing Board at the first meeting of the year following the year in which the Transmission Plan is prepared. The Transmission Plan will be considered final once it has been presented to the CAISO Governing Board and will be posted on the

CAISO Website. Transmission upgrades and additions for which CAISO Governing Board approval is required may be presented to the CAISO Governing Board for approval separate from presentation of the Transmission Plan.

24.3 Obligation to Construct Transmission Projects Included in Transmission Plan.

A Participating TO that has a PTO Service Territory shall be obligated to construct all transmission additions and upgrades that are determined by the CAISO Governing Board or management, as applicable, to be needed in accordance with the requirements of Section 24 and which: (1) are additions or upgrades to transmission facilities that are located within its PTO Service Territory, unless (a) it does not own the facility being upgraded or added and neither terminus of such facility is located within its PTO Service Territory or (b) it does not own the facility being upgraded or added and the Project Sponsor is a Participating TO that elects to construct the transmission upgrade; or (2) are additions to existing transmission facilities or upgrades to existing transmission facilities that it owns, that are part of the CAISO Controlled Grid, and that are located outside of its PTO Service Territory, unless the joint-ownership arrangement, if any, does not permit. A Participating TO's obligation to construct such transmission additions and upgrades shall be subject to: (1) its ability, after making a good faith effort, to obtain all necessary approvals and property rights under applicable federal, state, and local laws and (2) the presence of a cost recovery mechanism with cost responsibility assigned in accordance with Section 24.7. The obligations of the Participating TO to construct such transmission additions or upgrades will not alter the rights of any entity to construct and expand transmission facilities as those rights would exist in the absence of a TO's obligations under this CAISO Tariff or as those rights may be conferred by the CAISO or may arise or exist pursuant to this CAISO Tariff.

24.4 Participating TO Study Obligation.

The Participating TO constructing or expanding facilities in accordance with Section 24.3, will be directed by the CAISO to coordinate with the Project Sponsor or Participating TO(s) with PTO Service Territories in which the transmission upgrade or addition will be located, as appropriate, and other Market Participants to perform any study or studies necessary, including a Facility Study, to determine the appropriate facilities to be constructed in accordance with the CAISO Transmission Planning Process and the terms set forth in the TO Tariff.

24.5 Operational Review.

The CAISO will perform an operational review of all facilities studied as part of the CAISO Transmission Planning Process that are proposed to be connected to, or made part of, the CAISO Controlled Grid to ensure that the proposed facilities provide for acceptable operating flexibility and meet all its requirements for proper integration with the CAISO Controlled Grid. If the CAISO finds that such facilities do not provide for acceptable operating flexibility or do not adequately integrate with the CAISO Controlled Grid, the CAISO shall coordinate with the Project Sponsor and, if different, the Participating TO with the PTO Service Territory in which the facilities will be located to reassess and redesign the facilities required to be constructed. Transmission upgrades or additions that do not provide acceptable operating flexibility or do not adequately integrate with the CAISO Controlled Grid cannot be included in the CAISO Transmission Plan or approved by CAISO management or the CAISO Governing Board, as applicable.

24.6 State and Local Approval and Property Rights.

24.6.1 The Participating TO obligated to construct facilities under this Section 24 must make a good faith effort to obtain all approvals and property rights under applicable federal, state and local laws that are necessary to complete the construction of the required transmission additions or upgrades. This obligation includes the Participating TO's use of eminent domain authority, where provided by state law.

24.6.2 If the Participating TO cannot secure any such necessary approvals or property rights and consequently is unable to construct a transmission addition or upgrade found to be needed in accordance with Section 24.1, it shall promptly notify the CAISO and the Project Sponsor, if any, and shall comply with its obligations under the TO Tariff to convene a technical meeting to evaluate alternative proposals. The CAISO shall take such action as it reasonably considers appropriate, in coordination with the Participating TO, the Project Sponsor, if any, and other affected Market Participants, to facilitate the development and evaluation of alternative proposals including, where possible, conferring on a third party the right to build the transmission addition or upgrade as set forth in Section 24.6.3.

24.6.3 Where the conditions of Section 24.6.2 have been satisfied and it is possible for a third party to obtain all approvals and property rights under applicable federal, state and local laws that are necessary to complete the construction of transmission additions or upgrades required to be constructed in accordance with this CAISO Tariff (including the use of eminent domain authority, where provided by state law), the CAISO may confer on a third party the right to build the transmission addition or upgrade, which third party shall enter into the Transmission Control Agreement in relation to such transmission addition or upgrade.

24.7 WECC and Regional Coordination.

The Project Sponsor will have responsibility for completing any applicable WECC requirements and rating study requirements to ensure that a proposed transmission addition or upgrade meets regional planning requirements. The Project Sponsor may request the Participating TO to perform this coordination on behalf of the Project Sponsor at the Project Sponsor's expense.

24.8 Regional and Sub-Regional Planning Process.

The CAISO will be a member of the WECC and other applicable regional or sub-regional organizations and participate in WECC's operation and planning committees, and in other applicable regional and sub-regional coordinated planning processes.

24.8.1 Scope of Regional or Sub-Regional Planning Participation.

The details of the CAISO's participation in regional and sub-regional planning processes are set forth in the Business Practice Manual. At a minimum, the CAISO shall be required to:

- (a) solicit the participation, whether through sub-regional planning groups or individually, of all interconnected Balancing Authority Areas in the development of the Unified Planning Assumptions and Study Plan and in reviewing the results of technical studies performed as part of the CAISO's Transmission Planning Process in order to:
 - (1) coordinate, to the maximum extent practicable, planning assumptions, data and methodologies utilized by the CAISO, regional and sub-regional planning groups or interconnected Balancing Authority Areas;
 - (2) ensure transmission expansion plans of the CAISO, regional and sub-regional planning groups or interconnected Balancing Authority Areas are simultaneously feasible and seek to avoid duplication of facilities.
- (b) coordinate with regional and sub-regional planning groups regarding the entity to perform requests for Economic Planning Studies or other Congestion related studies;
- (c) transmit to applicable regional and sub-regional planning groups or interconnected Balancing Authority Areas information on technical studies performed as part of the CAISO Transmission Planning Process;
- (d) post on the CAISO Website links to the planning activities of applicable regional and sub-regional planning groups or interconnected Balancing Authority Areas.

24.8.2 Limitation on Regional Activities.

Neither the CAISO nor any Participating TO nor any Market Participant shall take any position before the WECC or a regional organization that is inconsistent with a binding decision reached through an arbitration proceeding pursuant to Section 13.

24.9 Economic Planning Studies.

24.9.1 Congestion Data Summary.

In accordance with the schedule and procedures set forth in the Business Practice Manual, the CAISO shall post on the CAISO Website a Congestion Data Summary.

24.9.2 High Priority Economic Planning Studies.

High Priority Economic Planning Studies shall be performed in accordance with the standards and procedures established in the Business Planning Manual. Market Participants may conduct Economic Planning Studies that have not been designated as High Priority Economic Planning Studies at their own expense and may submit such studies for consideration in the development of the Transmission Plan when the CAISO provides notice of the stakeholder meeting regarding technical study results pursuant to Section 24.2.5.2.

24.10 Cost Responsibility for Transmission Additions or Upgrades.

Cost responsibility for transmission additions or upgrades constructed pursuant to this Section 24 (including the responsibility for any costs incurred under Section 24.6) shall be determined as follows:

24.10.1 Where a Project Sponsor commits to pay the full cost of a transmission addition or upgrade as set forth in subsection (2) of Section 24.1.1, the full costs shall be borne by the Project Sponsor.

24.10.2 Where the need for a transmission addition or upgrade is determined by the CAISO or as a result of the CAISO ADR Procedure as set forth in subsection (3) of Section 24.1.1, the cost of the transmission addition or upgrade shall be borne by the Participating TO that will be the owner of the transmission addition or upgrade and shall be reflected in its Transmission Revenue Requirement.

24.10.3 Provided that the CAISO has Operational Control of the Merchant Transmission Facility, a Project Sponsor that does not recover the investment cost under a FERC-approved rate through the Access Charge or a reimbursement or direct payment from a Participating TO shall be entitled to receive Merchant CRRs as provided in Section 36.11. The full amount of capacity added to the system by such transmission upgrades or additions will be as determined through the regional reliability council process of the Western Electricity Coordinating Council or its successor. Pursuant to its Project Sponsor status as specified in Section 4.3.1.3, consistent with FERC's findings in Docket Nos. EL04-133-001, ER04-1198-000, and ER04-1198-001, issued on May 16, 2006 (115 FERC ¶ 61,178), Western Path 15 shall receive compensation associated with transmission usage rights modeled for Western Path 15. In the event that Western Path 15 has an approved rate schedule that returns excess revenue from any compensation obtained from the CAISO associated with the transmission usage rights for Western Path 15, such revenue shall be returned to the CAISO through a procedure established by the CAISO and the Western Area Power Administration for that purpose.

24.10.4 Once a New Participating TO has executed the Transmission Control Agreement and it has become effective, the cost for New High Voltage Facilities for all Participating TOs shall be included in the CAISO Grid-wide component of the High Voltage Access Charge in accordance with Schedule 3 of Appendix F, unless and with respect to Western Path 15 only, cost recovery is provided in Section 24.7.3. The Participating TO who is supporting the cost of the New High Voltage Facility shall include such costs in its High Voltage Transmission Revenue Requirement, regardless of which TAC Area the facility is geographically located.

24.11 Ownership of and Charges for Expansion Facilities.

24.11.1 All transmission additions and upgrades constructed in accordance with this Section 24 shall form part of the CAISO Controlled Grid and shall be operated and maintained by a Participating TO in accordance with the Transmission Control Agreement.

24.11.2 Each Participating TO that owns or operates transmission additions and upgrades constructed in accordance with this Section 24 shall provide access to them and charge for their use in accordance with this CAISO Tariff and its TO Tariff.

24.12 Expansion by Local Furnishing Participating TOs.

Notwithstanding any other provision of this CAISO Tariff, a Local Furnishing Participating TO shall not be obligated to construct or expand facilities, (including interconnection facilities as described in Section 8 of the TO Tariff) unless the CAISO or Project Sponsor has tendered an application under FPA Section 211 that requests FERC to issue an order directing the Local Furnishing Participating TO to construct such facilities pursuant to Section 24. The Local Furnishing Participating TO shall, within 10 days of receiving a copy of the Section 211 application, waive its right to a request for service under FPA Section 213(a) and to the issuance of a proposed order under FPA Section 212(c). Upon receipt of a final order from FERC that is no longer subject to rehearing or appeal, such Local Furnishing Participating TO shall construct such facilities in accordance with this Section 24.

25 INTERCONNECTION OF GENERATING UNITS AND GENERATING FACILITIES TO THE CAISO CONTROLLED GRID.

25.1 Applicability.

This Section 25 and Appendix U (the Standard Large Generator Interconnection Procedures (LGIP)), Appendix S (the Small Generator Interconnection Procedures (SGIP)), or Appendix W, as applicable, shall apply to:

- (a) each new Generating Unit that seeks to interconnect to the CAISO Controlled Grid;
- (b) each existing Generating Unit connected to the CAISO Controlled Grid that will be modified with a resulting increase in the total capability of the power plant;
- (c) each existing Generating Unit connected to the CAISO Controlled Grid that will be modified without increasing the total capability of the power plant but has changed the electrical characteristics of the power plant such that its re-energization may violate Applicable Reliability Criteria; and
- (d) each existing Qualifying Facility Generating Unit connected to the CAISO Controlled Grid whose total Generation was previously sold to a Participating TO or on-site customer but whose Generation, or any portion thereof, will now be sold in the wholesale market, subject to Section 25.1.2.

25.1.1 The owner of a Generating Unit described in Section 25.1 (a), (b), or (c), or its designee, shall be an Interconnection Customer required to submit an Interconnection Request and comply with Appendix U (the LGIP), Appendix S (the SGIP), or Appendix W, as applicable, which applicability shall be based on the maximum rated capacity of the new total capability of the power plant, including the capability of all of multiple energy production devices at a site, consistent with Section 4.10 of the SGIP.

25.1.2 If the owner of a Qualifying Facility described in Section 25.1(d), or its designee, represents that the total capability and electrical characteristics of the Qualifying Facility will be substantially unchanged, then that entity must submit an affidavit to the CAISO and the applicable Participating TO representing that the total capability and electrical characteristics of the Qualifying Facility will remain substantially unchanged. If there is any change to the total capability and electrical characteristics of the Qualifying Facility, however, the affidavit shall include supporting information describing any such changes. The CAISO and the applicable Participating TO shall have the right to verify whether or not the total capability or electrical characteristics of the Qualifying Facility have changed or will change.

25.1.2.1 If the CAISO and the applicable Participating TO confirm that the electrical characteristics are substantially unchanged, then that request will not be placed into the interconnection queue. However, the owner of the Qualifying Facility, or its designee, will be required to execute a Standard Large Generator Interconnection Agreement in accordance with Section 11 of Appendix U (the LGIP), a Small Generator Interconnection Agreement in accordance with Section 3.3.4, 3.4.5, or 3.5.7 and Section 4.8 of the SGIP, or an interconnection agreement in accordance with Appendix W, as applicable.

25.1.2.2 If the CAISO and the applicable Participating TO cannot confirm that the total capability and electrical characteristics are and will be substantially unchanged, then the owner of the Qualifying Facility, or its designee, shall be an Interconnection Customer required to submit an Interconnection Request and comply with Appendix U (the LGIP), Appendix S (the SGIP), or Appendix W, as applicable.

25.2 Interconnections to the Distribution System.

Any proposed interconnection by the owner of a planned Generating Unit, or its designee, to connect that Generating Unit to a Distribution System of a Participating TO will be processed, as applicable, pursuant to the Wholesale Distribution Access Tariff or CPUC Rule 21, or other Local Regulatory Authority requirements, if applicable, of the Participating TO; provided, however, that the owner of the planned Generating Unit, or its designee, shall be required to mitigate any adverse impact on reliability of the CAISO Controlled Grid consistent with Appendix U (the Standard Large Generator Interconnection Procedures). In addition, each Participating TO will provide to the CAISO a copy of the system impact study used to determine the impact of a planned Generating Unit on the Distribution System and the CAISO Controlled Grid pursuant to a request to interconnect under the applicable Wholesale Distribution Access Tariff or CPUC Rule 21, or other Local Regulatory Authority requirements, if applicable.

25.3 Maintenance of Encumbrances.

No new Generating Unit shall adversely affect the ability of the applicable Participating TO to honor its Encumbrances existing as of the time an Interconnection Customer submits its Interconnection Request to the CAISO. The applicable Participating TO, in consultation with the CAISO, shall identify any such adverse effect on its Encumbrances in the Interconnection System Impact Study performed under Section 7 of Appendix U (the LGIP), under Section 3.4 of the SGIP, or under Section 5.1 of Appendix W, as applicable. To the extent the applicable Participating TO determines that the connection of the new Generating Unit will have an adverse effect on Encumbrances, the Interconnection Customer shall mitigate such adverse effect.

26 TRANSMISSION RATES AND CHARGES.

26.1 Access Charges.

All Market Participants withdrawing Energy from the CAISO Controlled Grid shall pay Access Charges in accordance with this Section 26.1 and Appendix F, Schedule 3, except as provided in Section 4.1 of Appendix I (Station Power Protocol). Prior to the TAC Transition Date determined under Section 4 of Schedule 3 of Appendix F, the Access Charge for each Participating TO shall be determined in accordance with the principles set forth in this Section 26.1 and in Section 5 of the TO Tariff. The Access Charge shall comprise two components, which together shall be designed to recover each Participating TO's Transmission Revenue Requirement. The first component shall be the annual authorized revenue requirement associated with the transmission facilities and Entitlements turned over to the Operational Control of the CAISO by a Participating TO approved by FERC. The second component shall be based on the Transmission Revenue Balancing Account (TRBA), which shall be designed to flow through the Participating TO's Transmission Revenue Credits calculated in accordance with Section 5 of the TO Tariff and other credits identified in Sections 6 and 8 of Schedule 3 of Appendix F of the CAISO Tariff.

Commencing on the TAC Transition Date determined under Section 4 of Schedule 3 of Appendix F, the Access Charges shall be paid by any UDC or MSS Operator that is serving Gross Load in a PTO Service Territory, and shall consist, where applicable, of a High Voltage Access Charge, a Transition Charge and a Low Voltage Access Charge. High Voltage Access Charges and Low Voltage Access Charges shall each comprise two components, which together shall be designed to recover each Participating TO's High Voltage Transmission Revenue Requirement and Low Voltage Transmission Revenue Requirement, as applicable. The first component shall be based on the annual authorized Transmission Revenue Requirement associated with the High Voltage Transmission Facilities or Low Voltage Transmission Facilities, as applicable, and Entitlements turned over to the CAISO Operational Control by a Participating TO. The second component shall be the Transmission Revenue Balancing Account (TRBA), which shall

be designed to flow through the Participating TO's Transmission Revenue Credits associated with the high voltage or low voltage, as applicable, transmission facilities and Entitlements and calculated in accordance with Section 5 of the TO Tariff and other credits identified in Sections 6, 8 and 13 of Schedule 3 of Appendix F of the CAISO Tariff. Each Participating TO shall provide in its TO Tariff filing with FERC an appendix to such filing that states the Participating TO's High Voltage Transmission Revenue Requirement, its Low Voltage Transmission Revenue Requirement (if applicable) and its Gross Load used in developing the rate. The allocation of each Participating TO's Transmission Revenue Requirement between the High Voltage Transmission Revenue Requirement and the Low Voltage Transmission Revenue Requirement shall be undertaken in accordance with Section 11 of Schedule 3 of Appendix F. To the extent necessary, each Participating TO shall make conforming changes to its TO Tariff.

The applicable High Voltage Access Charge and the Transition Charge shall be paid to the CAISO by each UDC and MSS Operator based on its Gross Load connected to a High Voltage Transmission Facility in a PTO Service Territory, either directly or through intervening distribution facilities, but not through a Low Voltage Transmission Facility. The applicable High Voltage Access Charge, the Transition Charge and the Low Voltage Access Charge for the applicable Participating TO shall be paid by each UDC and MSS Operator based on its Gross Load in the PTO Service Territory. The applicable High Voltage Access Charge and Transition Charge shall be assessed by the CAISO as a charge for transmission service under this CAISO Tariff, shall be determined in accordance with Schedule 3 of Appendix F, and shall include all applicable components of the High Voltage Access Charge and Transition Charge set forth therein.

The Low Voltage Access Charge for each Participating TO is set forth in that Participating TO's TO Tariff. Each Participating TO shall charge for and collect the Low Voltage Access Charge, as provided in its TO Tariff, except that the CAISO shall charge for and collect the Low Voltage Access Charge of each Non-Load-Serving Participating TO that qualifies under this Section 26.1 and Appendix F, Schedule 3, Section

13, unless otherwise agreed by the affected Participating TOs. If a Participating TO that is also a UDC, MSS Operator, or Scheduling Coordinator serving End-Use Customers is using the Low Voltage Transmission Facilities of another Participating TO, such Participating TO shall also be assessed the Low Voltage Access Charge of the other Participating TO by such other Participating TO, or by the CAISO pursuant to Section 13 of Schedule 3 of Appendix F. The CAISO shall provide to the applicable Participating TO a statement of the amount of Energy delivered to each UDC and MSS Operator serving Gross Load that utilizes the Low Voltage Transmission Facilities of that Participating TO on a monthly basis. If a UDC or MSS Operator that is serving Gross Load in a PTO Service Territory has Existing Rights to use another Participating TO's Low Voltage Transmission Facilities, such entity shall not be charged the Low Voltage Access Charge for delivery of Energy to Gross Load for deliveries using the Existing Rights. Each Participating TO shall recover Standby Transmission Revenues directly from the Standby Service Customers of that Participating TO through its applicable retail rates.

Where a Non-Load-Serving Participating TO has Low Voltage Transmission Facilities, the CA ISO shall assess the Low Voltage Access Charge for each project of that Non-Load-Serving Participating TO to the UDC or MSS Operator of each Participating TO that is directly connected to one or more Low Voltage Transmission Facilities of that project, unless otherwise agreed by the affected Participating TOs. The Non-Load-Serving Participating TO shall calculate separately its Low Voltage Transmission Revenue Requirement for each individual transmission project that includes one or more Low Voltage Transmission Facilities. If the Non-Load-Serving Participating TO's Low Voltage Transmission Facilities projects are directly connected to the facilities of the same Participating TO(s), the Low Voltage Access Charge shall be calculated for the group of Low Voltage Transmission Facilities. A separate Low Voltage Access Charge shall apply based on the Low Voltage Transmission Revenue Requirement for the relevant project or projects of such Non-Load-Serving Participating TO divided by the Gross Load of all UDCs or MSS Operators of a Participating TO that are directly connected to the relevant Low Voltage Transmission Facility or group of facilities.

A Non-Load-Serving Participating TO must include any over- or under-recovery of its annual Low Voltage Transmission Revenue Requirement for the relevant project or group of projects in its low voltage TRBA adjustment for its Low Voltage Access Charge for the relevant project or group of projects pursuant to Section 13.1 of Schedule 3 of Appendix F.

A Participating TO that is a UDC or MSS Operator to whom the Low Voltage Access Charge of a Non-Load-Serving Participating TO is assessed shall include these billed Low Voltage Access Charge amounts in its low voltage TRBA adjustment for its Low Voltage Access Charge, together with all other applicable low voltage TRBA adjustments.

26.1.1 Publicly Owned Electric Utilities Access Charge.

Local Publicly Owned Electric Utilities whose transmission facilities are under CAISO Operational Control shall file with the FERC their proposed High Voltage Transmission Revenue Requirements, and any proposed changes thereto, under procedures determined by the FERC to be applicable to such filings and shall give notice to the CAISO and to all Scheduling Coordinators of any such filing. A prospective New Participating TO that is a Local Publicly Owned Electric Utility shall submit its first proposed High Voltage Transmission Revenue Requirement to the FERC and the CAISO at the time the Local Publicly Owned Electric Utility submits its application to become a New Participating TO in accordance with the Transmission Control Agreement. Federal power marketing agencies whose transmission facilities are under CAISO Operational Control shall develop their High Voltage Transmission Revenue Requirement pursuant to applicable federal laws and regulations.

The procedures for public participation in a federal power marketing agency's ratemaking process are posted on the federal power marketing agency's website. Each federal power marketing agency shall also post on its website the Federal Register notices and FERC orders for rate making processes that impact the federal power marketing agency's High Voltage Transmission Revenue Requirement. At the time the federal power marketing agency submits its application to become a New Participating TO in accordance with the Transmission Control Agreement, it shall submit its first proposed High Voltage Transmission Revenue Requirement to the FERC and the CAISO.

26.1.2 High Voltage Access Charge and Transition Charge Settlement.

UDCs and MSS Operators serving Gross Load in a PTO Service Territory shall be charged on a monthly basis, in arrears, the applicable High Voltage Access Charge and Transition Charge. The High Voltage Access Charge and Transition Charge for a billing period is calculated by the CAISO as the product of the applicable High Voltage Access Charge or Transition Charge, as applicable, and Gross Load connected to the facilities of the UDC and MSS Operator in the PTO Service Territory. The High Voltage Access Charge and Transition Charge are determined in accordance with Schedule 3 of Appendix F. These rates may be adjusted from time to time in accordance with Schedule 3 of Appendix F. During the 10-year TAC Transition Period described in Section 4 of Schedule 3 of Appendix F, a UDC or MSS Operator that is also a Participating TO shall pay, or receive payment of, if applicable, the difference between (i) the High Voltage Access Charge and the Transition Charge applicable to its transactions as a UDC or MSS Operator; and (ii) the disbursement of High Voltage Access Charge revenues to which it is entitled pursuant to Section 26.1.3.

26.1.3 Disbursement of High Voltage Access Charge and Transition Charge Revenues.

The CAISO shall collect and pay, on a monthly basis, to Participating TOs all High Voltage Access Charge and Transition Charge revenues at the same time as other CAISO charges and payments are settled. High Voltage Access Charge revenues received with respect to the High Voltage Access Charge and the Transition Charge shall be distributed to Participating TOs in accordance with Appendix F, Schedule 3, Section 10.

26.1.4 Wheeling.

Any Scheduling Coordinator or other such entity submitting a Bid or Self-Schedule for a Wheeling transaction shall pay to the CAISO the product of (i) the applicable Wheeling Access Charge, and (ii) the total hourly Schedules and awards of Wheeling in kilowatt-hours for each month at each Scheduling Point associated with that transaction, except as provided in Section 4.1 of Appendix I (Station Power Protocol). Schedules and awards that include Wheeling transactions shall be subject to any charges resulting from the CAISO Markets in accordance with Section 27.

26.1.4.1 Wheeling Access Charge.

The Wheeling Access Charge shall be determined by the TAC Area and transmission ownership or Entitlement, less all Encumbrances, associated with the Scheduling Point at which the Energy exits the CAISO Controlled Grid. The Wheeling Access Charge for Scheduling Points contained within a single TAC Area, that are not joint facilities, shall be equal to the High Voltage Access Charge for the applicable TAC Area in accordance with Schedule 3 of Appendix F plus the applicable Low Voltage Access Charge if the Scheduling Point is on a Low Voltage Transmission Facility. Wheeling Access Charges shall not apply for Wheeling under a bundled non-economy Energy coordination agreement of a Participating TO executed prior to July 9, 1996.

26.1.4.2 Wheeling Over Joint Facilities.

To the extent that more than one Participating TO owns or has Entitlement to transmission capacity, less all Encumbrances, exiting the CAISO Controlled Grid at a Scheduling Point, the Scheduling Coordinator shall pay the CAISO each month a rate for Wheeling at that Scheduling Point which reflects an average of the Wheeling Access Charge applicable to those Participating TOs, weighted by the relative share of such ownership or Entitlement to transmission capacity, less all Encumbrances, at such Scheduling Point. If the Scheduling Point is located at High Voltage Transmission Facilities, the Wheeling Access Charge will consist of a High Voltage Wheeling Access Charge component. Additionally, if the Scheduling Point is located at Low Voltage Transmission Facilities, the applicable Low Voltage Wheeling Access Charge component will be added to the Wheeling Access Charge. The methodology for developing the weighted average rate for Wheeling at each Scheduling Point is set forth in Appendix F, Schedule 3, Section 14.4.

26.1.4.3 Disbursement of Wheeling Revenues.

The CAISO shall collect and pay to Participating TOs and other entities as provided in Section 24.7.3 all Wheeling revenues at the same time as other CAISO charges and payments are settled. For Wheeling revenues associated with CRRs allocated to Load Serving Entities outside the CAISO Balancing Authority Area, the CAISO shall pay to the Participating TOs and other entities as provided in Section 24.7.3 any

excess prepayment amounts within thirty (30) days of the end of the term of the CRR Allocation. The CAISO shall provide to the applicable Participating TO and other entities as provided in Section 24.7.3 a statement of the aggregate amount of Energy delivered to each Scheduling Coordinator using such Participating TO's Scheduling Point to allow for calculation of Wheeling revenue and auditing of disbursements. Wheeling revenues shall be disbursed by the CAISO based on the following:

26.1.4.3.1 Scheduling Point with All Participating TOs in the Same TAC Area.

With respect to revenues received for the payment of High Voltage Wheeling Access Charges for Wheeling to a Scheduling Point at which all of the facilities and Entitlements, less all Encumbrances, are owned by Participating TOs in the same TAC Area, Wheeling revenues shall be disbursed to each such Participating TO based on the ratio of each Participating TO's High Voltage Transmission Revenue Requirement to the sum of all such Participating TO's High Voltage Transmission Revenue Requirements. If the Scheduling Point is located at a Low Voltage Transmission Facility, revenues received with respect to Low Voltage Wheeling Access Charges for Wheeling to that Scheduling Point shall be disbursed to the Participating TOs that own facilities and Entitlements making up the Scheduling Point in proportion to their Low Voltage Transmission Revenue Requirements. Additionally, if a Participating TO has a transmission upgrade or addition that was funded by a Project Sponsor, the Wheeling revenue allocated to such Participating TO shall be disbursed as provided in Section 24.7.3.

26.1.4.3.2 Scheduling Point without All Participating TOs in the Same TAC Area.

With respect to revenues received for the payment of Wheeling Access Charges for Wheeling to a Scheduling Point at which the facilities and Entitlements, less all Encumbrances, are owned by Participating TOs in different TAC Areas, Wheeling revenues shall be disbursed to such Participating TOs as follows. First, the revenues shall be allocated between such TAC Areas in proportion to the ownership and Entitlements of transmission capacity, less all Encumbrances, at the Scheduling Point of the Participating TOs in each such TAC Area. Second, the revenues thus allocated to each TAC Area shall be disbursed among the Participating TOs in the TAC Area in accordance with Section 26.1.4.3.1.

26.1.4.4 Information Required from Scheduling Coordinators.

Scheduling Coordinators for Wheeling Out or Wheeling Through transactions to a Bulk Supply Point, or other point of interconnection between the CAISO Controlled Grid and the transmission system of a Non-Participating TO, that are located within the CAISO Balancing Authority Area, shall provide the CAISO, within five (5) days from the end of the calendar month to which the relevant Trading Day relates, details of such transactions (other than transactions submitted as Self-Schedules pursuant to Existing Contracts) sorted by Bulk Supply Point or point of interconnection for each Settlement Period (including kWh for each transaction). The CAISO shall use such information, which may be subject to review by the CAISO, to settle Wheeling Access Charges and payments. The CAISO shall publish a list of the Bulk Supply Points or interconnection points to which this Section 26.1.4.4 applies together with details of the electronic form and procedure to be used by Scheduling Coordinators to submit the required information on the CAISO Website.

26.1.5 Unbundled Retail Transmission Rates.

The Access Charge for unbundled retail transmission service provided to End-Users by a FERC-jurisdictional electric utility Participating TO shall be determined by the FERC and submitted to the CAISO for information only. For a Local Publicly Owned Electric Utility, retail transmission service rates shall be determined by the Local Regulatory Authority and submitted to the CAISO for information only.

26.2 Tracking Account.

If the Access Charge rate methodology implemented pursuant to Section 26.1 results in Access Charge rates for any Participating TO which are different from those in effect prior to the CAISO Operations Date, an amount equal to the difference between the new rates and the prior rates for the remainder of the period, if any, during which a cost recovery plan established pursuant to Section 368 of the California Public Utilities Code (as added by AB 1890) is in effect for such Participating TO shall be recorded in a tracking account. The balance of that tracking account will be recovered from customers and paid to the appropriate Participating TO after termination of the cost recovery plan set forth in Section 368 of

California Public Utilities Code (as added by AB 1890). The recovery and payments shall be based on an amortization period not exceeding three years in the case of electric corporations regulated by the CPUC or five years for Local Publicly Owned Electric Utilities.

26.3 Addition of New Facilities After CAISO Implementation.

The costs of transmission facilities placed in service after the CAISO Operations Date shall be recovered consistent with the cost recovery determinations made pursuant to Appendix F, Schedule 3 and Section 24.7.3.

26.4 Effect on Tax-Exempt Status.

Nothing in this Section 26 shall compel any Participating TO to violate any restrictions applicable to facilities financed with tax-exempt bonds or contractual restrictions and covenants regarding the use of transmission facilities.

26.5 Transition Mechanism.

During the ten-year TAC Transition Period described in Section 4 of Schedule 3 of Appendix F, the Original Participating TOs collectively shall pay to the CAISO each year an amount equal to, annually, for all New Participating TOs, the amount, if any, by which the New Participating TO's cost of Existing High Voltage Facilities associated with Gross Loads in the PTO Service Territory of the New Participating TO is increased by the implementation of the High Voltage Access Charge described in Schedule 3 of Appendix F. Responsibility for such payments shall be allocated to Original Participating TOs in accordance with Schedule 3 of Appendix F. Amounts payable by Original Participating TOs under this section shall be recoverable as part of the Transition Charge calculated in accordance with Schedule 3 of Appendix F. Amounts received by the CAISO under this section shall be disbursed to New Participating TOs with Existing High Voltage Facilities based on the ratio of each New Participating TO's net increase in costs in the categories described in the first sentence of this section, to the sum of the net increases in such costs for all New Participating TOs with Existing High Voltage Facilities.

26.6 Location Constrained Resource Interconnection Facilities.

The costs of an LCRIF shall be includable in a Participating TO's High Voltage Transmission Revenue Requirement. Any Participating TO that owns an LCRIF shall set forth in its TO Tariff a charge payable by LCRIGs connected to that facility. The charge shall require each LCRIG to pay on a going forward basis its pro rata share of the Transmission Revenue Requirement associated with the LCRIF, which shall be calculated based on the maximum capacity of the LCRIG relative to the capacity of the LCRIF. Each Participating TO shall credit its High Voltage TRR with revenues received from LCRIGs with respect to such charges either by recording such revenues in its TRBA or through another mechanism approved by FERC.

26.6.1 Location Constrained Resource Interconnection Facilities that Become Network Facilities.

If the construction of a new transmission facility or upgrade causes an LCRIF to become a network facility, then, effective on the in-service date of such new transmission facility or upgrade, the LCRIGs connected to the LCRIF shall not be required to pay charges described in Section 26.6. The LCRIGs shall remain responsible for charges due prior to that date.

ARTICLE III – MARKET OPERATIONS

27 CAISO MARKETS AND PROCESSES.

In the Day-Ahead and Real-Time time frames the CAISO operates a series of procedures and markets that together comprise the CAISO Markets Processes. In the Day-Ahead time frame, the CAISO conducts the MPM-RRD, an Integrated Forward Market (IFM) and the Residual Unit Commitment (RUC) process. In the Real-Time time frame, the CAISO conducts the Market Power Mitigation and Reliability Requirement Determination, the Hour-Ahead Scheduling Process (HASP), the Short-Term Unit Commitment (STUC), the Real-Time Unit Commitment (RTUC) and the five-minute Real-Time Dispatch (RTD). The CAISO Markets Processes utilize transmission and Security Constrained Unit Commitment and dispatch algorithms in conjunction with a Full Network Model to optimally commit, schedule and Dispatch resources and determine marginal prices for Energy, Ancillary Services and RUC Capacity. Congestion Revenue Rights are available and entitle holders of such instruments to a stream of hourly payments or charges associated with revenue the CAISO collects or pays from the Marginal Cost of Congestion component of hourly Day-Ahead LMPs. Through the operation of the CAISO Markets Processes the CAISO develops Day-Ahead Schedules, Day-Ahead AS Awards and RUC Schedules, HASP Advisory Schedules, HASP Intertie Schedules and AS Awards, Real-Time AS Awards and Dispatch Instructions to ensure that sufficient supply resources are available in Real-Time to balance Supply and Demand and operate in accordance with Reliability Criteria.

27.1 Locational Marginal Pricing.

The CAISO Markets are based on Locational Marginal Prices as provided below and further provided in Appendix C.

27.1.1 Locational Marginal Prices for Energy.

The LMP for Energy at any PNode is the marginal cost of serving the next increment of Demand at that PNode consistent with existing transmission facility Constraints and the performance characteristics of resources. The LMPs calculated in the IFM, the HASP for Scheduling Points, and the RTD are based on

Energy Bid Curves. The LMP at any given PNode is comprised of three cost components: the System Marginal Energy Cost (SMEC); Marginal Cost of Losses (MCL); and Marginal Cost of Congestion (MCC). The IFM calculates LMPs for each Trading Hour of the next Trading Day. The HASP, which is an hourly run of the RTUC with the Time Horizon that starts at the beginning of the next Trading Hour, calculates fifteen-minute LMPs (HASP Intertie LMPs) for that Trading Hour. The simple average of the four fifteen-minute LMPs for the Trading Hour computed at each Scheduling Point produces hourly LMPs for HASP Settlement of Energy at that Scheduling Point. The Real-Time Dispatch runs every five (5) minutes throughout each Trading Hour and calculates five-minute LMPs for the next Dispatch Interval. The CAISO uses the Resource-Specific Settlement Interval LMPs for Settlements of the Real-Time Market.

27.1.1.1 System Marginal Energy Cost.

The System Marginal Energy Cost (SMEC) component of the LMP reflects the marginal cost of providing Energy from a designated reference Location. For this designated reference Location the CAISO will utilize a distributed Reference Bus whose constituent PNodes are weighted in pre-specified proportions referred to as Reference Bus distribution factors. The SMEC shall be the same throughout the system.

27.1.1.2 Marginal Cost of Losses.

For all PNodes and Aggregated PNodes in the CAISO Balancing Authority Area, including Scheduling Points, the use of the FNM in the DAM and the RTM processes incorporates Transmission Losses. At each PNode or Aggregated PNode, the Marginal Cost of Losses is the System Marginal Energy Cost multiplied by the Marginal Loss factor at that PNode or Aggregated PNode. The Marginal Cost of Losses at a Location (PNode or APNode) may be positive or negative depending on whether an increase in Demand at that Location marginally increases or decreases the cost of Transmission Losses, using the distributed Reference Bus to balance it. The Marginal Loss factors are determined through a process that calculates the sensitivities of Transmission Losses with respect to changes in injection at each Location in the FNM. For CAISO Controlled Grid facilities outside the CAISO Balancing Authority Area, the CAISO

shall assess the cost of Transmission Losses to Scheduling Coordinators using each such facility based on the quantity of losses agreed upon with the neighboring Balancing Authority multiplied by the LMP at the PNode of the Transmission Interface with the neighboring Balancing Authority Area. The MCLs calculated for Locations within the CAISO Balancing Authority Area shall not reflect the cost of Transmission Losses on those facilities.

27.1.1.3 Marginal Cost of Congestion.

The Marginal Cost of Congestion at a PNode reflects a linear combination of the Shadow Prices of all binding Constraints in the network, each multiplied by the corresponding Power Transfer Distribution Factor (PTDF). The Marginal Cost of Congestion may be positive or negative depending on whether a power injection (i.e., incremental Load increase) at that Location marginally increases or decreases Congestion.

27.2 Load Aggregation Points (LAP).

The CAISO shall create Load Aggregation Points and shall maintain Default LAPs at which all Demand shall Bid and be settled, except as provided in Sections 27.2.1 and 30.5.3.2.

27.2.1 Metered Subsystems.

The CAISO shall define specific MSS LAPs for each MSS. The MSS LAP shall be made up of the PNodes within the MSS that have Load served off of those Nodes. The MSS LAPs have unique Load Distribution Factors that reflect the distribution of the MSS Demand to the network Nodes within the MSS. These MSS LAPs are separate from the Default LAPs, and the Load Distribution Factors of the Default LAP do not reflect any MSS Load. As further provided in Sections 11.2.3 and 11.5, MSS Demand is settled either at the price at the Default LAP for MSS Operators that have selected gross Settlement or at the price at the applicable MSS LAP for MSS Operators that have selected net Settlement.

27.2.2 Determination of LAP Prices.

27.2.2.1 IFM LAP Prices.

The IFM LAP Price for a given Trading Hour is the weighted average of the individual IFM LMPs at the PNodes within the LAP, with the weights equal to the nodal Demand associated with that LAP that is scheduled by the IFM. The weights used in calculating the Default LAP prices will equal the total Demand scheduled by the IFM in each Default LAP except for the Demand specified in Sections 27.2.1 and 30.5.3.2.

27.2.2.2 Real-Time Market LAP Prices.

The Hourly Real-Time LAP Price is computed as described in Section 11.5.2.2. The weights used for calculating the Hourly Real-Time LAP Price at the time the RTM runs will not exclude the Demand specified in Sections 27.2.1 and 30.5.3.2. The weights used for calculating Hourly Real-Time LAP Price used for Settlements will be calculated based on Meter Data and will appropriately exclude the Demand specified in Sections 27.2.1 and 30.5.3.2. Hourly Real-Time LAP Price are further adjusted for Settlements purposes as described in Section 11.5.2.2.

27.3 Trading Hubs.

The CAISO shall create and maintain Trading Hubs, including Existing Zone Generation Trading Hubs, to facilitate bilateral Energy transactions in the CAISO Balancing Authority Area. Each Trading Hub will be based on a pre-defined set of PNodes. The CAISO shall calculate Trading Hub prices for each Settlement Period or Settlement Interval based on an average of the LMPs at the PNodes that constitute the Trading Hub. There will be three Existing Zone Generation Trading Hubs, which correspond geographically to the three Existing Zones. Each Existing Zone Generation Trading Hub will be comprised of an aggregation of PNodes for Generating Units within the corresponding Existing Zone, whose associated LMPs will be used to establish an Existing Zone Generation Trading Hub price representing the weighted-average price paid to Generating Units in that Existing Zone. The weights applied to the constituent nodal LMPs in each Existing Zone will be determined annually and separately

for each season and on-peak and off-peak period based on the ratio of the prior year's total output of Energy at that PNode to the total Generation output in that Existing Zone, for the corresponding season and on-peak or off-peak period. The specification of seasons will be identical to the seasons used in the annual CRR Allocation, and the annual calculation of Existing Zone Generation Trading Hub weights will be performed in a timely manner to be coordinated with the annual CRR Allocation and CRR Auction processes.

27.4 Optimization in the CAISO Markets Processes.

The CAISO runs the DAM, HASP and RTM and their component CAISO Markets Processes utilizing a set of integrated optimization programs, including SCUC and SCED.

27.4.1 Security Constrained Unit Commitment.

The CAISO uses SCUC to run the MPM-RRD processes associated with the DAM and the HASP, the IFM, the RUC, the HASP, the STUC and the RTUC. SCUC uses a multi-interval Time Horizon to commit and schedule resources and to meet Demand for which Bids have been submitted and procure AS in the IFM, and to meet the CAISO Forecast of CAISO Demand in the MPM-RRD, RUC, HASP, STUC and RTUC. In the Day-Ahead MPM-RRD, IFM and RUC processes, the SCUC optimizes over the twenty-four (24) hourly intervals of the next Trading Day. In the RTUC, which runs every fifteen (15) minutes, the SCUC optimizes over from four to seven 15-minute intervals comprising a portion of the current or imminent Trading Hour and the entire subsequent Trading Hour. In the HASP, which is a special run of the RTUC that runs once per hour just before the top of the hour, and its associated MPM-RRD process, the SCUC optimizes over seven (7) 15-minute intervals comprising the last forty-five (45) minutes of the imminent Trading Hour and the entire subsequent Trading Hour. Following the HASP run of the RTUC, each of the next three runs of the RTUC successively drops one 15-minute interval from the front of the optimization Time Horizon. In the STUC, the SCUC optimizes over seventeen fifteen-minute intervals

comprising the last fifteen (15) minutes of the imminent Trading Hour and the entire next four Trading Hours. The CAISO will also utilize the SCUC algorithm on a two-day-ahead basis to commit Extremely Long Start Resources, for which commitment in the DAM does not provide sufficient time to Start-Up and be available to supply Energy during the next Trading Day as provided in Section 31.7.

27.4.1.1 Timing of Unit Commitment Instructions.

For the Time Horizon of any given CAISO Markets Process, the associated SCUC optimization will typically commit resources having different Start-Up Times, not all of which need to be started up immediately upon completion of that CAISO Markets Process. The CAISO may defer issuing a Start-Up Instruction to a resource that can be started at a later time and still be available to supply Energy at the time the CAISO Markets Process indicated it would be needed. The CAISO shall re-evaluate the need to commit such resources in a subsequent CAISO Markets Process based on the most recent forecasts and other information about system conditions.

27.4.2 Security Constrained Economic Dispatch.

SCED is the optimization engine used to run the RTD to determine the optimal five-minute Dispatch Instructions throughout the Trading Hour consistent with resource and transmission Constraints within the CAISO Balancing Authority Area. The SCED runs every five (5) minutes and utilizes a Time Horizon comprised of up to thirteen (13) five-minute intervals, but produces Dispatch Instructions only for the first five-minute interval of that Time Horizon. The SCED produces LMPs at each PNode that are used for Settlements as described in Section 11.5.

27.5 Full Network Model.

27.5.1 Description of FNM for CAISO Markets.

The FNM is a representation of the CAISO Balancing Authority Area that enables the CAISO to conduct power flow analyses to identify transmission Constraints for the optimization of the CAISO Markets. External Balancing Authority Areas and external transmission systems are modeled to the extent necessary to support the commercial requirements of the CAISO Markets. External connections are retained between Intertie branches within Transmission Interfaces. Certain external loops are modeled, which allows the CAISO to increase the accuracy of the Congestion Management process. Resources are modeled at the appropriate network Nodes. The pricing Location (PNode) of a Generating Unit generally coincides with the Node where the relevant revenue quality meter is connected or corrected, to reflect the point at which the Generating Units are connected to the CAISO Controlled Grid. The Dispatch, Schedule and LMP of a Generating Unit refers to a PNode, but the Energy injection is modeled in the FNM for network analysis purposes at the corresponding Generating Unit(s) (at the physical interconnection point), taking into account any losses in the transmission network leading to the point where Energy is delivered to Demand. For the CAISO Markets Processes, the FNM incorporates Transmission Losses and models and enforces all network Constraints, which are reflected in the Day-Ahead Schedules, AS Awards and RUC Awards, HASP Intertie Schedules, Dispatch Instructions and the LMPs resulting from each CAISO Markets Process. For the HASP, STUC, RTUC and the RTD processes, the Real-Time power flow parameters developed from the State Estimator are applied to the FNM.

27.5.2 Metered Subsystems.

The FNM includes a full model of MSS transmission networks used for power flow calculations and Congestion Management in the CAISO Markets Processes. Network Constraints (i.e. circuit ratings, thermal ratings, etc.) within the MSS, or at the its boundaries, shall be monitored but not enforced in the

CAISO's FNM. If overloads are observed in the forward markets, are internal to the MSS or at the MSS boundaries, and are attributable to MSS operations, the CAISO shall communicate such events to the Scheduling Coordinator for the MSS and coordinate any manual Redispatch required in Real-Time. If, independent of the CAISO, the Scheduling Coordinator for the MSS is unable to resolve Congestion internal to the MSS or at the MSS boundaries in Real-Time, the CAISO will use Exceptional Dispatch Instructions on resources that have been bid into the HASP and RTM to resolve the Congestion. The costs of such Exceptional Dispatch will be allocated to the responsible MSS Operator. Consistent with Section 4.9, the CAISO and MSS Operator shall develop specific procedures for each MSS to determine how network Constraints will be handled.

27.5.3 Embedded Control Areas and Adjacent Control Areas.

To the extent sufficient data is available or adequate estimates can be made for the embedded Control Areas and adjacent Control Areas, the FNM will include a full model of embedded Control Areas and adjacent Control Areas used for power flow calculations and congestion management in the CAISO Markets Processes. The CAISO monitors but does not enforce the network constraints for embedded Control Areas or adjacent Control Areas in running the CAISO Markets Processes. The CAISO models the resistive component for transmission losses on embedded Control Areas and adjacent Control Areas but does not allow such losses to determine LMPs.

27.5.4 Accounting for Changes in Topology in FNM.

The CAISO will incorporate into the FNM information received pursuant to Section 24 for transmission expansion and Section 25 for generation interconnection to account for changes to the CAISO Controlled Grid and other facilities located within the CAISO Balancing Authority Area. This information will be incorporated into the network model data base in which the electrical network model is maintained for use by the State Estimator and which forms the basis for the FNM used by the CAISO Markets. The updated

power system network model will be transferred at periodic model update cycle intervals established by the CAISO and incorporated into the FNM for use in the CAISO Markets. The Business Practice Manual for managing the Full Network Model will describe the information to be provided by Market Participants, the process by which the CAISO incorporates this information in the FNM, and operational details of the FNM. If the CAISO becomes aware of a material error or omission in the FNM, it will make a timely correction of the FNM.

27.5.5 Load Distribution Factors.

The CAISO will maintain a library of system-wide Load Distribution Factors for use in distributing Demand scheduled at the Default LAPs. The system Load Distribution Factors are derived from the State Estimator and are stored in the Load Distribution Factor library, and are updated periodically. For IFM the Load Distribution Factor library uses a similar-day methodology for smoothing the most recent Load Distribution Factors. The similar-day methodology uses data separately for each type of day. More recent days are weighted more heavily in the smoothing calculations. The market application then uses the set of Load Distribution Factors from the library that best represents the Load distribution conditions expected for the market Time Horizon. For the RTM, the State Estimator solution is used as a source for determining Load Distribution Factors. The Load Distribution Factor are also maintained for use for Demand scheduled at Custom LAPs. These custom Load Distribution Factors are not generated from the State Estimator and are fixed quantities representing the characteristics of the Custom LAP.

27.6 State Estimator.

The State Estimator produces a power flow solution based upon the modeled representation of the electrical network and available Real-Time SCADA telemetry. When this solution is applied to the FNM, it provides a reference of system conditions for determining Dispatch Instructions. The State Estimator also provides a reference for Real-Time Load Distribution Factors used to distribute the Real-Time CAISO Forecast of CAISO Demand as well as provide a source of historical data for the LDF library. If the State

Estimator is not capable of providing CAISO with a solution to clear the CAISO Markets, the CAISO shall use the last best State Estimator solution for determining Dispatch Instructions, provided the State Estimator is not unavailable for an extended period. If the State Estimator is not available for an extended period of time, the CAISO shall use the Load Distribution Factors from the Load Distribution Factors library as applicable to the prevailing system and time of use conditions to determine Dispatch Instructions.

27.7 Constrained Output Generators.

27.7.1 Start-Up and Minimum Load Costs and Energy Bids of Constrained Output Generators.

COGs will be eligible to set LMPs in the IFM based on their Energy Bids, as set out in this Section 27.7.1. Before each calendar year, the COG must elect one of the methods described in Section 27.7.1.1 for specifying its Start-Up Costs and Minimum Load Costs, and must elect one of the methods described in Sections 27.7.1.2 and 27.7.1.3 for determining its Energy Bids.

27.7.1.1 Start-Up and Minimum Load Cost Options.

A COG may elect to recover Start-Up Costs and Minimum Load Costs through a cost-based option based on heat rate and fuel costs. Fuel costs are adjustable by the CAISO on a daily basis for gas fired resources, or are registered non-adjustable costs for other resources. Alternatively, a COG may elect to register in the Master File a six-month value of its own choosing that does not need to be cost-based and will not be adjusted for fuel cost changes.

27.7.1.2 Energy Bids Calculated from Start-Up and Minimum Load Costs.

Under both options for specifying Start-Up Costs and Minimum Load Costs described in Section 27.7.1.1, a COG's Energy Bid will be determined by dividing its Minimum Load Cost by the MW quantity of its PMin. Based on the assumption that its PMin equals its PMax, it will be eligible to set the LMP in the IFM and the RTD based on this Energy Bid.

27.7.1.3 Eligibility to Submit Market-Based Energy Bids by Waiving COG Status.

For the purposes of specifying an Energy Bid that is not based on its Minimum Load Cost, a COG may elect to be modeled with different PMin and PMax values if the physical characteristics of the resource support such differences. Under this election the COG's PMin must be greater than or equal to its PMax minus the maximum of three (3) MW or five percent (5%) of its PMax. Under this option, if the resource is capable of being dispatched at an operating point other than zero (0) or its PMax, the resource does not meet the definition of COG and the resource is treated in the CAISO Markets Processes like any other resource. Such a resource may submit a market Energy Bid for the MW difference between its PMin and PMax, and if scheduled or issued a CAISO Schedule or Dispatch Instruction in this range it would be subject to Local Market Power Mitigation, eligible to set the LMP and would receive any appropriate BCR like any other resource.

27.7.2 Constrained Output Generators in the IFM.

In the IFM, COGs that elect the option described in Section 27.7.1.2 are modeled as though they are not constrained and can operate flexibly between zero and their PMax, which equals their PMin. Such a COG is eligible to set IFM LMPs in any Settlement Period in which a portion of its output is needed as a flexible resource to serve Demand. Such a COG is not eligible for recovery of Minimum Load Costs or BCR in the IFM due to the conversion of its Minimum Load Cost to an Energy Bid and its treatment by the IFM as a flexible resource. Such a COG is eligible for Start-Up Cost recovery based on its Commitment Period as determined in the RUC, HASP, STUC or RTUC. COGs that elect the option described in Section 27.7.1.3 are treated in the IFM like other resources having Energy Bids for a flexible Dispatch range above their Minimum Load.

27.7.3 Constrained Output Generators in RUC.

In RUC, any COG that elects the option described in Section 27.7.1.2 and is offered in the IFM but not scheduled in the IFM is treated as constrained, so that the entire capacity of the COG is scheduled in RUC and not a portion thereof. Because PMin and PMax are equal for such a COG, and RUC Awards apply to scheduled capacity in RUC in excess of the higher of: (a) the relevant Day-Ahead Schedule; or

(b) the relevant Minimum Load, such a COG is not eligible to receive a RUC Award. COGs that elect the option described in Section 27.7.1.3 are treated in the RUC like other resources having Energy Bids for a flexible Dispatch range above their Minimum Load and may be eligible to receive a RUC Award in accordance with Section 31.5.

27.7.4 Constrained Output Generators in the Real-Time Market.

A COG that can be started up and complete its Minimum Run Time within a five-hour period can be committed by the STUC. A COG that can be started up within the Time Horizon of a RTUC run, which varies from 60 to 105 minutes, can be committed by the RTUC. If the resource elects the method described in Section 27.7.1.2 for determining its Energy Bid, no Energy Bid Curve can be submitted for the resource. In this case, in the RTD the CAISO will dispatch a COG up to its PMax or down to zero (0) to ensure a feasible Real-Time Dispatch. The COG is eligible to set the RTM LMP in any Dispatch Interval in which a portion of its output is needed to serve Demand, not taking into consideration its Minimum Run Time constraint. For the purpose of making this determination and setting the RTM LMP, the CAISO treats a COG as if it were flexible with an infinite Ramp Rate between zero (0) and its PMax, and uses the COG's Energy Bid as determined in Section 27.7.1.2. In any Dispatch Interval where none of the output of a COG is needed as a flexible resource to serve Demand, the CAISO shall not dispatch the unit. In circumstances in which the output of the COG is not needed as a flexible resource to serve Demand, but the unit nonetheless is online as a result of a previous commitment or Dispatch Instruction by the CAISO, the COG is eligible for Minimum Load Cost compensation. If the resource elects the method described in Section 27.7.1.3 for determining its Energy Bid, the RTM will treat it like any other resource that is flexible over a non-zero operating range.

28 INTER-SC TRADES

28.1 INTER-SC TRADES OF ENERGY

28.1.1 Purpose.

Scheduling Coordinators submit Inter-SC Trades of Energy consistent with the provisions in this Section 28.

28.1.2 Availability of Inter-SC Trades of Energy.

The CAISO allows Inter-SC Trades of Energy at individual PNodes of Generating Units within the CAISO Balancing Authority Area and at Aggregated Pricing Nodes. The CAISO does not allow Inter-SC Trades of Energy at Scheduling Points. The CAISO allows submission of Inter-SC Trades of Energy in the DAM and the HASP. Inter-SC Trades of Energy submitted for the DAM are settled at the applicable Aggregated Pricing Nodes or PNodes for Generating Units. Inter-SC Trades of Energy submitted in the HASP are settled hourly based on the simple average of the Dispatch Interval LMPs at the applicable Aggregated Pricing Nodes or PNodes of Generating Units in those hours.

28.1.3 Submission of Inter-SC Trades of Energy.

A Scheduling Coordinator may submit Inter-SC Trades of Energy that it intends to have settled based on DAM LMPs at any time during the Day-Ahead Inter-SC Trade Period and may submit Inter-SC Trades of Energy for a particular hour that it intends to have settled based on the simple average of the Dispatch Interval LMPs during that hour at any time during the HASP Inter-SC Trade Period.

28.1.4 Information Requirements.

An Inter-SC Trade of Energy must consist of trades from both Scheduling Coordinators and contain the following information: (i) the Scheduling Coordinator ID Code (SCID) of the Scheduling Coordinator from which the Energy is traded; (ii) the SCID of the Scheduling Coordinator to which the Energy is traded; (iii) the location of the Energy trade; (iv) the CAISO Market the trade is to be settled in; (v) the time period over which the bilateral Energy trade will take place, including the start-date and Trading Hour and the end-date and Trading Hour; and (vi) the quantity (MWh) of the Energy traded.

28.1.5 General Validation Rules for Inter-SC Trades.

For all Inter-SC Trades of Energy the CAISO shall verify that the Scheduling Coordinators for the Inter-SC Trade of Energy mutually agree on the quantity, location, time period, and CAISO Market LMPs (DAM LMP or Dispatch Interval LMP) for settling the Inter-SC Trade of Energy. Any individual Inter-SC Trade of Energy that is deemed invalid by the CAISO due to inconsistencies between the trading Scheduling Coordinators on these terms will be rejected. The CAISO will notify trading Scheduling Coordinators within a reasonable time if their Inter-SC Trades of Energy fail these general validation rules as described in the Business Practice Manuals.

28.1.6 Validation Procedures for Physical Trades.

All Inter-SC Trades at PNodes will be subject to validation procedures as specified in this Section. Physical Trades can occur at any individual Generating Unit's PNode provided the Physical Trade satisfies the CAISO's Physical Trades validation procedures described herein. The Scheduling Coordinators must demonstrate that the trade is supported (directly or through an Inter-SC Trade of Energy with another Scheduling Coordinator) by a Day-Ahead Schedule for a Generating Unit at the same location for the Inter-SC Trade of Energy at a level greater than or equal to the amount of the Inter-SC Trade of Energy. The CAISO's validation procedures for Physical Trades include three components: (1) Physical Trade submittal screening, (2) Physical Trade pre-market validation, and (3) Physical Trade post-market confirmation.

28.1.6.1 Physical Trade Submittal Screening.

The CAISO's Physical Trade validation procedures begin upon initial submission of a Physical Trade to the CAISO. The first stage of that process, Physical Trade submittal screening, validates that the submitted Physical Trade does not exceed the PMax of the identified Generating Unit. The CAISO will reject Physical Trades that exceed the PMax and notify the responsible Scheduling Coordinators.

28.1.6.2 Physical Trade Pre-Market Validation.

The purpose of the pre-market validation is to determine whether the total MWh quantity of all submitted Physical Trades at a PNode of an individual Generating Unit exceeds the Generating Unit's Energy Bid MWh. Pre-market validation is performed on all Physical Trades that pass the submittal screening set forth in Section 28.1.6.1. Scheduling Coordinators are notified within a reasonable time of their Physical Trades status as the CAISO conducts the pre-market validation to indicate, at a minimum, whether the Physical Trade is currently "valid" or "invalid." These Physical Trade notices are preliminary and subject to change until the final pre-market validation at the close of the HASP Inter-SC Trade Period. A Physical Trade with a "valid" status may be rendered "invalid" due to the actions of the Scheduling Coordinators to that Physical Trade or by other trading activities that are linked to the Generating Unit identified for the relevant Physical Trade whenever the quantities specified in the relevant Inter-SC Trades cannot be supported by the underlying Generating Unit's Bid. Scheduling Coordinators can use these status notices to make modifications to complete or correct invalid Physical Trades. The CAISO performs a final pre-market validation at the close of the HASP Inter-SC Trade Period. Physical Trades that are individually valid are concatenated (daisy chained) with other supporting Physical Trades at the same PNode of the Generating Unit. Once that concatenation is complete, the CAISO will determine whether the concatenated Physical Trades are physically supported by either another Inter-SC Trade of Energy at that same location or the Bid submitted in the relevant CAISO Market for the Generating Unit identified for that Physical Trade, individually and in the aggregate. If a Physical Trade is not adequately physically supported, the quantities in the Physical Trades of that Scheduling Coordinator and its downstream trading counter-parties are reduced on a pro-rata basis until those Physical Trades are valid. In performing physical pre-market validation of Inter-SC Trades of Energy in HASP, the CAISO also

considers final Inter-SC Trades of Energy for the DAM in determining whether the HASP Physical Trades are physically supported individually or in the aggregate. Specifically, the CAISO determines whether the Generating Unit's submitted Bid in HASP is greater than or equal to the sum of: (1) final Day-Ahead Inter-SC Trades of Energy at that location and (2) the additional Inter-SC Trades of Energy for the HASP at that location. If the amounts are greater than the Generating Unit's submitted Bids in HASP, the CAISO will adjust down on a prorated basis the HASP Physical Trades. Final Day-Ahead Physical Trades are not adjusted in the HASP pre-market validation. The CAISO does not perform any Settlement on Physical Trade quantities (MWh) that are curtailed during Physical Trade pre-market validation.

28.1.6.3 Physical Trade Post-Market Confirmation.

The CAISO conducts post-market confirmation of Physical Trades that pass pre-market validation in Section 28.1.6.2 after the Market Clearing and the market results are posted to ensure that the Generating Unit has a Schedule that can support all of the Physical Trades. During the post-market confirmation process, the MWh quantity of Physical Trades that passed the CAISO's pre-market validation process may be reduced if the Generating Unit supporting the Physical Trades has a Schedule that is below the quantity of Physical Trades at that Location. The MWh quantities of Physical Trades that are reduced during the post-market confirmation process are settled at the Existing Zone Generation Trading Hub price for the Existing Zone associated with the Generating Unit identified in the Inter-SC Trade of Energy. The portion of Physical Trades that remains intact will be settled at the LMP for the identified PNode for the Generating Unit.

28.1.6.4 Inter-SC Trades of Energy at Aggregated Pricing Nodes.

Inter-SC Trades of Energy at Aggregated Pricing Nodes that are also defined Trading Hubs or Default LAPs are subject to the general validation procedures in Section 28.1.5 but are not subject to the three-stage physical validation procedures for Physical Trades described in Section 28.1.6 above.

28.2 Inter-SC Trades Of Ancillary Services.

Inter-SC Trades of Ancillary Services enable a Scheduling Coordinator to transfer any fixed quantity of Ancillary Services (MW) to another Scheduling Coordinator. An Inter-SC Trade of AS shall consist of a quantity in MWs traded between two Scheduling Coordinators for a specific hour and for a specific Ancillary Service type. The Inter-SC Trade of AS is a financial trade. The CAISO shall charge and pay the two parties of the trade based on the quantity (MW) of the Ancillary Service Obligation traded times the user rate for the Ancillary Service trades for the Trading Hour. Scheduling Coordinators may submit Inter-SC Trades of Ancillary Services for Regulation Up, Regulation Down, Spinning and Non-Spinning Reserves.

28.2.1 Information Requirements.

An Inter-SC Trade of Ancillary Services shall contain the following information: (i) the Scheduling Coordinator ID Code (SCID) for the Scheduling Coordinator from whom the MW amounts of Ancillary Service is traded; (ii) the SCID for the Scheduling Coordinator to whom the MW amounts of AS is traded; (iii) the type of AS being traded; (iv) the time period over which the trade will take place, including the start-date and time and the end-date and time; and the (v) quantity (MW) of the AS to be traded.

28.2.2 Validation.

The CAISO's validation of Inter-SC Trades of AS will begin upon submission of an Inter-SC Trade of AS. The CAISO shall conduct a final validation for Inter-SC Trades of AS at the end of the HASP Inter-SC Trade Period. The CAISO will validate each submitted Inter-SC Trade of AS to verify that the contents of the submission match the submittal by the counter-party Scheduling Coordinator by type (Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve), quantity (MW), and time period. The CAISO will inform the submitting Scheduling Coordinators regarding the validity of a submitted trade of an AS and will allow the Scheduling Coordinator to resubmit the entire Inter-SC Trade of AS if it is not accepted. If only one of the two Scheduling Coordinators successfully submits an Inter-SC Trade of AS,

the CAISO will notify both Scheduling Coordinators that the Inter-SC Trade of AS for the specific hour does not match the corresponding Inter-SC Trade of AS. If both Scheduling Coordinators successfully submit the Inter-SC Trade of AS, the CAISO will notify the Scheduling Coordinators that their Inter-SC Trade of AS for the specific hour has been accepted. An Inter-SC Trade of Ancillary Services submitted at a later time, but before the deadline for the submission of the trade for the Trading Hour, renders a previously submitted Inter-SC Trade of AS invalid if it applies to the same hour, same type of AS, and the same Scheduling Coordinators to whom and from whom the AS is traded.

28.2.3 Submission of Inter-SC Trades of Ancillary Services.

Scheduling Coordinators may submit Inter-SC Trades of Ancillary Services at any time during the HASP Inter-SC Trade Period.

28.3 Inter-SC Trades Of IFM Load Uplift Obligation.

Scheduling Coordinators may submit system-wide Inter-SC Trades of IFM Load Uplift Obligations from within the CAISO Balancing Authority Area. Inter-SC Trades of IFM Load Uplift Obligations enable a Scheduling Coordinator to transfer any amount of net IFM Load Uplift Obligation (MW) to another Scheduling Coordinator. An Inter-SC Trade of IFM Load Uplift Obligation shall consist of a quantity in MWs traded between two Scheduling Coordinators for a specific Trading Hour of the IFM.

28.3.1 Information Requirements.

An Inter-SC Trade of IFM Load Uplift Obligation shall contain the following information: (i) the Scheduling Coordinator identification for the Scheduling Coordinator from whom the MW amounts of IFM Load Uplift Obligation is traded; (ii) the Scheduling Coordinator identification for the Scheduling Coordinator to whom the MW amounts of IFM Load Uplift Obligation is traded; (iii) the applicable Location of the Inter-SC Trade of IFM Load Uplift Obligation; (iv) the time period over which the trade will take place, including the start-date and time and the end-date and time; and (v) the quantity (MW) of the IFM Load Uplift Obligation to be traded.

28.3.2 Validation.

The CAISO's validation of Inter-SC Trades of IFM Load Uplift Obligations will begin upon submission of an Inter-SC Trade of IFM Load Uplift Obligation. The CAISO shall conduct a final validation for Inter-SC Trades of IFM Load Uplift Obligations at the end of the HASP Inter-SC Trade Period. The CAISO will validate each submitted Inter-SC Trade of IFM Load Uplift Obligation to verify that the contents of the submission match the submittal by the counter-party Scheduling Coordinator in terms of quantity (MW), and time period. The CAISO will inform the submitting Scheduling Coordinators regarding the validity of a submitted Inter-SC Trade of IFM Load Uplift Obligation and will allow the Scheduling Coordinator to resubmit the entire Inter-SC Trade of IFM Load Uplift Obligation if it is not accepted. If only one of the two Scheduling Coordinators successfully submits an Inter-SC Trade of IFM Load Uplift Obligation, the CAISO will notify both Scheduling Coordinators that the Inter-SC Trade of IFM Load Uplift Obligation for the specific hour does not match the corresponding Inter-SC Trade of IFM Load Uplift Obligation. If both Scheduling Coordinators successfully submit the Inter-SC Trade of IFM Load Uplift Obligation, the CAISO will notify the Scheduling Coordinators that their Inter-SC Trade of IFM Load Uplift Obligations for the specific hour has been accepted. The CAISO will verify that an Inter-SC Trade of IFM Load Uplift Obligation is between different Scheduling Coordinators that are authorized to participate in the CAISO Markets during the time period covered by the trade and that the Trading Hour and the quantity of the trade must be greater than or equal to zero. An Inter-SC Trade of IFM Load Uplift Obligation submitted at a later time renders a previously submitted Inter-SC Trade of IFM Load Uplift Obligation invalid if it applies to the same hour and the same Scheduling Coordinators to whom and from whom the net IFM Load Uplift Obligation is traded.

28.3.3 Submission of Inter-SC Trades of IFM Load Uplift Obligation.

Scheduling Coordinators may submit Inter-SC Trades of IFM Load Uplift Obligations at any time during the HASP Inter-SC Trade Period.

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[NOT USED]

[Ten Sheet Numbers Reserved for Future Filings]

30. BIDS, INCLUDING SELF-SCHEDULES, SUBMISSION FOR ALL CAISO MARKETS

30.1 Bids, Including Self-Schedules.

Scheduling Coordinators shall submit Bids to participate in the CAISO Markets, as well as any Self-Schedules, ETC Self-Schedules, TOR Self-Schedules, or Self-Provided Ancillary Services. Bidding rules for each type of resource are contained in this Section 30 and additional specifications regarding bidding practices are contained in the Business Practice Manuals posted on the CAISO Website. Bids will consist of various components described in this Section 30 through which the Scheduling Coordinator provides information regarding the parameters and conditions pursuant to which the Bid may be optimized by the CAISO Markets.

30.1.1 Day-Ahead Market.

Bids submitted in the DAM apply to the twenty-four (24) hours of the next Trading Day (23 or 25 hours on the Daylight Savings transition days) and are used in both the IFM and RUC. Bids for the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve service in the Day-Ahead Market must be received by Market Close for the Day-Ahead Market. The Bids shall include information for each of the twenty-four (24) Settlement Periods of the Trading Day. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO. Scheduling Coordinators may submit Bids for the DAM as early as seven (7) days ahead of the targeted Trading Day.

30.1.2 HASP and Real-Time Market.

Bids submitted in the HASP apply to a single Trading Hour and are used in the HASP and the RTM. The CAISO will require Scheduling Coordinators to honor their Day-Ahead Ancillary Services Awards when submitting Ancillary Services Bids in the HASP. Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve service for each Settlement Period must be received at least seventy-five minutes prior to the commencement of that Settlement Period. The Bids shall include information for only the relevant Settlement Period. Failure to provide the information within the stated time frame shall result in the Bids being declared invalid by the CAISO.

30.2 Bid Types.

There are three types of Bids: Energy Bids, Ancillary Services Bids, and RUC Availability Bids. Each Bid type can be submitted as either an Economic Bid or a Self-Schedule (except for RUC Availability Bids, which cannot be self-scheduled). Economic Bids specify prices for MW amounts of capacity or MWh amounts of Energy. Self-Schedules do not have any prices associated for MW or MWh. Energy Bids, including both Economic Bids and Self-Schedules, may be either Supply Bids or Demand Bids. Ancillary Services Bids and RUC Availability Bids are Supply Bids only. Ancillary Services may be self-provided by providing a Submission to Self-Provide an Ancillary Service and having that submission accepted by the CAISO. Rules for submitting the three types of Bids vary by the type of resource to which the Bid applies as described in Section 30.5 and as further required in each CAISO Markets process as specified in Sections 31, 33, and 34.

30.3 [NOT USED]

30.4 Election for Start-Up Costs and Minimum Load Costs.

Scheduling Coordinators for Generating Units and Resource-Specific System Resources may elect on a semi-annual basis either of the two options provided below (the Proxy Cost option or the Registered Cost option) for specifying their Start-Up Costs and Minimum Load Costs to be used for those resources in the CAISO Markets Processes. Unless the Scheduling Coordinator has registered Start-Up Costs and Minimum Load Costs in the Master File in accordance with the Registered Cost option, the CAISO will assume the Proxy Cost option as the default option.

- (1) Proxy Cost Option. For natural gas fired resources, the Proxy Cost option uses fuel-cost adjusted formulas for Start-Up Costs and Minimum Load Costs based on the resource's actual unit-specific performance parameters. The Start-Up Costs and Minimum Load Costs values utilized in the CAISO Markets Processes will be these formulaic values adjusted for fuel-cost variation on a daily basis as calculated pursuant to a Business Practice Manual. For all other resources, this

option shall be based on the relevant cost information of the particular resource, which will be provided to the CAISO by the Scheduling Coordinator and maintained in the Master File. In the event that the Scheduling Coordinator for a unit does not provide sufficient data for the CAISO to determine the unit's Proxy Costs, the CAISO will assume that the unit's Start-Up Costs and Minimum Load Costs are zero.

- (2) Registered Cost Option. Under the Registered Cost option, the Scheduling Coordinator may register values of its choosing for Start-Up Costs and Minimum Load Costs in the Master File subject to the maximum limit specified in Section 39.6.1.6. For a resource to be eligible for the Registered Cost option there must be sufficient information in the Master File to calculate the Proxy Cost option. The Start-Up Cost and Minimum Load Cost values utilized in the CAISO Markets Processes will be these pre-specified values and will be fixed for six months in the Master File unless the resource's costs, as calculated pursuant to the Proxy Cost option, exceed the Registered Cost option, in which case the Scheduling Coordinator may elect to switch to the Proxy Cost option for the balance of the six-month period.

30.5 Bidding Rules.

30.5.1 General Bidding Rules.

- (a) All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the DAM for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day, but no sooner than 7 days prior to the Trading Day. All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the HASP for the following Trading Day shall be

submitted starting from the time of publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day, and ending seventy-five (75) minutes prior to each applicable Trading Hour in the RTM. The CAISO will not accept any Energy or Ancillary Services Bids for the following Trading Day between 10:00 a.m. on the day preceding the Trading Day and the publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day;

- (b) Bid prices submitted by Scheduling Coordinator for Energy accepted and cleared in the IFM and scheduled in the Day-Ahead Schedule cannot be decreased. Bid prices for Energy submitted but not scheduled in the Day-Ahead Schedule may be increased or decreased in the HASP. Incremental Bid prices for Energy associated with Day-Ahead AS or RUC Awards in Bids submitted to the HASP may be revised. Scheduling Coordinators may revise ETC Self-Schedules for Supply only in the HASP to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Participating TO in accordance with Section 16. Scheduling Coordinators may revise TOR Self-Schedules for Supply only in the HASP to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Non-Participating TO in accordance with Section 17. Energy associated with awarded Ancillary Services capacity cannot be offered in the HASP or Real-Time Market separate and apart from the awarded Ancillary Services capacity;
- (c) Scheduling Coordinators may submit Energy, AS and RUC Bids in the DAM that are different for each Trading Hour of the Trading Day;

- (d) Bids for Energy or capacity that are submitted to one CAISO Market, but are not accepted in that market are no longer a binding commitment and Scheduling Coordinators may submit Bids in a subsequent CAISO Market at a different price; and
- (e) The CAISO shall be entitled to take all reasonable measures to verify that Scheduling Coordinators meet the technical and financial criteria set forth in Section 4.5.1 and the accuracy of information submitted to the CAISO pursuant to this Section 30.

30.5.2 Supply Bids.

30.5.2.1 Common Elements for Supply Bids.

In addition to the resource-specific Bid requirements of this Section, all Supply Bids must contain the following components: Scheduling Coordinator ID Code; Resource ID; Resource Location; PNode or Aggregated Pricing Node as applicable; Energy Bid Curve; Self-Schedule component; Ancillary Services Bid; RUC Availability Bid; the Market to which the Bid applies; Trading Day to which the Bid applies; Priority Type (if any). Supply Bids offered in the CAISO Markets must be monotonically increasing. Energy Bids in the RTM must also contain a Bid for Ancillary Services to the extent the resource is certified and capable of providing Ancillary Service in the RTM up to the registered certified capacity for that Ancillary Service less any Day-Ahead Ancillary Services Awards.

30.5.2.2 Supply Bids for Participating Generators.

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for Participating Generators shall contain the following components: Start-Up Bid, Minimum Load Bid, Ramp Rate, Minimum and Maximum Operating Limits; Energy Limit, Regulatory Must-Take/Must-Run Generation; Contingency Flag; and Contract Reference Number (if any). Supply Bids for Physical Scheduling Plants and System

Units must include the Generation Distribution Factors. If the Scheduling Coordinator has not submitted the Generation Distribution Factors applicable for the Bid, the CAISO will use default Generation Distribution Factors. All Generation Distribution Factors used by the CAISO will be normalized based on Outage data that is available to the automated market systems. Combined-cycle Generating Units may only be registered under a single Resource ID.

30.5.2.3 Supply Bids for Participating Loads, Including Pumped-Storage Hydro Units and Aggregated Participating Loads.

In addition to the common elements listed in Section 30.5.2.1, Scheduling Coordinators submitting Supply Bids for Participating Loads, which includes Pumping Load or Pumped-Storage Hydro Units, may include the following components: Pumping Load (MW), Minimum Load Bid (Generation mode only of a Pumped-Storage Hydro Unit), Load Distribution Factor, Ramp Rate, Energy Limit (Generation mode only of a Pumped-Storage Hydro Unit), Pumping Cost, and Pump Shut-Down Costs. If no values for Pumping Cost or Pump Shut-Down Costs are submitted, the CAISO will generate these Bid components based on values in the Master File. Scheduling Coordinators may only submit Supply Bids for Aggregated Participating Loads by using a Generating Unit or Physical Scheduling Plant Resource ID for the Demand reduction capacity represented by the Aggregated Participating Load as set forth in a Business Practice Manual. The CAISO will use Generation Distribution Factors provided by the Scheduling Coordinator for the Aggregated Participating Load.

30.5.2.4 Supply Bids for System Resources.

In addition to the common elements listed in Section 30.5.2.1, Supply Bids for System Resources shall also contain: the relevant Ramp Rate; Start-Up Costs; and Minimum Load Costs. Resource-Specific System Resources may elect the Proxy Cost option or Registered Cost option for Start-Up Costs and Minimum Load Costs as provided in Section 30.4. Other System Resources are not eligible to recover Start-Up Costs and Minimum Load Costs. Resource-Specific System Resources are eligible to

participate in the Day-Ahead Market on an equivalent basis as Generating Units and are not obligated to participate in RUC or the RTM if the resource did not receive a Day-Ahead Schedule unless the resource is a Resource Adequacy Resource. If the Resource-Specific System Resource is a Resource Adequacy Resource, the Scheduling Coordinator for the resource is obligated to make it available to the CAISO Market as prescribed by Section 40.6. Dynamic Resource-Specific System Resources are also eligible to participate in the HASP and RTM on an equivalent basis as Generating Units. Non-Dynamic Resource-Specific System Resources will be treated like other System Resources in the HASP and RTM. The quantity (in MWh) of Energy categorized as Interruptible Imports (non-firm imports) can only be submitted through Self-Schedules in the Day-Ahead Market and cannot be incrementally increased in the HASP or RTM. Bids submitted to the Day-Ahead Market for ELS Resources will be applicable for two days after they have been submitted and cannot be changed the day after they have been submitted.

30.5.2.4.1 Intertie Block Bids.

Intertie Block Bids must contain the same energy Bid price for all hours of the period for which the Intertie Block Bid is submitted. Intertie Block Bids may only be submitted in the DAM.

30.5.2.5 Supply Bids for Metered Subsystems.

Consistent with the bidding rules specified in this Section 30.5, Scheduling Coordinators that represent MSS Operators may submit Bids for Energy and Ancillary Services, including Self-Schedules and Submissions to Self-Provide an Ancillary Service, to the DAM. All Bids to supply Energy by MSS Operators must identify each Generating Unit on an individual unit basis. The CAISO will not accept aggregated Generation Bids without complying with the requirements of Section 4.9.12 of the CAISO Tariff. All Scheduling Coordinators that represent MSS Operators must submit Demand Bids at the relevant MSS LAP. Scheduling Coordinators that represent MSS Operators must comply with Section 4.9 of the CAISO Tariff. Scheduling Coordinators that represent MSS Operators that have opted out of RUC participation pursuant to Section 31.5 must Self-Schedule one hundred percent (100%) of the Demand

Forecast for the MSS. For an MSS that elects Load following, the MSS Operator shall also self-schedule or bid Supply to match the Demand Forecast. All Bids for MSSs must identify each Generating Unit on an individual unit basis or a System Unit. For an MSS that elects Load following consistent with Section 4.9.13.2, the Scheduling Coordinator for the MSS Operator must include the following additional information with its Bids: the Generating Unit(s) that are Load following; the range of the Generating Unit(s) being reserved for Load following; whether the quantity of Load following capacity is either up or down; and, if there are multiple Generating Units in the MSS, the priority list or distribution factors among the Generating Units. The CAISO will not dispatch the resource within the range declared as Load following capacity, leaving that capacity entirely available for the MSS to dispatch. The CAISO uses this information in the IFM runs and the RUC to simulate MSS Load following. The Scheduling Coordinator for the MSS Operator may change these characteristics through the Bid submission process in the HASP. If the Load following resource is also an RMR Unit, the MSS Operator must not specify the Maximum Net Dependable Capacity specified in the RMR Contract as Load following up or down capacity to allow the CAISO to access such capacity for RMR Dispatch.

30.5.2.6 Ancillary Services Bids.

There are four distinct Ancillary Services: Regulation Up, Regulation Down, Spinning Reserve and Non-Spinning Reserve. Participating Generators are eligible to provide all Ancillary Services. Dynamic System Resources are eligible to provide Operating Reserves and Regulation. Non-Dynamic System Resources are eligible to provide Operating Reserves only. No System Resource, including Dynamic Resource-Specific System Resources and Non-Dynamic Resource-Specific System Resources, can be used for self-provision of Ancillary Services. All System Resources, including Dynamic Resource-Specific System Resources and Non-Dynamic Resource-Specific System Resources, will be charged the Shadow Price as prescribed in Section 11.10. Participating Loads are eligible to provide Non-Spinning Reserve only. A Scheduling Coordinator may submit Ancillary Services Bids for Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve for the same capacity by providing a separate price in

\$/MW per hour as desired for each Ancillary Service. The Bid for each Ancillary Services is a single Bid segment. Only resources certified by the CAISO as capable of providing Ancillary Services are eligible to provide Ancillary Services. In addition to the common elements listed in Section 30.5.2.1, all Ancillary Services Bid components of a Supply Bid must contain the following: (1) the type of Ancillary Service for which a Bid is being submitted; (2) Ramp Rate (Operating Reserve Ramp Rate and regulating Ramp Rate, if applicable); (3) Distribution Curve for Physical Scheduling Plant or System Unit; and (4) Maximum Operating Limit (MOLmax) and Minimum Operating Limit (MOLmin). An Ancillary Services Bid submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but is not required to be, accompanied by an Energy Bid that covers the capacity offered for the Ancillary Service. Submissions to Self-Provide an Ancillary Services submitted to the Day-Ahead Market when submitted to the Day-Ahead Market may be, but are not required to be, accompanied by an Energy Bid that covers the capacity to be self-provided; provided, however, that such an Energy Bid shall be submitted prior to the close of the Real-Time Market for the day immediately following the Day-Ahead Market in which the Ancillary Service Bid was submitted if the Submission to Self-Provide an Ancillary Service is qualified as specified in Section 8.6. Submissions to Self-Provide an Ancillary Services submitted in the Day-Ahead Market must be accompanied by a Self-Schedule. When submitting Ancillary Service Bids in the Real-Time, Scheduling Coordinators for resources that either have been awarded or self-provide Spinning Reserve or Non-Spinning Reserve capacity in the Day-Ahead Market must submit an Energy Bid for at least the awarded or self-provided Spinning Reserve or Non-Spinning Reserve capacity, otherwise the CAISO will apply the Bid validation rules described in Section 30.9. As provided in Section 30.5.2.6.4, a Submission to Self-Provide an Ancillary Service shall contain all of the requirements of a Bid for Ancillary Services with the exception of Ancillary Service Bid price information. In addition, Scheduling Coordinators must comply with the Ancillary Services requirements of Section 8.5.

30.5.2.6.1 Regulation Up or Regulation Down Bid Information.

In the case of Regulation Up or Regulation Down, the Ancillary Services Bid must also contain: (a) the upward and downward range of generating capacity over which the resource is willing to provide Regulation within a range from a minimum of ten (10) minutes to a maximum of thirty (30) minutes; and (b) the Bid price of the capacity reservation, stated separately for Regulation Up and Regulation Down (\$/MW). In the case of Regulation Up or Regulation Down from Dynamic System Resources, the Ancillary Services Bid must also contain: (a) the Scheduling Point (the name), (b) Interchange ID code of the selling entity, (c) external Control Area ID, (d) Schedule ID (NERC ID number), and (e) the Contract Reference Number, if applicable. Ancillary Services Bids submitted to the Real-Time Market for Regulation need not be accompanied by an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

30.5.2.6.2 Spinning Reserve Capacity Bid Information.

In the case of Spinning Reserve capacity, the Ancillary Services Bid must also contain: (a) MW of additional capability synchronized to the system, immediately responsive to system frequency, and available within ten (10) minutes; (b) Bid price of capacity reservation, and (c) an indication whether the capacity reserved would be available to supply Imbalance Energy only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency (Contingency Flag). In the case of Spinning Reserve capacity from System Resources, the Ancillary Services Bid must also contain: (a) Interchange ID code of the selling entity, (b) Schedule ID (NERC ID number, and (c) a Contract Reference Number, if applicable. Ancillary Services Bids and Submissions to Self-Provide an Ancillary Services submitted to the Real-Time Market for Spinning Reserves must also submit an Energy Bid that covers the Ancillary Services capacity being offered into the Real-Time Market.

30.5.2.6.3 Non-Spinning Reserve Capacity.

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

30.5.2.6.4 Additional Rules For Self-Provided Ancillary Services.

Scheduling Coordinators electing to self-provide Ancillary Services shall supply the information referred to in this Section 30.5 in relation to each Ancillary Service to be self-provided, excluding the capacity price information, but including the name of the trading Scheduling Coordinator in the case of Inter-Scheduling Coordinator Ancillary Service Trades. The portion of the single Energy Bid that corresponds to the high end of the resource's operating range, shall be allocated to any awarded or Self-Provided Ancillary

Services in the following order from higher to lower capacity: (a) Regulation Up; (b) Spinning Reserve; and (c) Non-Spinning Reserve. For resources providing Regulation Up, the upper regulating limit shall be used if it is lower than the highest operating limit. The remaining portion of the Energy Bid (i.e. that portion not associated with capacity committed to provide Ancillary Services) shall constitute a Bid to provide Energy.

30.5.2.7 RUC Availability Bids.

Scheduling Coordinators may submit RUC Availability Bids for specific Generating Units in the DAM. Capacity that does not have Bids for Supply of Energy in the IFM will not be eligible to participate in the RUC process. The RUC Availability Bid component is MW-quantity of non-Resource Adequacy Capacity in \$/MW per hour, and \$0/MW for Resource Adequacy Capacity.

30.5.3 Demand Bids.

Each Scheduling Coordinator representing Demand, including Non-Participating Load and Aggregated Participating Load, shall submit Bids indicating the hourly quantity of Energy in MWh that it intends to purchase in the IFM for each Trading Hour of the Trading Day. Scheduling Coordinators must submit Demand Bids, including Self Schedules, for CAISO Demand at Load Aggregation Points except as provided in Section 30.5.3.2. Scheduling Coordinators must submit a zero RUC Availability Bid for the portion of their qualified Resource Adequacy Capacity. If submitting Self-Schedules at Scheduling Points for export in the IFM, the Scheduling Coordinator shall indicate whether or not the export is served from Generation from Resource Adequacy Capacity, and if submitting Self-Schedules at Scheduling Points for export in HASP the Scheduling Coordinator shall indicate whether or not the export is served from Generation from Resource Adequacy Capacity or RUC Capacity. The procedure for identifying the non-Resource Adequacy Capacity or non-RUC Capacity is specified in the Business Practice Manuals.

30.5.3.1 Demand Bids Components.

Demand Bids must have the following components: Scheduling Coordinator ID code; a Demand Bid curve that is a monotonically decreasing staircase function of no more than ten (10) segments defined by eleven (11) ordered pairs of MW and \$/MWh; Location Code for the LAP, Custom LAP or PNode, as applicable; and hourly scheduled MWh within the range of the Bid curve, including any zero values, for each Settlement Period of the Trading Day.

30.5.3.2 Exceptions to Requirement for Submission of Demand Bids and Settlement at the LAP.

The following are exceptions to the requirement that Demand Bids be submitted and settled at the LAP:

- (a) ETC or TOR Self-Schedules submitted consistent with the submitted TRTC Instructions;
- (b) Participating Load and Aggregated Participating Load Bids for Supply and Demand may be submitted and settled at a PNode or Custom LAP, as appropriate; and
- (c) Export Bids are submitted and settled at Scheduling Points, which do not constitute a LAP.

30.5.4 Wheeling Through Transactions.

A Wheeling Through transaction consists of an Export Bid and an Import Bid that includes: matching Self-Schedules or Economic Bids (i.e. the Export Bid and Import Bid pair must have matching MW quantities for each Trading Hour) and the same Wheeling reference (a unique identifier for each Wheeling Through transaction). If the Wheeling reference does not match at the time the relevant market closes, the Wheeling Through transaction will be treated as separate Export Bids and Import Bids, as appropriate. If the MW quantities of the Wheel Through transaction do not match at the time the relevant market closes, the Wheel Through transaction will be considered the minimum of the import and export MW quantities submitted.

30.6 [NOT USED]

30.7 Bid Validation.

The CAISO shall validate submitted Bids pursuant to the procedures set forth in this Section 30.7 and the rules set forth in the Business Practice Manuals.

30.7.1 Scheduling Coordinator Access.

Each Scheduling Coordinator will be provided access to the CAISO's secure communication system to submit, modify and cancel Bids prior to the close of both the DAM and HASP, as specified in Section 30.5.1. The CAISO shall provide information regarding submitted Bids including, but not be limited to, the following: (i) notification of acceptance; (ii) notification of validation; (iii) notification of rejection; (iv) notification of status; (v) notification of submission error(s); and (vi) default modification or generation of Bids as further provided below, if any, on behalf of Scheduling Coordinators.

30.7.2 Timing of CAISO Validation.

Once a Bid is submitted to the CAISO Markets, the Bid is available for validation, which is conducted in multiple steps. Clean Bids will be generated after Market Close.

30.7.3 DAM Validation.

30.7.3.1 Validation Prior to Market Close and Master File Update.

The CAISO conducts Bid validation in three steps:

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

Step 2: After the Bids are successfully validated for content, but prior to the Market Close of the DAM, the Bids will continue through the second level of validation rules to verify that the Bid adheres to the

applicable CAISO Market rules and if applicable, limits based on Master File data. If the Bid fails any level two validation rules, the CAISO shall assign the Bid as invalid and the Scheduling Coordinator must either correct or resubmit the Bid.

Step 3: If the Bid successfully passes validation in Step 2, it will continue through the third level of validation where the Bid will be analyzed based on its contents to identify any missing Bid components that must be either present for the Bid to be valid consistent with the market rules contained in Article III of this CAISO Tariff and as reflected in the Business Practice Manuals. At this stage the Bid will either be automatically modified for correctness and assigned a status of conditionally modified or modified, or if it can be accepted as is, the Bid will be assigned a status of conditionally valid, or valid. A Bid will be automatically modified and assigned a status of modified or conditionally modified Bid, whenever the CAISO inserts or modifies a Bid component. The CAISO will insert or modify a Bid component whenever (1) a Self-Schedule quantity is less than the lowest quantity specified as an Economic Bid for either an Energy Bid or Demand Bid, in which case the CAISO extends the Self-Schedule to cover the gap; (2) for non-Resource Adequacy Resources, the CAISO will extend the Energy Bid Curve using Proxy Costs to cover any capacity in a RUC Bid component, if necessary; and (3) for a Resource Adequacy Resource, the CAISO will extend the Energy Bid Curve using Proxy Costs to cover any capacity in a RUC Bid component and, if necessary, up to the full registered Resource Adequacy Capacity. The CAISO will generate a Proxy Bid or extend an Energy Bid or Self-Schedule to cover any RUC Award or Day-Ahead Schedule in the absence of any Self-Schedule or Economic Bid components, or to fill in any gaps between any Self-Schedule Bid and any Economic Bid components to cover a RUC Award or Day-Ahead Schedule. To the extent that an Energy Bid to the HASP/RTM is not accompanied by an Ancillary Services Bid, the CAISO will insert a Spinning Reserve and Non-Spinning Reserve Ancillary Services Bid at \$ 0/MW for any certified Operating Reserve capacity. The CAISO will also generate a Self-Schedule

Bid for any Generating Unit that has a Day-Ahead Schedule but has not submitted Bids in HASP/RTM, up to the quantity in the Day-Ahead Schedule. Throughout the Bid evaluation process, the Scheduling Coordinator shall have the ability to view the Bid and may choose to cancel the Bid, modify and re-submit the Bid, or leave the modified, conditionally modified or valid, conditionally valid Bid as is to be processed in the designated CAISO Market.

30.7.3.2 Master File Data Update.

Except as otherwise prescribed in this tariff, once a day the Master File data is updated with changes to the Master File that were submitted between at least five (5) and up to eleven (11) Business Days in advance, after which all conditional Bids must be re-validated prior to the trading period when the Bid will take effect. After this re-validation takes place, the status of all conditionally modified and conditionally valid Bids may be changed to modified or valid, if the Bid period is for the next relevant DAM.

30.7.3.3 Validation Prior to Market Close and After Master File Update.

Prior to the Market Close of the DAM, after the Master File data has been updated, all Bids must be re-validated using the same process as described in Section 30.7.3.1 to produce either valid Bids or modified Bids. Throughout this process the Scheduling Coordinator shall have the ability to view the Bid and may choose to re-submit (at which point the Bid would undergo the Bid validation process described in this Section 30.7 again), cancel, or modify the Bid. Valid or modified Bids that are not re-submitted or cancelled become Clean Bids after the Market Close of the DAM. Modified Bids for Resource Adequacy Resources will reflect the full capability of the resource as defined in the Master File.

30.7.3.4 Validation after Market Close.

To the extent that Scheduling Coordinators fail to enter a Bid for resource that is required to submit Bids in the full range of available capacity consistent with the Resource Adequacy provisions of Section 40, the CAISO will create a Bid for the Scheduling Coordinator, which is referred to as the Generated Bid. This does not apply to Load-following MSSs. The Generated Bid will be created only after the Market Close for the DAM and will be based on data registered in the Master File, and, if applicable, published natural gas pricing data. The Scheduling Coordinator may view Generated Bids, but may not modify such Bids. The CAISO will provide notice to the Scheduling Coordinator of the use of a Generated Bid prior to Market Clearing of the IFM. In addition validation of export priority pursuant to Sections 31.4 and 34.10.1 and Wheeling Through transactions pursuant to Section 30.5.4 occur after the Market Close for the DAM.

30.7.4 HASP and RTM Validation.

The HASP and RTM Bids will include the same validation process implemented in the DAM except that the CAISO will not validate the Bid before and again after the Master File Data update. HASP and RTM Bids are only validated based on the current Master File Data on the relevant Trading Day.

30.7.5 Validation of ETC Self-Schedules.

ETC Self-Schedules shall be validated pursuant to the procedures set forth in Section 16.6.

30.7.6 Validation and Treatment of Ancillary Services Bids.

30.7.6.1 Validation of Ancillary Services Bids.

Throughout the validation process described in Section 30.7, the CAISO will verify that each Ancillary Services Bid conforms to the content, format and syntax specified for the relevant Ancillary Service. If the Ancillary Services Bid does not so conform, the CAISO will send a notification to the Scheduling Coordinator notifying the Scheduling Coordinator of the errors in the Bids as described in Section 30.7. When the Bids are submitted, a technical validation will be performed to verify that the bid quantity of Regulation, Spinning Reserve, or Non-Spinning Reserve does not exceed the certified Ancillary Services

capacity for Regulation, or Operating Reserves on the Generating Units, System Units, Participating Loads and external imports/exports bid. The Scheduling Coordinator will be notified within a reasonable time of any validation errors. For each error detected, an error message will be generated by the CAISO in the Scheduling Coordinator's notification screen, which will specify the nature of the error. The Scheduling Coordinator can then look at the notification messages to review the detailed list of errors, make changes, and resubmit if it is still within the CAISO's timing requirements. The Scheduling Coordinator is also notified of successful validation. If a resource is awarded or has qualified Self-Provided Ancillary Services in the Day-Ahead Market, if no Energy Bid is submitted to cover the awarded or Self-Provided Ancillary Services by the Market Close of HASP and the RTM, the CAISO will generate or extend an Energy Bid as necessary to cover the awarded or Self-Provided Ancillary Services capacity using the registered values in the Master File and relevant fuel prices as described in the Business Practice Manuals for use in the HASP and IFM. If an AS Bid or Submission to Self-Provide an AS is submitted in the Real-Time for Spinning Reserve or Non-Spinning Reserve without an accompanying Energy Bid at all, the AS Bid or Submission to Self-Provide an Ancillary Service will be erased. If an AS Bid or Submission to Self-Provide an AS is submitted in the Real-Time Market for Spinning Reserve and Non-Spinning Reserve with only a partial Energy Bid for the AS capacity, the CAISO will generate an Energy Bid for the uncovered portions. For Generating Units with certified Regulation capacity, if there no Bid for Regulation in the Real-Time Market, but there is a Day-Ahead award for Regulation Up or Regulation Down or a submission to self-provide Regulation Up or Regulation Down, respectively, the CAISO will generate a Regulation Up or Regulation Down Bid at the default Ancillary Service Bid price of \$0 up to the certified Regulation capacity for the Generating Unit minus any Regulation awarded or self-provided in the Day-Ahead. If there is a Bid for Regulation Up or Regulation Down in the Real-Time Market, the CAISO will increase the respective Bid up to the certified Regulation capacity for the Generating Unit minus any Regulation awarded or self-provided in the Day-Ahead.

30.7.6.2 Treatment of Ancillary Services Bids.

When Scheduling Coordinators bid into the Regulation Up, Regulation Down, Spinning Reserve, and Non-Spinning Reserve markets, they may submit Bids for the same capacity into as many of these markets as desired at the same time by providing the appropriate Bid information to the CAISO. The CAISO optimization will evaluate AS Bids simultaneously with Energy Bids. A Scheduling Coordinator may specify that its Bid applies only the markets it desires. A Scheduling Coordinator shall also have the ability to specify different capacity prices for the Spinning Reserve, Non-Spinning Reserve, and Regulation markets. A Scheduling Coordinator providing one or more Regulation Up, Regulation Down, Spinning Reserve or Non-Spinning Reserve services may not change the identification of the Generating Units offered in the Day-Ahead Market, HASP or in the Real-Time Market for such services unless specifically approved by the CAISO (except with respect to System Units, if any, in which case Scheduling Coordinators are required to identify and disclose the resource specific information for all Generating Units and Participating Loads constituting the System Unit for which Bids and Submissions to Self-Provide Ancillary Services are submitted into the CAISO's Day-Ahead Market, HASP and Real-Time Market.

The following principles will apply in the treatment of Ancillary Services Bids in the CAISO Markets:

- (a) not differentiate between bidders for Ancillary Services and Energy other than through cost, price, effectiveness, and capability to provide the Ancillary Service or Energy, and the required locational mix of Ancillary Services;
- (b) select the bidders with most cost effective Bids for Ancillary Service capacity which meet its technical requirements, including location and operating capability to minimize the costs to users of the CAISO Controlled Grid;
- (c) evaluate the Day-Ahead Bids over the twenty-four (24) Settlement Periods of the following Trading Day along with Energy, taking into transmission constraints and AS Regional Limits;

- (d) evaluate Bids in the HASP and establish Ancillary Service Awards from imports at approximately sixty-five (65) minutes prior to the hour of operation;
- (e) evaluate Import Bids along with internal resource Bids and establish hourly Ancillary Service Awards in the HASP;
- (f) establish Real-Time Ancillary Service Awards from generation internal to the CAISO Balancing Authority Area at fifteen (15) minutes intervals to the hour of operation; and
- (g) procure sufficient Ancillary Services in the Day-Ahead, HASP, and Real-Time Markets to meet its forecasted requirements.

30.7.7 Format and Validation of Operational Ramp Rates.

The submitted Operational Ramp Rate expressed in megawatts per minute (MW/min) as a function of the operating level, expressed in megawatts (MW), must be a staircase function with up to four segments.

There is no monotonicity requirement for the Operational Ramp Rate. The submitted Operational Ramp Rate shall be validated as follows:

- (a) The range of the submitted Operational Ramp Rate must cover the entire capacity of the resource, from the minimum to the maximum operating capacity, as registered in the Master File for the relevant resource.
- (b) The operating level entries must match exactly (in number, sequence, and value) the corresponding minimum and maximum Operational Ramp Rate breakpoints, as registered in the Master File for the relevant resource.
- (c) If a Scheduling Coordinator does not submit an Operational Ramp Rate for a generating unit for a day, the CAISO shall use the maximum Ramp Rate for each operating range set forth in the Master File as the Ramp Rate for that unit for that same operating range for the Trading Day.

- (d) The last Ramp Rate entry shall be equal to the previous Ramp Rate entry and represent the maximum operating capacity of the resource as registered in the Master File. The resulting Operational Ramp Rate segments must lie between the minimum and maximum Operational Ramp Rates, as registered in the Master File.
- (e) The submitted Operational Ramp Rate must be the same for each hour of the Trading Day, i.e., the Operational Ramp Rate submitted for a given Trading Hour must be the same with the one(s) submitted earlier for previous Trading Hours in the same Trading Day.
- (f) Outages that affect the submitted Operational Ramp Rate must be due to physical constraints, reported in SLIC and are subject to CAISO approval. All approved changes to the submitted Operational Ramp Rate will be used in determination of Dispatch Instructions for the shorter period of the balance of the Trading Day or duration of reported Outage.
- (g) If an Operational Ramp Rate is derated in SLIC, the Ramp Rate will only be to four segments. Ramping capability through Forbidden Operating Regions are not affected by derates entered in SLIC.
- (h) For all CAISO Dispatch Instructions of Reliability Must-Run Units the Operational Ramp Rate will be the Ramp Rate declared in the Reliability Must Run Contract Schedule A.

30.7.8 Format and Validation of Start-Up and Shut-Down Times.

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

- (a) The first down time must be zero (0) min.
- (b) The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the maximum Start-Up Time function, as registered in the Master File for the relevant resource.
- (c) The Start-Up Time for each segment must not exceed the Start-Up Time of the corresponding segment of the maximum Start-Up Time function, as registered in the Master File for the relevant resource.
- (d) The Start-Up Time function must be strictly monotonically increasing, i.e., the Start-Up Time must increase as down time increases.

For Participating Load, a single Shut-Down time in minutes is the time required for the resource to Shut-Down after receiving a Dispatch Instruction.

30.7.9 Format and Validation of Start-Up Costs and Shut-Down Costs.

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

- (a) The first down time must be zero (0) min.
- (b) The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the Start-Up Cost function, as registered in the Master File for the relevant resource as either the Proxy Cost or Registered Cost.
- (c) The Start-Up Cost for each segment must not be negative and must be equal to the Start-Up Cost of the corresponding segment of the Start-Up Cost function, as registered in the Master File for the relevant resource. If a value is submitted in a Bid for the Start-Up Cost, it will be overwritten by the Master File value as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4. If no value for Start-Up Cost is submitted in a Bid, the CAISO will insert the Master File value, as either the Proxy Cost or Registered Cost based on the option elected pursuant to Section 30.4.
- (d) The Start-Up Cost function must be strictly monotonically increasing, i.e., the Start-Up Cost must increase as down time increases.

For Participating Loads, a single Shut-Down Cost in dollars (\$) is the cost incurred to Shut-Down Cost the resource after receiving a Dispatch Instruction. The submitted Shut-Down Cost must not be negative.

30.7.10 Format and Validation of Minimum Load Costs.

For a Generating Unit, the submitted Minimum Load Cost expressed in dollars per hour (\$/hr) is the cost incurred for operating the unit at Minimum Load. The submitted Minimum Load Cost must not be negative and must be equal to the Minimum Load Cost under the Proxy Cost option or Registered Cost option, as registered in the Master File for the relevant resource.

For Participating Loads, the submitted Minimum Load Cost (\$/hr) is the cost incurred while operating the resource at reduced consumption after receiving a Dispatch Instruction. The submitted Minimum Load Cost must not be negative.

30.8 Prohibition on Bidding Across Out-of-Service Transmission Paths at Scheduling Points.

Scheduling Coordinators shall not submit any Bids or ETC Self-Schedules at Scheduling Points using a transmission path for any Settlement Period for which the Operating Transfer Capability for that path is zero (0) MW. The CAISO shall reject Bids or ETC Self-Schedules submitted at Scheduling Points where the Operating Transfer Capability on the transmission path is zero (0) MW. If the Operating Transfer Capability of a transmission path at the relevant Scheduling Point is reduced to zero (0) after Day-Ahead Schedules have been issued, then, if time permits, the CAISO shall direct the responsible Scheduling Coordinators to reduce all MWh associated with the Bids on such zero-rated transmission paths to zero (0) in the HASP. As necessary to comply with Applicable Reliability Criteria, the CAISO shall reduce any non-zero (0) HASP Bids across zero-rated transmission paths to zero after the Market Close for the HASP.