1. DEFINITIONS AND INTERPRETATION.

1.1 Capitalized terms used in this ISO Tariff shall have the meanings set out in the Master Definitions Supplement set out in Appendix A to this ISO Tariff unless otherwise stated or the context otherwise requires.

1.2 In this ISO Tariff "includes" or "including" shall mean "including without limitation".

1.3 In this ISO 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 ISO 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.

2. ISO OPERATIONS.

2.1 Access to the ISO Controlled Grid.

2.1.1 Open Access.

The ISO shall, subject to Sections 2.1.2 and 2.1.3, provide to all Eligible Customers open and non-discriminatory access to the ISO Controlled Grid regardless of the locations of their connections to the ISO Controlled Grid in accordance with the terms of this ISO Tariff including, in particular, the procedures for scheduling and Congestion Management. Energy and Ancillary Services may be transmitted on behalf of an Eligible Customer into, out of or through the ISO Controlled Grid only if scheduled 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.

2.1.2 Eligibility of Customers for Direct Access or Wholesale Sales.

The eligibility of an End-Use Customer for Direct Access will be determined in accordance with the Direct Access 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 ISO providing Direct Access to that End-Use Customer.

2.2.7 and that it is capable of complying with the requirements of all ISO Protocols;

(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 for which it is submitting bids under this ISO Tariff;

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

(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 ISO's reasonable satisfaction that it meets the financial criteria set out in Section 2.2.3.2; and

(f) enter into an SC Agreement with the ISO.

2.2.3.2 Each Scheduling Coordinator shall either maintain an Approved Credit Rating or provide in favor of the ISO one of the following forms of security for an amount to be determined by the Scheduling Coordinator and notified to the ISO under Section 2.2.7.3:

(a) an irrevocable and unconditional letter of credit confirmed by a bank or financial institution reasonably acceptable to the ISO;

(b) an unconditional and irrevocable guarantee by a company which has and maintains an Approved Credit Rating;

(c) a cash deposit standing to the credit of an interest bearing escrow account maintained at a bank or financial institution designated by the ISO; or

(d) a certificate of deposit in the name of the ISO from a financial institution designated by the ISO.

Letters of credit, guarantees, escrow agreements and certificates of deposit shall be in such form as the ISO may reasonably require from time to time by notice to Scheduling Coordinators. A Scheduling Coordinator which does not maintain an Approved Credit Rating shall be subject to the limitations on trading set out in Section 2.2.7.3.

2.2.3.3 Review of Creditworthiness.

The ISO may review the creditworthiness of any Scheduling Coordinator which delays or defaults in making payments due under the ISO Tariff and, as a consequence of that review, may require such Scheduling Coordinator, whether or not it has (or is deemed to have) an Approved Credit Rating, to provide credit support in the form of:

(a) an irrevocable and unconditional letter of credit by a bank or financial institution reasonably acceptable to the ISO; or

(b) a cash deposit standing to the credit of an interest-bearing escrow account maintained at a bank or financial institution designated by the ISO.

The ISO may require the Scheduling Coordinator to maintain such credit support for at least one (1) year from the date of such delay or default.

2.2.4 Certification Procedure.

2.2.4.1 The ISO shall certify Scheduling Coordinators in accordance with the following application procedure. An SC Applicant shall furnish the ISO with the following:

(a) a completed SC Application Form; and

2.2.4.6.1 Filing of Notice of Termination. Any notice of termination given pursuant to Section 2.2.4.5 shall also be filed with FERC.

2.2.4.7 Continuation of Service on Termination.

2.2.4.7.1 Option for Eligible Customers to choose a new Scheduling Coordinator. Unless the ISO is notified by another Scheduling Coordinator that it represents an Eligible Customer of the defaulting Scheduling Coordinator within seven (7) days of the notice of termination being posted on the ISO Home Page in accordance with Section 2.2.4.6, the Eligible Customer of the defaulting Scheduling Coordinator will receive service at UDC rates.

2.2.4.7.2 Interim Service.

In the interim period between the suspension of a Scheduling Coordinator's certification in accordance with Section 2.2.4.6 and receipt by the ISO of a notification under Section 2.2.4.7.1 or the expiry of the seven (7) day period in Section 2.2.4.7.1, whichever is later, service will be provided at UDC rates.

2.2.5 Eligible Customers Represented by Scheduling Coordinators.

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

2.2.6 Responsibilities of a Scheduling Coordinator.

Each Scheduling Coordinator shall be responsible for:

2.2.6.1 Obligation to Pay. Paying the ISO's charges in accordance with this ISO Tariff;

2.2.6.2 Submit Schedules. Submitting Schedules for Energy in the Day-Ahead Market and Hour-Ahead Market in relation to Market Participants for which it serves as Scheduling Coordinator;

2.2.6.3 Modifications in Demand and Supply. Coordinating and allocating modifications in scheduled Demand and exports and scheduled Generation and imports at the direction of the ISO in accordance with this ISO Tariff;

2.2.6.4 Trades between Scheduling Coordinators. Billing and settling an Inter-Scheduling Coordinator Trade shall be done in accordance with the agreements between the parties to the Inter-Scheduling Coordinator Trade. The parties to an Inter-Scheduling Coordinator Trade shall notify the ISO, in accordance with the ISO Protocols, of the Zone in which the transaction is deemed to occur for the purpose of identifying which Scheduling Coordinator will be responsible for payment of applicable Usage Charges;

2.2.6.5 Scheduling Deliveries. Including in its Schedules to be submitted to the ISO under this ISO Tariff, the Demand, Generation and Transmission Losses necessary to give effect to trades with other Scheduling Coordinators;

2.2.6.6 Tracking and Settling Trades. Tracking and settling all intermediate trades among the entities for which it serves as Scheduling Coordinator;

2.2.6.7 Ancillary Services. Providing Ancillary Services in accordance with Section 2.5;

2.2.6.8 Annual and Weekly Forecasts. Submitting to the ISO the forecasted weekly peak Demand on the ISO Controlled Grid and the forecasted Generation capacity. The forecasts shall cover a period of twelve (12) months on a rolling basis;

2.2.6.9 ISO Protocols. Complying with all ISO Protocols and ensuring compliance by each of the Market Participants which it represents with all applicable provisions of the ISO Protocols; and

2.2.6.10 Interruptible Imports. Identifying any Interruptible Imports included in its Schedules.

2.2.7 Operations of a Scheduling Coordinator.

2.2.7.1 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 ISO and who shall have sufficient authority to commit and bind the Scheduling Coordinator.

2.2.7.2 Submitting Balanced Schedules. A Scheduling Coordinator shall submit to the ISO only Balanced Schedules in the Day-Ahead Market and the Hour-Ahead Market. A Schedule shall be treated as a Balanced Schedule when aggregate Generation, Inter-Scheduling Coordinator Trades (whether purchases or sales), and imports or exports to or from external Control Areas adjusted for Transmissions Losses as appropriate, equals aggregate forecast Demand with respect to all entities for which the Scheduling Coordinator schedules in each Zone. A schedule that includes imports or exports from or to the ISO Controlled Grid or Inter-Scheduling Coordinator Trades (whether Generation or Demand) shall be deemed to be balanced. If a Scheduling Coordinator submits a Schedule that is not a Balanced Schedule, the

2.2.7.6 The ISO shall honor all Existing Operating Agreements in accordance with their terms notwithstanding the provisions of the ISO Tariff and the ISO Tariff.

2.2.8 The Scheduling Process.

The ISO scheduling process is described for information purposes only in tabular form in Appendix C. The scheduling process by nature will need constant review and amendment as the market develops and matures and, therefore, is subject to change. The description in Appendix C aids understanding of the implementation and operation of the various markets administered by the ISO and is filed for information purposes only.

2.2.8.1 Preferred Schedule. A Preferred Schedule shall be submitted by each Scheduling Coordinator on a daily and/or hourly basis to the ISO. Scheduling Coordinators may also submit to the ISO, Ancillary Services bids in accordance with Section 2.5.10 and, where they elect to self provide Ancillary Services pursuant to Section 2.5.20.1, an Ancillary Service schedule meeting the requirements set forth in Section 2.5.20.6. The Preferred Schedule shall also include an indication of which resources (Generation or Load) if any may be adjusted by the ISO to eliminate Congestion. On receipt of the Preferred Schedule in the Day-Ahead scheduling process, the ISO shall notify the Scheduling Coordinator of any specific Reliability Must-Run Units which have not been included in the Preferred Schedule but which the ISO requires to run in the next Trading Day. The ISO will also notify the

Scheduling Coordinator of any Ancillary Services it requires from specific Reliability Must-Run Units under their Reliability Must-Run Contracts in the next Trading Day. If the ISO identifies mismatches in the scheduled quantity or location for any Inter-Scheduling Coordinator Trade, it will notify the Scheduling Coordinators concerned and give them until a specified time, which will allow them approximately one half-hour, in which to modify their Schedules to resolve the mismatch before it applies the provisions of Section 2.2.11.3.4. If the ISO notifies a Scheduling Coordinator that there will be no Congestion on the ISO Controlled Grid and, subject to Section 2.2.11.3.4, the Preferred Schedule shall become that Scheduling Coordinator's Final Schedule.

2.2.8.2 Suggested Adjusted Schedules. In the Day-Ahead scheduling process, if the sum of Scheduling Coordinators' Preferred Schedules would cause Congestion across any Inter-Zonal Interface, the ISO shall issue to all Scheduling Coordinators an estimate of the Usage Charges if Congestion is not relieved and Suggested Adjusted Schedules that shall reflect adjustments made by the ISO to each Scheduling Coordinator's Preferred Schedule to eliminate Congestion, based on the initial Adjustment Bids submitted in the Preferred Schedules. The ISO will include in the Suggested Adjusted Schedules the resolution of any mismatches in Inter-Scheduling Coordinator Trades, as determined by the ISO.

2.2.8.3 Revised Schedules. Following receipt of a Suggested Adjusted Schedule, a Scheduling Coordinator may submit to the ISO a Revised Schedule, which shall be a Balanced Schedule, and which shall seek to reduce or eliminate Congestion. If the ISO identifies mismatches in the scheduled quantity or location for any Inter-

Scheduling Coordinator Trade, it will notify the Scheduling Coordinators concerned and give them until a specified time, which will allow them approximately one half-hour, in which to modify their Schedules to resolve the mismatch before it applies the provisions of Section 2.2.11.3.4.

2.2.8.4 Final Schedules. If the ISO notifies a Scheduling Coordinator that there will be no Congestion on the ISO Controlled Grid, the Revised Schedule shall become that Scheduling Coordinator's Final Schedule. If no Scheduling Coordinator submits any changes to the Suggested Adjusted Schedules, all of the Suggested Adjusted Schedules shall become the Final Schedules. The Final Schedules shall serve as the basis for Settlement between the ISO and each Scheduling Coordinator.

2.2.9 [Not Used]

2.2.10 Information to be Provided by the ISO to all Scheduling Coordinators.

By 6:00 p.m. two days prior to a Trading Day, the ISO shall publish on WEnet information, including the following to all Scheduling Coordinators for each Settlement Period of the Trading Day:

2.2.10.1 Scheduled Line Outages. Scheduled transmission line Outages;

2.2.10.2 [Not Used]

2.2.10.3 Forecast Loop-Flow. Forecast Loop Flow over ISO Inter-zonal Interfaces and Scheduling Points;

2.2.10.4 Advisory Demand Forecasts. Advisory Demand Forecasts by location;

2.2.10.5 Updated Transmission Loss Factors. Updated Generation Meter Multipliers reflecting Transmission Losses to be supplied by each Generating Unit and by each import into the ISO Control Area; and

mismatch as to quantities and provided that there is no dispute as to whether the mismatched trade occurred or over its location, the ISO will adjust the Schedule containing the higher quantity to match the scheduled quantity of Energy in the other Schedule, except where the Schedule to be reduced contains only Inter-Scheduling Coordinator Trades, in which case the ISO will adjust the other Schedule to match the Schedule containing the higher quantity. If there is a dispute between the Scheduling Coordinators as to whether the Inter-Scheduling Coordinator Trade occurred or over its location, the ISO will remove the disputed trade from the Schedules in which it appears. The ISO will then balance the Schedules which are no longer Balanced Schedules by adjusting resources in the relevant Scheduling Coordinator's portfolio in accordance with the procedures detailed in the ISO Protocols.

2.2.11.4 For Self Provided Ancillary Services: Scheduling Coordinators electing to self provide Ancillary Services shall supply the information referred to in Section 2.5.20.5 in relation to each Ancillary Service to be self provided.

2.2.11.5 For Interruptible Imports: the quantity (in MWh) of Energy categorized as Interruptible Imports and whether the Scheduling Coordinator intends to self provide the Operating Reserve required by Section 2.5.3.2 to cover such Interruptible Imports or to purchase such Operating Reserve from the ISO.

2.2.12 Timing of Day-Ahead Scheduling.

2.2.12.1 The ISO may in its sole discretion waive the timing requirements of this Section 2.2 where necessary to preserve System Reliability. The ISO may also waive the timing requirements of Section 2.2 where,

because of error or delay, the ISO is unable to meet the timing requirements. Any such waiver shall be published on WEnet.

2.2.12.2 Non-PX Demand Information. By 6:00 a.m. on the day preceding the Trading Day, each Scheduling Coordinator (other than the PX) shall provide to the ISO a Demand Forecast specified by UDC Service Area for which it will schedule deliveries for each of the Settlement Periods of the following Trading Day. The ISO shall aggregate the Demand information by UDC Service Area and transmit the aggregate Demand information to each UDC serving such aggregate Demand.

2.2.12.3 The Preferred Schedule of each Scheduling Coordinator for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day together with any Adjustment Bids and Ancillary Services bids.

2.2.12.4 In submitting its Preferred Schedule, each Scheduling Coordinator shall notify the ISO of any Generating Units or Dispatchable Loads which are not scheduled but have submitted Adjustment Bids and are available for Dispatch at those same Adjustment Bids to assist in relieving Congestion.

2.2.12.5 [Not Used]

2.2.12.6 ISO Analysis of Preferred Schedules. On receipt of the Preferred Schedules the ISO will notify Scheduling Coordinators of any specific Reliability Must-Run Units which have not been included in the Preferred Schedule but which the ISO requires to run in the Trading Day. The ISO will also notify Scheduling Coordinators of any Ancillary Services it requires from specific Reliability Must-Run Units under their Reliability Must-Run Contracts in the Trading Day. The ISO will also notify Scheduling Coordinators of any Ancillary Services it requires from specific

Reliability Must-Run Units under their Reliability Must-Run Contracts in the Trading Day. If the ISO identifies mismatches in the scheduled quantity or location for any Inter-Scheduling Coordinator Trade, it will notify the Scheduling Coordinators concerned and give them until a specified time, which will allow them approximately one half-hour, in which to modify their Schedules to resolve the mismatch before it applies the provisions of Section 2.2.11.3.4. The ISO shall analyze the combined Preferred Schedules submitted by all Scheduling Coordinators to forecast the probability of Congestion being caused by the Preferred Schedules. If the ISO finds that the Preferred Schedules will not cause Congestion, and subject to Section 2.2.11.3.4, the Preferred Schedules shall become the Final Schedules and the ISO shall notify Scheduling Coordinators accordingly.

2.2.12.7 Issuance of Suggested Adjusted Schedules. If the ISO finds that the Preferred Schedules would cause Congestion, it shall issue Suggested Adjusted Schedules no later than 11:00 a.m. on the day preceding the Trading Day. The ISO will include in the Suggested Adjusted Schedules the resolution of any mismatches in Inter-Scheduling Coordinator Trades, as determined by the ISO.

2.2.12.8 Submission of Revised Schedules. If the ISO has issued Suggested Adjusted Schedules, by 12:00 noon on the day preceding the Trading Day, each Scheduling Coordinator may submit a Revised Schedule to the ISO or shall inform the ISO that it does not wish to make any change to its previously submitted Preferred Schedule. If the ISO identifies mismatches in the scheduled quantity or location for any Inter-Scheduling Coordinator Trade, it will notify the Scheduling Coordinators concerned and give them until a specified time, which will allow them approximately

one half-hour, in which to modify their Schedules to resolve the mismatch before it applies the provisions of Section 2.2.11.3.4.

2.2.12.8.1 Revised Schedules Become Final Day-Ahead Schedules. Subsequent to receiving Revised Schedules if the ISO identifies no Congestion on the ISO Controlled Grid and subject to Section 2.2.11.3.4, the Revised Schedules and any unamended Preferred Schedules shall become Final Day-Ahead Schedules and the ISO shall notify Scheduling Coordinators accordingly.

2.2.12.8.2 Use of Congestion Management for Final Schedule. Subsequent to receiving Revised Schedules if the ISO identifies Congestion on the ISO Controlled Grid, it shall use the Congestion Management provisions of this ISO Tariff and the ISO Protocols to develop the Final Day-Ahead Schedules.

2.2.13 Timing of Hour-Ahead Scheduling.

2.2.13.1 Submission of Preferred Schedule. Each Scheduling Coordinator's Preferred Schedule for each Settlement Period during a Trading Day together with any additional or updated Adjustment Bids or Ancillary Services Bids shall be submitted at least two (2) hours prior to the commencement of that Settlement Period.

2.2.13.1.1 Statements in Preferred Schedule. In submitting its Preferred Schedule, each Scheduling Coordinator may submit Adjustment Bids for use in the Hour-Ahead Market to assist in relieving Congestion.

2.2.13.1.2 Final Hour-Ahead Schedule Submission. Each Hour-Ahead Schedule shall indicate the changes which the relevant Scheduling Coordinator wishes to make to the Final Day-Ahead Schedule.

2.2.13.2 ISO Analysis of Preferred Schedules. The ISO shall analyze the combined Preferred Schedules submitted by all Scheduling Coordinators to forecast the probability of Congestion being caused by the Preferred Schedules.

2.2.13.2.1 Preferred Schedules Become Final Hour-Ahead Schedules. If the ISO identifies no Congestion on the ISO Controlled Grid, the Preferred Schedules shall become Final Hour-Ahead Schedules and the ISO shall notify Scheduling Coordinators accordingly.

2.2.13.2.2 Congestion Management Provisions for Final Hour Ahead Schedules. If the ISO identifies Congestion, it shall use the Congestion Management provisions of Section 7.2 of this ISO Tariff and the ISO Scheduling Protocol to develop the Final Hour-Ahead Schedules.

2.2.13.3 Final Hour-Ahead Schedules. The ISO shall inform each Scheduling Coordinator of its responsibilities to provide Ancillary Services in accordance with Section 2.5.21. Not later than thirty (30) minutes before the commencement of each Settlement Period, the ISO shall provide each Scheduling Coordinator with the Final Schedule for that Settlement Period. Each Final Schedule shall be a Balanced Schedule and shall contain the following information:

2.2.13.3.1 Generation.

2.2.13.3.1.1 Name and identification number of each Participating Generator appearing in the Final Schedule;

2.2.13.3.1.2 Location Code of each Generating Unit and Scheduling Point;

2.2.13.3.1.3 The changes in the final scheduled quantity (in MWh) for each such Generating Unit and scheduled voltage;

2.2.13.3.1.4 Notification if the scheduled Generation was adjusted to resolve Congestion; and

2.2.13.3.1.5 [Not Used]

2.2.13.3.2 Load.

2.2.13.3.2.1 For each Load where a Demand Bid has been submitted, the Location Code of the Take-Out Point;

2.2.13.3.2.2 Final Scheduled Quantity. Final scheduled quantity (in MWh) of Demand; and

2.2.13.3.2.3 Notification of Adjustment. Notification if the scheduled Demand was adjusted to resolve Congestion.

2.2.13.4 Usage Charges. The ISO shall notify each Scheduling Coordinator of the applicable Usage Charge calculated in accordance with Section 7.3.

2.2.14 Communications.

2.2.14.1 Communications between the ISO and Scheduling Coordinators shall take place via direct computer link to a dedicated terminal at the Scheduling Coordinator's scheduling center. The ISO will establish the back-up communication procedures as part of the ISO Protocols.

2.2.14.2 Any Generation or Demand that is available for Dispatch must be capable of responding to ISO Dispatch instructions through a direct computer link or other means in accordance with the ISO Protocol on Dispatch.

2.2.15 Verification of Information.

The ISO shall be entitled to take all reasonable measures to verify that Scheduling Coordinators meet the technical and financial criteria set forth in Section 2.2.3 hereof and the accuracy of information submitted to the ISO pursuant to Section 2.2.11.

2.3 System Operations under Normal and Emergency Operating Conditions.

2.3.1 ISO Control Center Operations.

2.3.1.1 ISO Control Center.

2.3.1.1.1 Establish ISO Control Center. The ISO shall establish a WSCC approved Control Area and control center to direct the operation of all facilities forming part of the ISO Controlled Grid, Reliability Must-Run Units and Generating Units providing Ancillary Services.

2.3.1.1.2 Establish Back-up Control Facility. The ISO shall establish back-up control facilities remote from the ISO Control Center sufficient to enable the ISO to continue to direct the operation of the ISO Controlled Grid, Reliability Must-Run Units and Generating Units providing Ancillary Services in the event of the ISO Control Center becoming inoperable.

2.3.1.1.3 ISO Control Center Authorities. The ISO shall have full authority, subject to Section 2.3.1.2 to direct the operation of the facilities referred to in Section 2.3.1.1.2 including (without limitation), to:

(a) direct the physical operation by the Participating TOs of transmission facilities under the Operational Control of the ISO, including (without limitation) circuit breakers, switches, voltage control equipment, protective relays, metering, and Load Shedding equipment;

promptly with the ISO's operating orders, unless such operation would impair public health or safety. For this purpose ISO operating orders to shed Load shall not be considered as an impairment to public health or safety.

2.3.1.2.2 Implementation of Instructions. All Market Participants shall respond to ISO instructions with no more delay than specified in the response times set out in the ISO Protocols.

2.3.1.3 Operating Reliability Criteria.

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

2.3.1.3.2 The ISO may establish planning and Operating Reserve criteria more stringent than those established by WSCC and NERC or revise the Local Reliability Criteria subject to and in accordance with the provisions of the TCA.

2.3.2 Management of System Emergencies.

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

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

2.3.2.3 Intervention in Market Operations. The ISO may intervene in the operation of the Day-Ahead Market, the Hour-Ahead Market or the Real Time Market and set the Administrative Price, if the ISO determines that such intervention is necessary in order to contain or correct a System Emergency as follows.

2.3.2.3.1 The ISO will not intervene in the operation of the Day-Ahead Market unless there has been a total or major collapse of the ISO Controlled Grid and the ISO is in the process of restoring it.

2.3.2.3.2 Before any such intervention the ISO must (in the following order): (a) dispatch all scheduled Generation and all other Generation offered or available to it regardless of price (including all Adjustment Bids, Supplemental Energy bids, Ancillary Services and reserves); (b) dispatch all interruptible loads made available by UDCs to the ISO in accordance with the relevant agreements with UDCs; (c) dispatch or curtail all price-responsive Demand that has been bid into any of the markets 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 ISO considers necessary.

2.3.2.3.3 The Administrative Price in relation to each of the markets for Imbalance Energy and Ancillary Services shall be set at the applicable Market Clearing Price in the Settlement Period immediately preceding the Settlement Period in which the intervention took place. When Administrative Prices are imposed, Inter-Zonal Congestion will be managed in accordance with DP 8.5 of the Dispatch Protocol.

2.3.2.3.4 The intervention will cease as soon as the ISO has restored all Demand that was curtailed on an involuntary basis under Section 2.3.2.3.2(c).

2.3.2.4 Emergency Guidelines. The ISO shall issue protocols 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 Section 2.3.2.7 below.

2.3.2.5 Periodic Tests of Emergency Procedures. The ISO shall develop and administer periodic unannounced tests of System Emergency procedures set out in the ISO Protocols. Such tests shall be designed to ensure that the ISO Market Participants are capable of promptly and efficiently responding to imminent or actual System Emergencies.

2.3.2.6 Prioritization Schedule for Shedding and Restoring Load. Prior to the ISO Operations Date, and annually thereafter, the ISO shall, in consultation with Market Participants and subject to the provisions of Section 2.1.3, 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.

2.3.2.7 Further Obligations Relating to System Emergencies. The ISO and Participating TOs shall comply with their obligations in Section 9 of the TCA. The ISO and UDCs shall comply with their obligations in Section 4 of this ISO Tariff. The ISO and Generators shall comply with their obligations in Section 5 of this ISO Tariff.

2.3.2.8 Use of Load Curtailment Programs.

2.3.2.8.1 Use of UDC's Existing Load Curtailment Programs. As an additional resource for managing System Emergencies, the ISO will, subject to Section 2.1.3, notify the UDCs when the conditions to implement their Load curtailment programs have been met in accordance with their terms. Each UDC shall by not later than October 1 of each year advise the ISO 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 ISO as much notice as reasonably practicable of any change to such programs.

2.3.2.8.2 Load Curtailment. A Scheduling Coordinator may specify that Loads will be reduced at specified Market Clearing Prices or offer the right to exercise Load curtailment to the ISO as an Ancillary Service or utilize Load curtailment itself (by way of self provision of Ancillary Services) as Non-Spinning Reserve or Replacement Reserve. The ISO, 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 receive incentives for interruption under existing programs approved by a Local Regulatory Authority in addition to payment for Operating

Reserve for the same quantity of Curtailable Demand. The ISO may establish standards for automatic communication of curtailment instructions to implement Load curtailment as a condition for accepting any offered Curtailable Demand as an Ancillary Service.

2.3.2.9 System Emergency Reports and Sanctions.

2.3.2.9.1 Review of Major Outages. The ISO 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 ISO 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 any Participating TOs, Eligible Customers, UDCs or Participating Generators enhanced or undermined the ability of the ISO to maintain or restore service efficiently and in a timely manner.

2.3.2.9.2 Provide Information to Review Outages. Participating TOs, Participating Generators, Eligible Customers, Scheduling Coordinators and UDCs shall promptly provide information requested by the ISO to review Outages pursuant to Section 2.3.2.9.1 and to prepare Outage reports. The ISO 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 ISO's review shall be shared with Participating TOs, Participating Generators, Eligible Customers and UDCs.

2.3.2.9.3 Imposing Sanctions. If the ISO 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 ISO 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 ISO's instructions or pursuant to a Remedial Action Scheme. The ISO 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 ISO ADR Procedures. The schedule of sanctions filed with FERC (including categories and levels of sanctions) shall not be subject to the ISO ADR Procedures. The ISO shall publish on the ISO Home Page details of all instances in which a sanction has been imposed.

2.3.3 Coordination of Outages and Maintenance.

2.3.3.1 ISO Outage Coordination Office. The ISO Outage Coordination Office shall be established by the ISO and shall coordinate and approve Maintenance Outages of all facilities forming part of the ISO Controlled Grid and Reliability Must-Run Units. The ISO 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.

2.3.3.2 Requirement for Approval. An Operator shall not take facilities comprised in the ISO Controlled Grid or Reliability Must-Run Units out of service for the purposes

of planned maintenance or for new construction or other work except as approved by the ISO Outage Coordination Office.

2.3.3.3 Requests for Outages in Real Time Operation. Requests for Outages of facilities forming part of the ISO Controlled Grid and Reliability Must-Run Units in real time operation shall be made by the Operator to the ISO Control Center.

2.3.3.4 Single Point of Contact. Requests for approvals and coordination of all Maintenance Outages (consistent with Section 2.3.3.1) will be through a single point of contact between the ISO Outage Coordination Office and each Operator. The single point of contact for the ISO and each Operator will be specified from time to time by the Operator and the ISO pursuant to the detailed procedures referred to in Section 2.3.3.5.

2.3.3.5 Maintenance Outage Planning. Each Operator shall, by not later than October 1 each year, provide the ISO with a program of all Maintenance Outages which it wishes to undertake during the next following year. In the case of a Participating TO, that program 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 ISO in consultation with the ISO Grid Operations Committee and set out in an ISO Protocol. Either the ISO, pursuant to Section 2.3.3.6, or an Operator may at any time request a change to an Approved Maintenance Outage. An Operator may, upon seventy-two (72) hours advance notice, schedule with the ISO

Outage Coordination Office a Maintenance Outage on its system, subject to the conditions of Sections 2.3.3.5.1, 2.3.3.5.2, and 2.3.3.5.3.

2.3.3.5.1 The ISO 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 ISO Controlled Grid or the facilities of a Connected Entity.

2.3.3.5.2 Where the ISO 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 ISO Controlled Grid, the ISO 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.

2.3.3.5.3 Where, in the reasonable opinion of the ISO 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 ISO Controlled Grid, the ISO Outage Coordination Office may reject the requested Maintenance Outage or requested change to Approved Maintenance Outage. The determination of the ISO 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 ISO Outage Coordination Office to provide reasons for its determination, it shall do so as soon as is reasonably practicable. The ISO will give

Maintenance Outage or change to an Approved Maintenance Outage, the ISO Outage Coordination Office determination shall be final.

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

2.3.3.8 Final Approval. On the day preceding the day on which an Approved Maintenance Outage is scheduled to commence, the Operator shall confirm its requirements with the ISO Control Center. On the day on which an Approved Maintenance Outage is scheduled to commence the Operator shall contact the ISO 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 ISO Control Center whose decision shall be final.

2.3.3.9 Forced Outages.

2.3.3.9.1 Coordination of all Forced Outages (consistent with Section 2.3.3.1) will be through the single point of contact between the Operator and the ISO Control Center.

2.3.3.9.2 All notifications of Forced Outages shall be communicated to the ISO Control Center with as much notice as possible in order that the necessary security

to enable them to determine whether the ISO'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.

2.4.4.5 ISO Protocols Shall Accommodate Existing Rights and Non-Converted Rights.

The ISO will implement the provisions of Section 2.4.4.4 in its Scheduling Protocol. The objective will be to ensure that under the ISO rules and protocols, Existing Rights and Non-Converted Rights will enjoy the same relative priorities vis-à-vis new, ISO-provided transmission uses, as they would under the Existing Contracts and the FERC Order 888 tariffs. Under the ISO Scheduling Protocol:

2.4.4.5.1.1 Existing scheduling rules, curtailment priorities and any other relevant terms and conditions associated with the scheduling and day-to-day implementation of transmission rights will be documented in sets of operating instructions provided to the ISO by the parties to the Existing Contracts. The documentation of these operating instructions, and disputes related to these operating instructions, will be handled in accordance with the terms of Section 2.4.4.4.1.1.

2.4.4.5.1.2 To the extent that the operating instructions can be exercised independently of the ISO by the parties to the Existing Contract and the results forwarded to the ISO, the operating instructions shall be exercised by the Participating TOs, and the outcomes shall be forwarded to the ISO. The determination of whether the operating instructions can be "exercised independently of the ISO by the parties to the Existing Contract" shall be made using the same procedures described in Section 2.4.4.4.1.1.

2.5.2.1 Determination of Ancillary Service Standards. The ISO shall set the required standard for each Ancillary Service necessary to maintain the reliable operation of the ISO Controlled Grid. Ancillary Services standards shall be based on WSCC Minimum Operating Reliability Criteria (MORC) and ISO Controlled Grid reliability requirements. The ISO Grid Operations Committee, in conjunction with the relevant reliability council (WSCC), shall develop these Ancillary Services standards to determine reasonableness, cost effectiveness, and adherence to national and WSCC standards. The standards developed by the ISO shall be used as a basis for determining the quantity and type of each Ancillary Service which the ISO requires to be available.

2.5.2.2 Time-frame For Revising Ancillary Service Standards. The ISO Technical Advisory Committee shall periodically undertake a review of the ISO Controlled Grid operation to determine any revision to the Ancillary Services standards to be used in the ISO Control Area. At a minimum the ISO Grid Operations Committee shall conduct such reviews to accommodate revisions to WSCC and NERC standards. The ISO 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.

2.5.3 Quantities of Ancillary Services Required.

For each of the Ancillary Services, the ISO shall determine the quantity and location of the Ancillary Service which is required and which must be under the direct Dispatch control of the ISO on an hourly basis each day. The ISO shall determine the quantities it requires as follows:

(e) such other factors affecting the ability of the ISO to maintain System Reliability as the ISO may from time to time determine.

The ISO shall have discretion to determine the quantity of Replacement Reserve it requires in each Zone.

2.5.3.4 Voltage Support.

The ISO 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 WSCC and NERC criteria using a power flow study based on the quantity and location of scheduled Demand. The ISO shall issue daily voltage schedules which are required to be maintained for ISO Controlled Grid reliability.

All Participating Generators shall maintain the ISO 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 ISO Operations Date that are unable to meet this operating power factor requirement may apply to the ISO for an exemption. Prior to granting such an exemption, the ISO 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 ISO Operations Date for such Generating

requirements continue to be met. If at any time the ISO's technical requirements are not being met, the ISO may withdraw the certificate for the Generating Unit, Load or System Resource concerned.

2.5.6.1 Operating Characteristics Required to Provide Ancillary Services. Each Generating Unit, Load or System Resource which a Scheduling Coordinator wishes to schedule or bid to provide Ancillary Services must comply with the requirements for the specific Ancillary Service in regard to the following:

(a) ramp rate increase and decrease (MW/minute);

(b) power factor (leading and lagging) as required by Section 2.5.3.4;

(c) maximum output (real and reactive);

(d) minimum output (real and reactive);

(e) AGC capability, control scheme, and range; and

(f) minimum length of time the resource can be available to provide the relevant Ancillary Service.

The ISO will differentiate the operating characteristics according to the Ancillary Service being provided.

2.5.6.2 Communication Equipment. Unless otherwise authorized by the ISO, all Scheduling Coordinators wishing to submit an Ancillary Service schedule or bid must have the capability to submit and receive information by direct computer link. In addition, they must provide the ISO with a telephone number, fax number or other approved voice communication system such as direct line access through which Dispatch instructions for each Generating Unit, Load and System Resource may be given if necessary. The ISO will determine which method of communication is

appropriate. Participating Generators, owners or operators of Loads and operators of System Resources whose Generating Units, Loads or System Resources are scheduled, bid in or under contract, shall ensure that there is a 24 hour personal point of contact with the ISO for the Generating Unit, Load or System Resource. Participating Generators providing Regulation shall also provide communication links meeting ISO standards for direct digital control. If any communication system becomes unavailable, the relevant Participating Generators, operators of Loads and System Resources and the ISO shall take immediate action to identify the cause of the interruption and to restore the communication system. A Scheduling Coordinator which has scheduled or bid in or contracted for Ancillary Services shall ensure that the Generating Unit, Load or System Resource concerned is able to receive and implement Dispatch instructions.

2.5.6.3 Metering Infrastructure. All Participating Generators, owners or operators of Loads and operators of System Resources which a Scheduling Coordinator wishes to schedule or bid to provide Ancillary Services shall have the metering infrastructure for the Generating Units, Loads or System Resources concerned which complies with requirements to be established by the ISO 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 ISO under this ISO Tariff.

2.5.6.4 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 to this ISO Tariff are met in relation to the Generating Units from which Black Start will be offered.

2.5.7 Methodology For Procurement of Ancillary Services Upon Commencement of ISO Operations.

2.5.7.1 Hourly Ex Post Price.

The ISO shall use the Hourly Ex Post Price to settle and pay for Energy dispatched from Regulation, Spinning Reserves, Non-Spinning Reserves, and Replacement Reserves.

2.5.7.2 Usage Charge in Ancillary Service Bid Evaluation.

As of the ISO Operations Date, the ISO will not incorporate forecast Usage Charges into its Ancillary Service bid evaluations as the means to evaluate Ancillary Service bids across Zones when Congestion is present.

2.5.7.3 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 ISO 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. Public utilities under the FPA which have not been approved to bid at

information set forth in Section 2.2.10. This information shall be provided at the same time as the ISO provides general system information to all Scheduling Coordinators wishing to schedule power on the ISO Controlled Grid.

2.5.10 Time Frame for Submitting And Evaluating Bids.

2.5.10.1 Day-Ahead Auction. Bids for the ISO's Day-Ahead Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve service market must be received by 10:00 am on the day prior to the Trading Day. 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 ISO.

2.5.10.2 Hour-Ahead Auction. Bids for the ISO's Hour-Ahead Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve service market for each Settlement Period must be received at least two hours 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 ISO. Scheduling Coordinators wishing to buy back in the Hour-Ahead Market Regulation, Spinning Reserve, Non-Spinning Reserve or Replacement Reserve capacity sold to the ISO in the Day-Ahead Market pursuant to section 2.5.21 must do so by submitting a revised bid in the Hour-Ahead Market for the Ancillary Service and resource concerned.

2.5.11 Information To Be Submitted By Bidders.

Bids shall be submitted by Scheduling Coordinators acting on behalf of Participating Generators, and owners or operators of Loads. Bids must be in the format specified

by the ISO and include the bid information for each service described in Sections 2.5.14 to 2.5.19 and such other information as the ISO may determine it requires to evaluate bids as published from time to time in ISO Protocols. The ISO will verify and respond to submitted bid data in accordance with Appendix E and the ISO Protocols. Bidders may submit new bids on a daily basis (or hourly basis for the Hour-Ahead market).

2.5.12 Bid Evaluation Rules.

Bid evaluation shall be based on the following principles:

(a) the ISO shall not differentiate between bidders other than through price and capability to provide the service, and the required locational mix of services;

(b) to minimize the costs to users of the ISO Controlled Grid, the ISO shall select the bidders with lowest bids for capacity which meet its technical requirements, including location and operating capability;

(c) for the Day-Ahead Market, the Day-Ahead bids shall be evaluated independently for each of the 24 Settlement Periods of the following Trading Day;

(d) for the Hour-Ahead Market, the ISO shall evaluate bids in the two hours preceding the hour of operation;

(e) the ISO will procure sufficient Ancillary Services in the Day Ahead Market to meet its technical requirements defined in the ISO Protocols.

2.5.13 Evaluation of Ancillary Services Bids.

When Scheduling Coordinators bid into the Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve markets, they may bid the same capacity into as many of these markets as desired by providing the appropriate bid information

The ISO 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, Zonal Hourly Ex Post Price - Generating Unit bid price } x reduction in Energy output (MW).

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

2.5.19 Black Start Capability and Energy Output.

As of the ISO Operations Date, the ISO 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 ISO shall pay owners of Reliability Must-Run Units for Black Start Energy output through their Scheduling Coordinators. The ISO shall pay Black Start Generators for Black Start Energy output directly.

2.5.20 Obligations for and Self Provision of Ancillary Services.

2.5.20.1 Ancillary Service Obligations. Each Scheduling Coordinator shall be assigned a share of the total Regulation, Spinning Reserve, Non-Spinning and Replacement Reserve requirements by the ISO. The share assigned to each Scheduling Coordinator is described in Section 2.5.20 and in Section 2.5.28 as that Scheduling Coordinator's obligation. Each Scheduling Coordinator's Regulation obligation in each Zone shall be pro rata based upon the ratio between the Scheduling Coordinator's scheduled hourly Demand and the total Demand scheduled

ISO shall correspondingly reduce the quantity of the Ancillary Services concerned which it procures as described in Sections 2.5.14 to 2.5.17. As of the ISO Operations Date, Scheduling Coordinators must self provide the Operating Reserve required to cover Interruptible Imports and on-demand obligations. Where a Scheduling Coordinator's non-self-provided obligation in the Hour-Ahead Market is less than its non-self-provided obligation in the Day-Ahead Market the Scheduling Coordinator will be deemed to sell back the excess to the ISO in the Hour-Ahead Market pursuant to Section 2.5.21.

2.5.20.3 Literal Self Provision by a Metered Subsystem. A MSS operator must be the Scheduling Coordinator or act through a Scheduling Coordinator and must submit the Energy, Ancillary Services, and Adjustment Bids for all End Users within the MSS who are not served by other Scheduling Coordinators.

The MSS operator may provide its Regulation, Spinning Reserve, Non-Spinning Reserve, and Replacement Reserve requirements through any combination of Literal Self Provision, In-Kind Self Provision, or purchases from the ISO. A MSS may utilize a System Unit to participate in the procurement processes of the ISO for Regulation, Spinning Reserve, Non-Spinning Reserve, and Replacement Reserve. A System Unit is defined as one or more resources within a MSS controlled by the MSS operator so as to simulate a single resource for Regulation, Spinning Reserve, Non-Spinning Reserve, and Replacement Reserve with specified performance characteristics. A System Unit must consist of resources located within the MSS or resources dynamically scheduled into the MSS. For Regulation, Spinning Reserve, Non-Spinning Reserve, and Replacement Reserve, bid evaluation and price determination,

Bid which shall be used by the ISO to position the self provided resources in the merit order for real time Dispatch. The ISO will verify and respond to submitted schedules in accordance with Appendix E and the ISO Protocols.

2.5.20.7 Acceptance of Self Provided Ancillary Service Schedules. The ISO will refuse to accept self provided Ancillary Service schedules only to the extent that they fail to meet requirements contained in this ISO Tariff. In particular, self provided Ancillary Service schedules must satisfy the following conditions:

(a) the Scheduling Coordinator has a current certificate of technical eligibility for the Generating Units, Loads or System Resources selected for the Ancillary Services in question;

(b) to the extent not provided under (a), the Generating Units, Loads and System Resources have the instrumentation, communication and metering equipment necessary to permit the ISO to dispatch the offered Ancillary Services and verify that the services have been provided;

(c) the scheduling information provided by the Scheduling Coordinator is deemed to be valid in accordance with Appendix E and the ISO Protocols;

(d) the Generating Units, Loads or System Resources meet the ISO's locational requirements for the Ancillary Services; and

(e) for self-provided Ancillary Services delivered from another control area, that, under Existing Contracts, the Scheduling Coordinator has arranged for the firm transmission of the Ancillary Services to the point of interconnection between the other control area and the ISO Controlled Grid.

2.5.21 Scheduling of Units to Provide Ancillary Services.

The ISO shall prepare supplier schedules for Ancillary Services (both self provided and purchased by the ISO) for the Day-Ahead and the Hour-Ahead Markets. The ISO shall notify each Scheduling Coordinator no later than 1:00 p.m. of the day prior to the Trading Day of their Ancillary Services schedules for the Day-Ahead and no later than one hour prior to the operating hour of their Ancillary Services schedules for the Hour-Ahead. The ISO Protocols set forth the information which will be included in these schedules. Where long-term contracts are involved, the information may be treated as standing information for the duration of the contract.

Once the ISO has given Scheduling Coordinators notice of the Day-Ahead and Hour-Ahead schedules, these schedules represent binding commitments made in the markets between the ISO and the Scheduling Coordinators concerned. Any minimum energy input and output associated with Regulation and Spinning Reserve services shall be the responsibility of the Scheduling Coordinator, as the ISO's auction does not compensate the Scheduling Coordinator for the minimum energy output of Generating Units bidding to provide these services. Accordingly the Scheduling Coordinators shall adjust their schedules to accommodate the minimum outputs required by the Generating Units included on the Schedules.

Notwithstanding the foregoing:

(a) a Scheduling Coordinator who has sold Regulation, Spinning Reserve, Non-Spinning Reserve or Replacement Reserve capacity to the ISO in the Day-Ahead Market may buy back that capacity in whole or in part from the ISO in the Hour-Ahead Market at the Zonal Market Clearing Price for the Ancillary

procured Generating Units, Loads, or System Resource , the self provided Generating Unit, Load or System Resource shall be deemed to have a Dispatch price equal to the highest competitively bid Generating Unit, Load or System Resource. If the Proxy Energy Bid is lower than the lowest Energy price of a competitively bid Generating Unit, Load or System Resource, the self provided Generating Unit, Load or System Resource shall be deemed to have a Dispatch price equal to the lowest Energy bid price of the competitively procured Generating Unit, Load or System Resource.

2.5.22.4 Supplemental Energy Bids. In addition to the Generating Units, Loads and System Resources which have been scheduled to provide Ancillary Services in the Day-Ahead and Hour-Ahead markets, the ISO may Dispatch Generating Units, Loads or System Resources for which Scheduling Coordinators have submitted Supplemental Energy bids.

2.5.22.4.1 Timing of Supplemental Energy Bids.

Supplemental Energy bids must be submitted to the ISO no later than thirty (30) minutes prior to the operating hour. Bids may also be submitted at any time after the Day-Ahead Market closes. These Supplemental Energy bids cannot be withdrawn after thirty (30) minutes prior to the Settlement Period. The ISO may dispatch the associated resource at any time during the

2.5.22.4.2 Form of Supplemental Energy Bid Information.

Supplemental Energy bids must include the following:

(a) Bidder name and identification;

(b) Resource name, identification, and location;

(c) the bid price of incremental and decremental changes in Energy (up to eleven ordered pairs of quantity/price representing up to ten steps);

(d) Generating Unit operating limits (high and low MW);

(e) Generating Unit ramp rate (MW/Min); and

(f) Such other information as the ISO may determine it requires to evaluate bids, as published from time to time in ISO Protocols.

2.5.22.5 Information used in the Real Time Dispatch. The ISO shall place all the bid price information (except for Regulation bid prices and Adjustment Bids carried forward from the Day-Ahead and Hour-Ahead Markets) received from available Generating Units, Loads and System Resources (except for those specifically designated by a Scheduling Coordinator as backup capacity for Interruptible Imports and on-demand obligations under Section 2.5.22.3.2) in a database for use in real time Dispatch of Balancing Energy. The database shall indicate:

(a) Generating Unit/Load/ System Resource name;

(b) congestion zone;

(c) quantity bid;

(d) normal ramp rate;

(e) price;

(f) whether the Generating Unit/Load/ System Resource has been contracted to provide any Ancillary Services and/or Supplemental Energy, and, if so, which ones.

The quantity blocks shall be ordered in a merit order stack of ascending incremental and descending decremental price bids.

it will then be included in the decremental part of the database with a decremental bid equal to its incremental price bid. In the event that the ISO subsequently needs to decrement output, it will initially decrement the Generating Units or System Resources incremented previously, and then continue down the merit order of the decremental bids.

2.5.22.7 Inter-Zonal Congestion. In the event of Inter-Zonal Congestion in real time, the ISO shall procure Imbalance Energy separately for each Zone, as described in Section 2.5.22.6.

2.5.22.8 Intra-Zonal Congestion. In the event of Intra-Zonal Congestion in real time, the ISO shall adjust Generating Units and Loads within the Zone to alleviate the constraint, based on the Adjustment Bids available within the Zone; if there are insufficient Adjustment Bids to relieve Intra-Zonal Congestion, the ISO will use incremental and decremental bids from other resources available in the Zone. In the event no incremental or decremental bids are available, the ISO will exercise its authority to direct the redispatch of resources within the Zone.

2.5.22.9 Replacement of Operating Reserve. If pre-arranged Operating Reserve is used to meet Imbalance Energy requirements, such Operating Reserve may be replaced by the ISO's dispatch of additional Imbalance Energy through available Supplemental Energy Bids.

Any additional Operating Reserve needs may also be met in the same way. Where the ISO elects to rely upon Supplemental Energy Bids, the ISO shall select the resources with the lowest incremental Energy price bids. Operating Reserve procured from Replacement Reserve shall not require replacement of utilized Replacement Reserve.

2.5.22.10 Dispatch instructions. Dispatch instructions shall include the following information:

(a) name of the Generating Unit, Load or System Resource being dispatched;

(b) specific MW value to which the Generating Unit, Load or System Resource is being dispatched;

(c) operating level and price point to which the Generating Unit, Load or System Resource is being dispatched;

(d) time the Generating Unit, Load or System Resource is required to achieve the Dispatch instruction;

(e) time of the Dispatch instruction; and

(f) any other information which the ISO considers relevant.

All Dispatch instructions except those for the Dispatch of Regulation (which will be communicated by direct digital control signals) will be communicated by telephone or fax, at the ISO's discretion. Except in the case of deteriorating system conditions or emergency, and except for instructions for the Dispatch of Regulation, the ISO will send all Dispatch instructions to the Scheduling Coordinator for the Generating Unit, Load or System Resource which it wishes to Dispatch. The recipient Scheduling Coordinator shall ensure that the Dispatch instruction is communicated immediately to the operator of the Generating Unit or Load concerned. The recipient Scheduling Coordinator of a Dispatch instruction shall confirm the Dispatch instruction by repeating the Dispatch instruction to the ISO. The ISO shall record on tape all voice conversations which occur on the Dispatch instruction communication equipment.

These recordings may be used to audit the Dispatch instructions, and to verify the response of Generating Units, Loads and System Resources to Dispatch instructions.

The Dispatch instruction and all information associated with it shall be logged and recorded by the ISO as soon as practical after issuing each instruction. The ISO Protocols govern the content, issue, receipt, confirmation and recording of Dispatch instructions.

2.5.22.11 Failure to Conform to Dispatch Instructions. All Scheduling Coordinators, Participating Generators, owners or operators of Loads and operators of System Resources providing Ancillary Services (whether self provided or procured by the ISO) or whose Supplemental Energy bids have been accepted by the ISO shall be obligated to respond or to secure response to the ISO's Dispatch instructions in accordance with their terms. If a Generating Unit, Load or System Resource fails to respond to a Dispatch instruction in accordance with its terms, the Generating Unit, Load or System Resource:

(a) shall be declared and labeled as non-conforming to the ISO's instructions;

(b) cannot set the Hourly Ex Post Price; and

the Scheduling Coordinator for the Participating Generator, owner or operator of the Load or System Resource concerned shall pay to the ISO the difference between the Generating Unit's, Load's or System Resource's instructed and actual output (or Demand) at the Hourly Ex Post Price. This applies whether the Ancillary Services concerned are contracted or self provided.

The ISO will develop additional mechanisms to deter Generating Units, Loads and System Resources from failing to perform according to Dispatch instructions, for

example reduction in payments to Scheduling Coordinators, or suspension of the Scheduling Coordinator's Ancillary Services certificate for the Generating Unit, Load or System Resource concerned.

2.5.23 Pricing Imbalance Energy.

2.5.23.1 General Principles. Imbalance Energy shall be priced in two (2) time intervals using the Five Minute Ex Post Price and the Hourly Ex Post Price. The Five Minute Ex Post Price shall be based on the bid of the marginal Generating Units, Loads and System Resources dispatched by the ISO to reduce Demand or to increase or decrease Energy output in each five minute period (including resources that provide Imbalance Energy and Ancillary Services resources that increase or decrease Energy output or reduce Demand).

The marginal Generating Unit, Load or System Resource dispatched in the five (5) minute period is

(a) if generation output is increased, or Demand reduced, the Generating Unit, Load or System Resource with the highest bid that is accepted by the ISO for incremental Generation, or Demand reduction; or

(b) if generation output is decreased, the Generating Unit or System Resource with the lowest bid that is accepted by the ISO for decremental Generation.

Where a Scheduling Coordinator has identified specific Generating Units, Loads or System Resources as the providers of the additional Operating Reserve required to cover any Interruptible Imports and on-demand obligations which it has scheduled, the Proxy Energy Bid prices of those resources for the incremental Energy, or decremental Demand, dispatched by the ISO from the Operating Reserve provided by

those resources, shall not be taken into account in the determination of the Hourly Ex Post Price.

When an Inter-Zonal Interface is operated at the capacity of the interface (whether due to scheduled uses of the interface, or decreases in the capacity of the interface), the marginal incremental or decremental bid prices in some Zones may differ from one another. In such cases, the ISO will determine separate Hourly Ex Post Prices for the Zones.

2.5.23.2 Determining Five Minute Ex Post Price and Hourly Ex Post Price. For each five minute period, the ISO will compute an updated **dispatch** price curve, using the Generating Units, Loads and System Resources dispatched during that time period to meet Imbalance Energy requirements. The Five Minute Ex Post Price for each five (5) minute period will equal the marginal bid of the marginal Generating Unit, Load, or System Resource as described in Section 2.5.23.1.

If the net quantity of Imbalance Energy in the five (5) minute period t is positive then

$P5Min_t = Max(EnBid_i)_t$

Where

$EnBid_i$ = Energy bid prices of the Generating Units, Loads and System Resources providing Ancillary Services, and the Supplemental Energy bids of other Generating Units, Loads and System Resources dispatched by the ISO during the five minute period.

If the net quantity of Imbalance Energy in the five (5) minute period t is negative then

$P5Min_t = Min(EnBid_i)_t$

In the event of Inter-Zonal Congestion, the ISO will develop a dispatch price curve, and an Ex Post Five Minute Price $P5Min_{xt}$, for each Zone where congestion exists.

The Hourly Ex Post Price in each zone will equal the Energy weighted average of the twelve (12) Five Minute Ex Post Prices in each Zone, calculated as follows:

$$PHourExPost_x = \frac{\sum_{t=1}^{12}(P5Min_{xt} * SysDev)_t}{\sum_{t=1}^{12} SysDev_t}$$

Where:

$PHourExPost_x$ = Hourly Ex Post Price in Zone x

$P5Min_{xt}$ = Five minute Ex Post Price in Zone x in period t

$SysDev_t$ = the absolute difference (whether positive or negative) between (the deviation between scheduled and metered Demand) and (the deviation between scheduled and metered Generation) in five (5) minute period t in Zone x.

If the ISO declares a System Emergency, e.g. during times of supply scarcity, and involuntary load shedding occurs during the real time dispatch, the ISO shall set the Hourly Ex Post Price at the Administrative Price.

2.5.24 Verification of Performance of Ancillary Services.

Availability of both contracted and self provided Ancillary Services shall be verified by the ISO by unannounced testing of Generating Units, Loads and System Resources,

2.5.25.6 Black Start. The ISO 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 ISO 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 2.5.27.6 for the Generating Unit shall be paid the Generating Unit's contract price for the output under the Black Start test.

2.5.26 Penalties for Failure to Pass Tests.

A Generating Unit, Load or System Resource that fails an availability test, as determined under criteria to be established by the ISO, shall be deemed not to have been available to provide the Ancillary Service concerned or the relevant portion of that Service for the entire period the Generating Unit, Load 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 ISO. The "committed period" is defined as the total of all the hours/days Generating Unit, Load or System Resource was scheduled by the ISO to provide the Ancillary Service beginning from: (i) the last successful availability test; or (ii) the last time the Generating Unit, Load or System Resource actually 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 or Load that fails an availability test shall not be entitled to 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.

ReplQDA = the total quantity of Replacement Reserve capacity provided in the Day-Ahead Market.

ReplQHA = the total quantity of Replacement Reserve capacity provided in the Hour-Ahead Market.

The undispatched Replacement Reserve capacity charge for each Scheduling Coordinator in the Day-Ahead and Hour-Ahead Markets for each Settlement Period shall be calculated as follows in each Zone:

*ReplOblig * UnDispReplRate*

where *ReplOblig* is the Scheduling Coordinator's obligation for Replacement Reserve in the Settlement Period in the Day-Ahead and Hour-Ahead Markets which has not been self provided.

2.5.28.5 Voltage Support. The short term market Voltage Support user rate for Settlement Period t for Zone x shall be calculated as follows:

$$VSSTRate_{xt} = \frac{\sum_{i,j} VSST_{xijt}}{\sum_{j} QChargeVS_{xjt}}$$

$VSST_{xijt}$ = 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) by Scheduling Coordinator j for Settlement Period t.

4. RELATIONSHIP BETWEEN ISO AND UDCs.

4.1 General Nature of Relationship Between ISO and UDCs.

4.1.1 The ISO shall not be obliged to accept Schedules, Adjustment Bids or bids for Ancillary Services which would require Energy to be transmitted to or from the Distribution System of a UDC directly connected to the ISO 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 and any other expressly applicable Sections of this ISO Tariff and the ISO Protocols as these may be amended from time to time. The ISO shall maintain a pro forma UDC Operating Agreement available for UDCs to enter into with the ISO.

4.1.2 The ISO shall operate the ISO Controlled Grid, and each UDC 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 ISO shall, in respect of its obligations set forth in this Section 4, have the right by agreement to delegate certain operational responsibilities to the relevant Participating TO or UDC pursuant to this Section 4. All information made available to UDCs by the ISO 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 ISO Controlled Grid that is made available to the ISO by the UDC

4.4 System Emergencies.

4.4.1 In the event of a System Emergency, UDCs shall comply with all directions from the ISO concerning the management and alleviation of the System Emergency and shall comply with all procedures concerning System Emergencies set out in the ISO Protocols.

4.4.2 During a System Emergency, the ISO and UDCs shall communicate through their respective control centers and in accordance with procedures established in individual UDC operating agreements.

4.4.3 Under Frequency Load Shedding (UFLS).

4.4.3.1 Each UDC's agreement with the ISO shall describe the UFLS program for that UDC. The ISO and UDC shall review the UFLS program periodically to ensure compliance with Applicable Reliability Criteria.

4.4.3.2 The ISO shall perform periodic audits of each UDC's UFLS system to verify that the system is properly configured for each UDC.

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

4.4.3.4 In compiling its UFLS program, the ISO, at its discretion, may also coordinate with other entities, review and audit their UFLS programs and systems as described in Section 4.4.3.1 to 4.4.3.3

4.4.4 The ISO shall have the authority to direct a UDC to disconnect Load from the ISO Controlled Grid if necessary to avoid an anticipated System Emergency or to

5.1.5 Existing Contracts for Regulatory Must-Take Generation.

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

5.2 Procurement of Reliability Must-Run Generation by the ISO.

5.2.1 A Reliability Must-Run Contract is a contract entered into by the ISO with a Generator which operates a Generating Unit giving the ISO the right to call on the Generator to generate Energy and provide Ancillary Services from the Generating Units as and when this is required to ensure that the reliability of the ISO Controlled Grid is maintained.

5.2.2 [Not Used]

5.2.3 The ISO will, subject to any existing power purchase contracts of a Generating Unit, have the right at any time based upon ISO Controlled Grid technical analyses and studies to designate a Generating Unit as a Reliability Must-Run Unit. A Generating Unit so designated shall then be obligated to provide the ISO with its proposed rates for Reliability Must-Run Generation for negotiation with the ISO and authorization by FERC.

5.2.4 [Not Used]

5.2.5 On a yearly basis, the ISO will carry out technical evaluations based upon historic patterns of the operation of the ISO Controlled Grid and the ISO's forecast requirements for maintaining the reliability of the ISO Controlled Grid in the next year. The ISO will then determine which Generating Units it requires to continue to be Reliability Must-Run Units, which Generating Units it no longer requires to be Reliability Must-Run Units and which Generating Units it requires to become the subject of a Reliability Must-Run contract which had not previously been so contracted to the ISO.

5.2.6 A *pro forma* of the Reliability Must-Run Contract is attached as Appendix G. From the ISO Operations Date all Reliability Must-Run Units will be placed under the "As Called" conditions, but the parties may, pursuant only to the terms of the Reliability Must-Run Contract, Transfer any such unit to one of the alternative forms of conditions under specific circumstances. The ISO will review the terms of the applicable forms of agreement applying to each Reliability Must-Run Unit to ensure that the ISO will procure Reliability Must-Run Generation from the cheapest available sources and to maintain System Reliability. The ISO shall give notice to terminate Reliability Must-Run contracts that are no longer necessary or can be replaced by less expensive and/or more competitive sources for maintaining the reliability of the ISO Controlled Grid.

5.2.7 Reliability Must-Run Charge. The ISO shall recover the costs it incurs through payments under each Reliability Must-Run Contract from the utility that is a party to the TCA in whose Service Area the Reliability Must-Run Generating Unit is located after deducting the amounts received by the Reliability Must-Run Owner from Scheduling Coordinators for Energy and Ancillary Services, as set forth in Appendix H of the Settlement and Billing Protocol. The ISO shall prepare and send to each such utility in accordance with the relevant ISO Protocols an invoice in respect of all such costs incurred under all such contracts relating to that utility's Service Area. Each such utility shall pay the ISO's invoices by the Payment Date, in default of which interest shall become payable at the ISO Default Interest Rate.

5.2.7.1 Each utility referred to in Section 5.2.7 shall provide in favor of the ISO one of the following forms of security for an amount to be determined by the ISO and notified to such utility under Section 5.2.7.2:

(a) an irrevocable and unconditional letter of credit confirmed by a bank or financial institution reasonably acceptable to the ISO; or

(b) a cash deposit standing to the credit of an interest bearing escrow account maintained at a bank or financial institution designated by the ISO.

Letters of credit and escrow agreements shall be in such form as the ISO may reasonably require from time to time by notice to the utilities referred to in Section 5.2.7.

5.2.7.2 The security provided pursuant to Section 5.2.7.1 by the utility that is a party to the TCA in whose Service Area the Reliability Must-Run Generating Unit is

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 ISO Controlled Grid or, in the case of the ISO, 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 threat.

5.9 Access Right.

A Participating Generator shall, at the request of the ISO and upon reasonable notice, provide access to its facilities (including those relating to communications, telemetry and direct control requirements) as necessary to permit the ISO or an ISO 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, or (ii) to test the Participating Generator’s compliance with any performance standards pursuant to subsection 5.4 hereof.

5.10 Black Start Services.

5.10.1 All Participating Generators with Black Start Generating Units must satisfy technical requirements specified by the ISO.

5.10.2 The ISO shall from time to time undertake performance tests, with or without prior notification.

6. TRANSMISSION SYSTEM INFORMATION AND COMMUNICATIONS.

6.1 WEnet.

6.1.1 The ISO shall engage the services of an Internet Service Provider (ISP) to establish, implement and operate WEnet as a wide-band, wide-area backbone which is functionally similar to the Internet.

6.1.2 The ISO shall provide non-discriminatory access to information concerning the status of the ISO Controlled Grid by posting that information on the public access sites on WEnet.

6.1.2.1 WEnet will provide an interface for data exchange between the ISO and Scheduling Coordinators who shall each have individually assigned login accounts on WEnet.

6.1.2.2 The ISO shall provide public information over WEnet which shall include, at a minimum, but not limited to:

6.1.2.2.1 Advisory Information: The following may be provided over such time scales as the ISO may in its discretion decide:

(a) Future planned transmission Outages;

(b) Generator Meter Multipliers.

6.1.2.2.2 Day-Ahead and Hour-Ahead Information:

(a) Date;

(b) Hour;

(c) Total forecast Demand by UDC;

(d) Inter-Zonal Congestion price per Congested path;

(e) Total Regulation and Reserve service capacity reservation cost by Zone;

(f) Total capacity of Inter-Zonal Interfaces; and

(g) Available capacity of Inter-Zonal Interfaces.

6.1.2.2.3 Ex Post Information:

(a) Date;

(b) Hour; and

(c) Hourly Ex Post Price.

6.1.2.3 WEnet shall be used by the ISO to post Usage Charges for Inter-Zonal Interfaces within the ISO Controlled Grid.

6.1.2.4 WEnet shall serve as a bulletin board to enable Market Participants to inform one another of scheduling changes and trades made.

6.1.2.5 WEnet may be used by the ISO to communicate operating orders to the Scheduling Coordinators and other Market Participants, both in advance of actual operation and in real time. Such orders may include but are not limited to:

(a) Notifying Scheduling Coordinators and other Market Participants to be on call to provide Non-Spinning Reserve and Replacement Reserves and Black Start;

(b) Issuing start-up instructions;

(c) Stating the amount of Spinning Reserves to be carried;

(d) Requesting specific Ramping patterns;

(e) Indicating which Scheduling Coordinators and other Market Participants are to provide Regulation;

(f) Specifying the minimum amount of unloaded capacity that must be maintained in order to meet regulation requirements;

(g) Issuing shut-down instructions; and

(h) Specifying the voltage level and reactive reserve each Market Participant must maintain.

6.1.2.6 WEnet shall be used by the ISO to provide information to Market Participants regarding the ISO Controlled Grid. Such information may include but is not limited to:

(a) Voltage control parameters;

(b) ISO historical data for Congestion;

(c) Forecasts of Usage Charges; and

(d) Generation Meter Multipliers to support seven (7) day advance submission of Schedules by Scheduling Coordinators. Additional Generation Meter Multipliers may be published for different seasons and loading patterns.

6.2 Reliable Operation of the WEnet.

6.2.1 Market Participants shall arrange access to WEnet through the Internet Service Provider.

6.2.2 The ISO shall arrange for the Internet Service Provider to provide a pathway for public Internet connectivity through the WEnet backbone to accommodate users other than Market Participants without the need for a separate, dedicated user data link. This public Internet connection may provide a reduced level of data exchange and reduced information concerning the reliability and performance of the ISO

and benefits and shall define the transmission facility costs, if any, which shall be borne equally by all Market Participants and those transmission facility costs, if any, which should be specifically assigned to specific Market Participants or category of Market Participants. If the ISO Governing Board has made no such decision, the rate methodology for Access Charges shall be determined pursuant to the ISO ADR Procedure. If no decision is rendered under the ISO ADR Procedure, then the default rate methodology for calculating the Access Charge shall be a uniform regional Access Charge and a utility specific local Access Charge, provided that the default rate methodology shall be filed with FERC by the ISO Governing Board as its recommendation for implementation upon termination of the cost recovery plan set forth in Section 368 of the California Public Utilities Code (as added by AB 1890) or no later than two years after the ISO Operations Date, whichever is later. "Regional" transmission facilities for purposes of this Section, are defined as transmission facilities operating at or above 200 kilovolts plus an appropriate percentage of transmission facilities operating below 230 kilovolts; all other transmission facilities are defined as "local." The appropriate percentage of transmission facilities described above shall be consistent with the guidelines in FERC Order No. 888 and any exceptions to Order No. 888 which are approved by FERC.

7.1.6.1 Tracking Account. If the Access Charge rate methodology implemented pursuant to Section 7.1.6 results in Access Charge rates for any Participating TO which are different from those in effect prior to the application of Section 7.1.6, an amount equal to the difference between the new rates and the prior rates shall be

costs. Inter-Zonal Interfaces consist of transmission facilities that are expected to have relatively high Congestion Management costs, as described in Section 7.2.7.1. For these interfaces, allocation of usage based on the value placed on these interfaces by the Scheduling Coordinators will increase efficient use of the ISO Controlled Grid.

7.2.1.3 Types of Congestion. Congestion that occurs on Inter-Zonal Interfaces is referred to as "Inter-Zonal Congestion." Congestion that occurs due to transmission system constraints within a Zone is referred to as "Intra-Zonal Congestion."

7.2.1.4 Elimination of Potential Transmission Congestion. The ISO's Day-Ahead and Hour-Ahead scheduling procedures will eliminate potential Congestion by:

7.2.1.4.1 scheduling the use of Inter-Zonal Interfaces by the Scheduling Coordinators who place the highest value on those rights, based on the Adjustment Bids that are submitted by Scheduling Coordinators; and

7.2.1.4.2 rescheduling Scheduling Coordinators' resources (but so that Intra-Zonal transmission limits are not violated) using the Adjustment Bids that are submitted by Scheduling Coordinators.

7.2.1.5 Elimination of Real Time Inter-Zonal Congestion. In its management of Inter-Zonal Congestion in real time, the ISO will make the minimum amount of adjustment necessary to relieve Inter-Zonal Congestion by incrementing or decrementing Generation or Demand, as necessary, based on the merit order stack, in accordance with Dispatch Protocol Section 8.3.

7.2.2 General Requirements for the ISO's Congestion Management. The ISO's Congestion Management in the Day-Ahead Market and Hour-Ahead Market shall:

Zonal Congestion would exist if all of the Preferred and Revised Schedules submitted by the Scheduling Coordinators were accepted by the ISO. If no Inter-Zonal Congestion would exist, then all Inter-Zonal Interface uses will be accepted and the Usage Charges will be zero.

7.2.5.2 The purpose of Inter-Zonal Congestion Management is to allocate the use of, and determine the marginal value of, active Inter-Zonal Interfaces. Inter-Zonal Congestion Management will comply with the requirements stated in Sections 7.2.2, 7.2.4 and 7.2.5.

7.2.5.2.1 Inter-Zonal Congestion Management will keep each Scheduling Coordinator's portfolio of Generation and Demand (i.e., the Scheduling Coordinator's Preferred Schedule) separate from the portfolios of the other Scheduling Coordinators, as the ISO adjusts the Schedules to alleviate Inter-Zonal Congestion.

7.2.5.2.2 If Congestion would exist on one or more active Inter-Zonal Interfaces, then the ISO shall execute its Inter-Zonal Congestion Management algorithms to determine a set of tentative (in the Day-Ahead procedure) allocations of Inter-Zonal Interface rights and tentative (in the Day-Ahead procedure) Usage Charges, where the Usage Charges will be calculated as the marginal values of the Congested Inter-Zonal Interfaces. The marginal value of a Congested Inter-Zonal Interface is calculated by the ISO's computer optimization algorithm to equal the total change in redispatch costs (based on the Adjustment Bids) that would result if the interface's scheduling limit was increased by a small increment.

will be paid or charged based on the Adjustment Bids that they have provided to the ISO. After deduction of the amounts paid for Reliability Must-Run Generation under Section 7.2.6.2, the net redispatch cost in each Zone will be recovered through the Grid Operations Charge, which shall be calculated by the ISO for each Settlement Period and shall be paid to the ISO by all Scheduling Coordinators in proportion to their metered Demands within, and metered exports from, the Zone to a neighboring Control Area.

7.4 Transmission Losses.

7.4.1 Obligation to Provide for Transmission Losses.

Each Scheduling Coordinator shall ensure that it schedules sufficient Generation to meet both its Demand and Transmission Losses responsibilities as determined in accordance with this Section 7.4.

7.4.2 Determination of Transmission Losses.

The total Demand that may be served by a Generating Unit, in a given hour, taking account of Transmission Losses, is equal to the product of the total Metered Quantity of that Generating Unit in that hour and the Generation Meter Multiplier calculated by the ISO in the hour for that Generator location. The Generation Meter Multiplier shall be greater than one (1) where the Generating Unit's contribution to the ISO Controlled Grid reduces Transmission Losses and shall be less than one (1) where the Generating Unit's contribution to the system increases Transmission Losses. All Generating Units supplying Energy to the ISO Controlled Grid at the same electrical bus shall be assigned the same Generation Meter Multiplier.

7.4.2.1 Procedures for Calculating Generation Meter Multiplier. By 6:00 p.m. two days preceding a Trading Day, the ISO will calculate, and post on WEnet, an estimated Generation Meter Multiplier for each electrical bus at which one or more Generating Units may supply Energy to the ISO Controlled Grid. The Generation Meter Multipliers shall be determined utilizing the Power Flow Model based upon the ISO's forecasts of total Demand for the ISO Controlled Grid and Demand and Generation patterns throughout the ISO Controlled Grid. The ISO shall continuously update the data to be used in calculating the Generation Meter Multipliers to reflect changes in system conditions on the ISO Controlled Grid, and the ISO shall provide all Scheduling Coordinators with access to such data. The ISO shall not be required to determine new Generation Meter Multipliers for each hour; the ISO will determine the appropriate period for which each set of Generation Meter Multipliers will apply, which period may vary based upon the expected frequency and magnitude of changes in system conditions on the ISO Controlled Grid.

7.4.2.2 Methodology for Calculating Generation Meter Multiplier. The ISO shall calculate the Generation Meter Multiplier for each Generating Unit location in a given hour by subtracting the Scaled Marginal Loss Rate from 1.0.

7.4.2.2.1 The Scaled Marginal Loss Rate for a given Generating Unit location in a given hour shall equal the product of (i) the Full Marginal Loss Rate for each Generating Unit location and hour, and (ii) the Loss Scale Factor for such hour.

7.4.2.2.2 The ISO shall calculate the Full Marginal Loss Rate for each Generating Unit location for an hour by utilizing the Power Flow Model to calculate the effect on

10.5.2 Exemptions from ISO Metering Standards

The ISO has the authority to grant exemptions from certain ISO metering standards for an ISO Metered Entity provided the ISO annually publishes details of the criteria the ISO will use when considering an application for an exemption and details of specific exemptions which are available. An ISO Metered Entity with an interim exemption shall provide site specific Settlement Quality Meter Data to the ISO in accordance with its meter service agreement and the ISO metering protocols. A Generator connected directly to a UDC Distribution System and that sells its entire output to the UDC in which the Generator is located is not subject to the audit, testing or certification requirements of the ISO.

10.6 Metering for Scheduling Coordinator Metered Entities.

10.6.1 Applicability.

The requirements set forth in this Section 10.6 shall apply only to Scheduling Coordinators representing Scheduling Coordinator Metered Entities.

10.6.2 Responsibilities of Scheduling Coordinators and the ISO.

10.6.2.1 Duty to Provide Meter Data. Scheduling Coordinators shall provide the ISO with Settlement Quality Meter Data for all of the Scheduling Coordinator Metered Entities served by the Scheduling Coordinator no later than the day specified in Section 10.6.3. 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, or (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

The Scheduling Coordinator or its designated representative shall provide the ISO with all such information, assistance and cooperation the ISO reasonably requires in order to conduct such inspections, tests and audits.

10.6.7.8 Failure to Achieve Required Standards. Subject to any Local Regulatory Authority requirements, meter service agreements shall set out appropriate measures and rights the ISO may exercise upon any failure by the other party to meet the requirements for meter standards and accuracy set out in this Section 10.6.

10.6.8 Data Access.

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 as otherwise required by law or provided for in this ISO Tariff. The ISO shall be granted access to Meter Data of Scheduling Coordinator Metered Entities obtained by Scheduling Coordinators.

10.6.9 Exemptions from ISO Metering Standards

The ISO has the authority to grant exemptions from certain ISO metering standards for Scheduling Coordinator Metered Entities that are subject to ISO metering standards provided the ISO annually publishes details of the criteria the ISO will use when considering an application for an exemption and details of specific exemptions which are available.

11.23 Communications.

Preliminary Settlement Statements, Final Settlement Statements and invoices will be considered issued to ISO Creditors or ISO Debtors when released by the ISO via direct computer link. If there is a failure of a communication system and it is not possible to communicate by electronic means, then the ISO or ISO Creditor or ISO Debtor, as the case may be, shall communicate by facsimile but only if the recipient is first advised by telephone to expect the facsimile.

11.24 ISO Payments Calendar.

11.24.1 Preparation.

No later than 31 October in each year, the ISO shall publish an ISO Payments Calendar showing, 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 ISO and the Payment Dates on which the ISO will pay the Participating TO the Wheeling revenues allocated to them pursuant to Section 7.1.4.3 of this ISO Tariff.

11.24.2 Distribution.

Any ISO Payments Calendar prepared pursuant to this Section 11.24 shall be distributed promptly to each Scheduling Coordinator, each Participating TO, the ISO Bank, the ISO Audit Committee and the ISO Governing Board and shall be published on WEnet.

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 10 qualified individuals supplied by the ISO ADR Committee, or if the ISO 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 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 ISO ADR Committee, or if the ISO 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

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 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 ISO 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 an ISO newsletter or electronic bulletin board and any other method adopted by the ISO ADR Committee, and maintained by the ISO 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 ISO 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 an ISO newsletter or electronic bulletin board, and any other method adopted by the ISO 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

16. ISO GRID OPERATIONS COMMITTEE; CHANGES TO ISO PROTOCOLS.

16.1 ISO Grid Operations Committee.

The ISO Grid Operations Committee shall coordinate activities relating to the ISO Controlled Grid and shall consider suggestions for changes to the ISO Protocols in accordance with the procedures set out in Article IV, Section 4 of the ISO's bylaws.

16.2 ISO Protocol Amendment Process

The ISO Governing Board shall establish an ISO Protocol amendment process in order to ensure that all affected parties have an opportunity to participate.

16.3 Market Surveillance: Changes to Operating Rules and Protocols

The ISO shall keep the operation of the markets that it administers under review to determine whether changes in its operating rules or ISO Protocols would improve the efficiency of those markets or prevent the exercise of market power by any Market Participant; and it shall institute necessary changes in accordance with this Section 16. The details of the ISO Market Monitoring and Information Protocol are set forth in Appendix L, "ISO Protocols".

23. Temporary Changes to the Real-Time Market for Imbalance Energy

23.1 Application

Notwithstanding any other provision of the ISO Tariff, the amendments to the ISO Tariff set forth in Sections 23.2 through 23.5 shall continue in effect until such time as:

(a) the ISO has applied to the FERC for new, long-term, changes to the ISO Tariff in regard to the Real-Time Market for Imbalance Energy, in connection with implementing a sub-hour Settlement Period; and

(b) the FERC has approved new, long-term, changes to the ISO Tariff in regard to the Real Time Market for Imbalance Energy.

23.2 ISO Tariff Amendments

23.2.1 Amendments to the Body of the ISO Tariff

2.5.22.4.1 Timing of Supplemental Energy Bids.

Supplemental Energy bids must be submitted to the ISO no later than ***forty-five (45)*** ~~***30***~~ minutes prior to the operating hour. Bids may ~~***also***~~ be submitted at any time after the Day-Ahead Market closes. These Supplemental Energy bids cannot be withdrawn after ***forty-five (45)*** ~~***thirty (30)***~~ minutes prior to the Settlement Period. The ISO may dispatch the associated resource at any time during the Settlement Period.

2.5.22.10 Dispatch instructions. Dispatch instructions shall include the following information:

(a) name of the Generating Unit, Load or System Resource being dispatched;

(b) specific MW value to which the Generating Unit, Load or System Resource is being dispatched;

(c) operating level and price point to which the Generating Unit, Load or System Resource is being dispatched;

(d) time the Generating Unit, Load or System Resource is required to achieve the Dispatch instruction;

(e) time of the Dispatch instruction; and

(f) any other information which the ISO considers relevant.

All Dispatch instructions except those for the Dispatch of Regulation (which will be communicated by direct digital control signals) will be communicated by telephone. Except in the case of deteriorating system conditions or emergency, and except for instructions for the Dispatch of Regulation, the ISO will send all Dispatch instructions to the Scheduling Coordinator for the Generating Unit, Load or System Resource which it wishes to Dispatch. The recipient Scheduling Coordinator shall ensure that the Dispatch instruction is communicated immediately to the operator of the Generating Unit or Load concerned. ***The ISO may, with the prior permission 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.*** The recipient ~~***Scheduling Coordinator***~~ of a Dispatch instruction shall confirm the Dispatch instruction by repeating the Dispatch instruction to the ISO. The ISO shall record on tape all voice conversations which occur on the Dispatch instruction communication equipment. These recordings may be used to audit the dispatch instructions, and to verify the response of Generating Units, Loads and System Resources to Dispatch instructions.

The ~~***dispatch***~~ ***Dispatch*** instruction and all information associated with it shall be logged and recorded by the ISO as soon as practical after issuing each instruction. The ISO Protocols govern the content, issue, receipt, confirmation and recording of ~~***dispatch***~~ ***Dispatch*** instructions.

2.5.23.1 General Principles. Imbalance Energy shall be priced ~~***in two time intervals***~~ using the ***BEEP Interval*** ~~***Five Minute***~~ Ex Post Price***s for Instructed Imbalance Energy per resource*** and the Hourly Ex Post Price ***for Uninstructed Imbalance Energy***. The ~~***Five Minute***~~ Ex Post Price***s*** shall be based on the bid of the marginal Generating Units, Loads and System Resources dispatched by the ISO to reduce Demand or to increase or decrease Energy output in each ***BEEP Interval***~~***five minute period***~~.

The marginal Generating Unit, Load or System Resource dispatched in ***each BEEP Interval*** ~~***the five minute period***~~ is

(a) if ~~***generation***~~ ***Generation*** output is increased, or Demand reduced, the Generating Unit, Load or System Resource with the highest bid that is accepted by the ISO***'s BEEP Software*** for incremental Generation, or Demand reduction; or

(b) if ~~***generation***~~ ***Generation*** output is decreased, the Generating Unit or System Resource with the lowest bid that is accepted by

The BEEP Interval decremental Ex Post Price will be computed for each BEEP Interval i as

$PD_i=Min(EnBid_r)_i$

Wherewhere

$EnBid_{r\,i}$ = Energy bid price***s*** of the ***Generating Units, Loads and System Resourcesresources*** providing Ancillary ***ServicesService Energy, and the or*** Supplemental Energy ***bids of other Generating Units, Loads and System Resources dispatched by the ISO during the five minute period***.

If the net quantity of Imbalance Energy in the five minute period t is negative then

$P5Min_t=Miin(Enbid_r)_i$

In the event of Inter-Zonal Congestion, the ISO will develop a dispatch price curve, and ***BEEP Interval Ex Post Pricesan Ex Post Five Minute Price $P5Min_{xt}$*** for each Zone where congestion exists.

2.5.23.2.2 Hourly Ex Post Price Applicable to Uninstructed Deviations. The Hourly Ex Post Price ***applicable to Uninstructed Imbalance Energy in Settlement Period t*** in each zone will equal the Energy weighted average of the ***BEEP Interval 12 Five Minute Ex Post PricesCharges*** in each Zone, calculated as follows:

$$PHourExPost_x = \frac{\sum_{t=1}^{12}(P5Min_{xt} * SysDev)_t}{\sum_{t=1}^{12} SysDev_t}$$

$$PHourExPostx = \frac{\sum_{ji}\left|IIEC_{jix}\right|}{\sum_{ji}\left|IMWH_{jix}\right|}$$

where:

$PHourExPost_x$ = Hourly Ex Post Price in Zone x

	is present. The Hourly Ex Post Price is the Energy weighted average of the ***BEEP Interval*** ~~***12 Five Minute***~~ Ex Post Prices in each Zone during each Settlement Period.
Instructed **Imbalance Energy**	The real time change in Generation output or Demand (from dispatchable Generating Units or Loads) which is instructed by the ISO to ensure that reliability of the ISO Control Area is maintained in accordance with Applicable Reliability Criteria. Sources of Imbalance Energy include Spinning and Non-spinning Reserves, Replacement Reserve, and Energy from other Generating Units that are able to respond to the ISO's request for more or less Energy.

23.3 Amendments to the Dispatch Protocol

DP 3.2 Supplemental Energy

In addition to the Final Schedules, Supplemental Energy bids will be available to the ISO real time dispatchers, as described in the SBP, by ***forty-five (45)*** ~~***30***~~ minutes prior to the start of the Settlement Period to which such Supplemental Energy bids apply.

DP 3.4.3 Verbal Communication with Generators

Normal verbal communication of Dispatch Instructions between the ISO and Generators will be via the relevant SC. Each SC must immediately pass on to the Generator concerned any verbal communication for the Generator which it receives from the ISO. If the ISO considers that there has been a failure at a particular point in time or inadequate response over a particular period of time by the Generating Units to the Dispatch Instruction, the ISO will notify the relevant SC. ***The ISO may, with the prior permission 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 ISO

follows:

$$\underline{EnQPayTotal_{ijxt} = \sum_{i} EnQPay_{ijxt}}$$

C 3.18 EnQ_{ijx} – MWh

The Dispatched and Supplemental Energy output in the Real Time Market from resource i by Scheduling Coordinator j in Zone x for.

C 3.20 P_{xt} - $/MWh

The Hourly Ex Post Price of Imbalance Energy in the Real Time Market in Zone x for Trading Interval t.

~~D 2.1~~*~~D 2.1.1 Uninstructed~~* Imbalance Energy Charges on Scheduling Coordinators

The Imbalance Energy charge for ***~~Trading Interval t~~* *Settlement Period t*** for Scheduling Coordinator j for Zone x is calculated using the following formula:

$$IEC_j = \left(\sum_i GenDev_i - \sum_i LoadDev_i\right) * P_{xt} + \left(\sum_q ImpDev_q\right) * P_{xt} - \left(\sum_q ExpDev_q\right) * P_{xt} + UFEC_j$$

The deviation between scheduled and actual Energy Generation for Generator i represented by Scheduling Coordinator j in Zone x during ***~~Trading Interval t~~* *Settlement Period t*** is calculated as follows:

$$GenDev_i = G_s * GMM_f - [(G_a - G_{adj}) * GMM_{ah} - G_{a/s}]$$

The deviation between scheduled and actual Load consumption for Load i represented by Scheduling Coordinator j in Zone x during Trading Interval t is calculated as follows:

$$LoadDev_i = L_s - \left|\left(L_a - L_{adj}\right) + L_{a/s}\right|$$

The deviation between forward scheduled and Real Time adjustments to Energy imports[1], adjusted for losses, for Scheduling Point q represented

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1 Note that this deviation is a difference between a forward Market value and a Real Time value. It is not inadvertent energy.

2 Note that this deviation is a difference between a forward Market value and a Real Time value. It is not inadvertent energy.

eligible to provide an Ancillary Service.

Applicable Reliability Criteria The reliability standards established by NERC, WSCC, and Local Reliability Criteria as amended from time to time, including any requirements of the NRC.

Applicants Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company and any others as applicable.

Approved Credit Rating (a) A short-term taxable commercial paper debt rating of not less than any one of the following: (i) A1 by Standard and Poor's Corporation; (ii) D1 by Duff & Phelps Credit Rating Agency; (iii) F1 by Fitch IBCA Incorporated; or (iv) P1 by Moody's Investors Service.

(b) A short-term tax exempt commercial paper debt rating of not less than any one of the following: (i) A1 by Standard and Poor's Corporation; (ii) V1 by Fitch IBCA Incorporated; or (iii) VMIG1 by Moody's Investors Service.

(c) A federal agency shall be deemed to have an Approved Credit Rating if its financial obligations under

	the ISO Tariff are backed by the full faith and credit of the United States. (d) A California state agency shall be deemed to have an Approved Credit Rating if its financial obligations under the ISO Tariff are backed by the full faith and credit of the State of California. (e) Another credit rating approved by the ISO Board of Governors.
Approved Load Profile	Local Regulatory Authority approved Load profiles applied to cumulative End-Use Meter Data in order to allocate consumption of Energy to Settlement Periods.
Approved Maintenance Outage	A Maintenance Outage which has been approved by the ISO through the ISO Outage Coordination Office.
Availability Measure	An indication for measuring the performance of

	calculated as set out in Section 8 of the ISO Tariff.
Grid Operations Charge	An ISO charge that recovers redispatch costs incurred due to Intra-Zonal Congestion in each Zone. These charges will be paid to the ISO by the Scheduling Coordinators, in proportion to their metered Demand within, and metered exports from, the Zone to a neighboring Control Area.
Hour-Ahead	Relating to an Hour-Ahead Market or an Hour-Ahead Schedule.
Hour-Ahead Market	The forward market for Energy and Ancillary Services to be supplied during a particular Settlement Period that is conducted by the ISO, the PX and other Scheduling Coordinators which opens after the ISO's acceptance of the Final Day-Ahead Schedule for the Trading Day in which the Settlement Period falls and closes with the ISO's acceptance of the Final Hour-Ahead Schedule.
Hour-Ahead Schedule	A Schedule prepared by a Scheduling Coordinator or the ISO before the beginning of a Settlement Period indicating the changes to the levels of Generation and Demand scheduled for that Settlement Period from that shown in the Final Day-Ahead Schedule.
Hourly Ex Post Price	The price charged or paid to Scheduling Coordinators responsible for Participating Generators and

	interconnect.
Interest	Interest shall be calculated in accordance with the methodology specified for interest on refunds in the regulations of FERC at 18 C.F.R. §35.19(a)(2)(iii) (1996). Interest on delinquent amounts shall be calculated from the due date of the bill to the date of payment. When payments are made by mail, bills shall be considered as having been paid on the date of receipt.
Interruptible Imports	Energy sold by a Generator or resource located outside the ISO Controlled Grid which by contract can be interrupted or reduced at the discretion of the seller.
Intra-Zonal Congestion	Congestion within a Zone.
IOU	An investor owned electric utility.
ISO (Independent System Operator)	The California Independent System Operator Corporation, a state chartered, nonprofit corporation that controls the transmission facilities of all Participating TOs and dispatches certain Generating Units and Loads.
ISO Account	The ISO Clearing Account, the ISO Reserve Account or such other trust accounts as the ISO deems necessary or convenient for the purpose of efficiently implementing

	the funds transfer system under the ISO Tariff.
ISO ADR Committee	The Committee appointed by the ISO ADR Committee pursuant to Article IV, Section 3 of the ISO bylaws to perform functions assigned to the ISO ADR Committee in the ADR process in Section 13 of the ISO Tariff.
ISO ADR Procedures	The procedures for resolution of disputes or differences set out in Section 13 of the ISO Tariff, as amended from time to time.
ISO Audit Committee	A Committee of the ISO Governing Board appointed pursuant to Article IV, Section 5 of the ISO bylaws to (I) review the ISO's annual independent audit (2) report to the ISO Governing Board on such audit, and (3) to monitor compliance with the ISO Code of Conduct.
ISO Authorized Inspector	A person authorized by the ISO to certify, test, inspect and audit meters and metering facilities in accordance with the procedures established by the ISO pursuant to the ISO Protocols on metering.
ISO Bank	The bank appointed by the ISO from time to time for the purposes of operating the Settlement process.
ISO Clearing Account	The account in the name of the ISO with the ISO Bank to which payments are required to be transferred for allocation to ISO Creditors in accordance with their

	pursuant to the terms of the ISO Tariff with respect to Wheeling Access Charges.
ISO Debtor	A Scheduling Coordinator or a Participating TO that is required to make a payment to the ISO under the ISO Tariff.
ISO Default Interest Rate	The rate which is equal to 2% above the average rate of interest which the ISO Bank charges to the ISO in respect of its borrowings.
ISO Documents	The ISO Tariff, the ISO Protocols, ISO bylaws, and any agreement entered into between the ISO and a Scheduling Coordinator, a Participating TO or any other Market Participant pursuant to the ISO Tariff.
ISO Governing Board	The Board of Governors established to govern the affairs of the ISO.
ISO Home Page	The ISO internet home page at http://www.caiso.com/iso or such other internet address as the ISO shall publish from time to time.
ISO Memorandum Account	The memorandum account established by each California IOU pursuant to California Public Utility Commission Order D. 96-08-038 date August 2, 1996 which records all ISO startup and development costs incurred by that California IOU.

ISO Metered Entity	a) any one of the following entities that is directly connected to the ISO Controlled Grid: i. a Generator other than a Generator that sells all of its Energy (excluding any Energy consumed by auxiliary load equipment electrically connected to that Generator at the same point) and Ancillary Services to the UDC in whose Service Area it is located; ii. an Eligible Customer; or iii. an End-User other than an End-User that purchases all of its Energy from the UDC in whose Service Area it is located; and (b) any one of the following entities: i. a Participating Generator; or ii. a Participating TO in relation to its Tie Point Meters with other TOs or Control Areas.
ISO Operations Date	The date on which the ISO first assumes Operational Control of the ISO Controlled Grid.
ISO Outage Coordination Office	The office established by the ISO to coordinate Maintenance Outages in accordance with Section 2.3.3 of the ISO Tariff.

ISO Tariff	The California Independent System Operator Corporation Operating Agreement and Tariff, dated March 31, 1997, as it may be modified from time to time.
ISO Grid Operations Committee	A committee appointed by the ISO Governing Board pursuant to Article IV, Section 4 of the ISO bylaws to advise on additions and revisions to its rules and protocols, tariffs, reliability and operating standards and other technical matters.
ISP (Internet Service Provider)	An independent network service organization engaged by the ISO to establish, implement and operate WEnet.
Literal Self Provision	A Scheduling Coordinator's provision of any portion of its Ancillary Services allocation from a System Unit via a Metered Subsystem.
Load	An end-use device of an End-Use Customer that consumes power. Load should not be confused with Demand, which is the measure of power that a Load receives or requires.
Load Shedding	The systematic reduction of system Demand by temporarily decreasing the supply of Energy to Loads in response to transmission system or area capacity shortages, system instability, or voltage control considerations.

	and is independent of both the ISO and all other Market Participants.
PX Account	The PX Clearing Account, the PX Reserve Account or such other trust accounts as the PX deems necessary or convenient for the purpose of efficiently implementing the funds transfer system under the PX Tariff.
PX Administration Charge	The charge that the PX makes to PX Participants for the provision of its services.
PX ADR Committee	The committee appointed by the PX Governing Board pursuant to Article IV, Section 3 of the PX bylaws to perform functions assigned to the PX ADR Committee in the ADR Procedures in Section 7 of the PX Tariff.
PX ADR Procedures	The procedures for resolution of disputes or differences set out in Section 7 of the PX Tariff, as amended from time to time.
PX Auction Activity Rules	The rules by which bids submitted to and validated by the PX may be modified or withdrawn during a PX Energy market auction.
PX Audit Committee	A Committee of the PX Governing Board appointed pursuant to Article IV, Section 3 of the PX bylaws (1) to review the PX's annual independent audit, (2) report to the PX Governing Board on such audit, and (3) to

ISO TARIFF APPENDIX K

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ISO TARIFF APPENDIX L

ISO Protocols

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ANCILLARY SERVICES REQUIREMENTS PROTOCOL

Table of Contents

(e) Scheduling Coordinators

(f) an existing entity operating under an EOA.

ASRP 1.3.2 Liability of the ISO

Any liability of the ISO arising out of or in relation to this Protocol shall be subject to Section 14 of the ISO Tariff as if references to the ISO Tariff were references to this Protocol.

ASRP 2 ANCILLARY SERVICES STANDARDS

ASRP 2.1 Basis of Standards

ASRP 2.1.1 Basic criteria

(a) The ISO shall base its Ancillary Services standards upon the Western System Coordinating Council (WSCC) Minimum Operating Reliability Criteria (MORC) and North American Electric Reliability Council (NERC) Criteria to the extent they are applicable to the ISO Controlled Grid.

(b) The ISO 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.

ASRP 2.2 Review of Standards

ASRP 2.2.1 Grid Operations Committee Review

The ISO Grid Operations Committee shall periodically undertake a review of the ISO Controlled Grid operations to determine any revision to the Ancillary Services standards to be used in the ISO Control Area. As a minimum the ISO Technical Advisory Committee shall conduct such reviews to accommodate revisions to WSCC and NERC standards.

ASRP 2.2.2 Contents of Grid Operations Committee Reviews

Periodic reviews may include, but are not limited to:

(a) analysis of the deviation between actual and forecast Demand;

ASRP 4.4.1 Dynamic Scheduling of Regulation from External Resources

Scheduling Coordinators are allowed to self provide their Regulation obligation in whole or in part from resources located outside the ISO Control Area by dynamically scheduling such use of existing transmission service rights under Existing Contracts; providing it can be demonstrated that the control function will use existing computer links (either directly or through existing utility EMS computers) to provide this function.

ASRP 4.5 Standard for Regulation: Procurement

ASRP 4.5.1 Procurement of Non Self-Provided Regulation

Regulation necessary to meet ISO requirements not met by self-provided Regulation will be procured by the ISO as described in the ISO Tariff.

ASRP 4.5.2 Certification and Testing Requirements

Each Generating Unit and Generating Units which an EOE intends to include in any System Unit used to bid Regulation or used to self provide Regulation must have been certified and tested by the ISO using the process defined in Appendix A to this Protocol.

ASRP 4.5.3 Procurement as of Operations Date

Beginning January 1, 1998 the ISO will procure with the exception of ASRP 4.4.1 Regulation only from providers with Generating Units connected to and operating within the ISO Controlled Grid.

ASRP 4.5.4 Self Provision of Regulation

Scheduling Coordinators may not self provide Regulation from resources outside the ISO Control Area except under Existing Contracts as described in Section 4.4.1.

ASRP 5 OPERATING RESERVE STANDARDS

The ISO needs, as a minimum, Operating Reserve, consisting of Spinning Reserve and Non-Spinning Reserve, sufficient to meet WSCC MORC. The Operating Reserve requirement shall be equal to (a) 5% of the Demand (except the Demand covered by firm purchases from outside the ISO Control Area) to be met by Generation from hydroelectric resources, plus 7% of the Demand (except the Demand covered by firm purchases from

outside the ISO Control Area) to be met by Generation from other resources, or (b) the single largest Contingency, if this is greater or (c) by reference to such more stringent criteria as the ISO may determine from time to time. This Operating Reserve requirement does not include the Operating Reserve required to cover the Generation or services described in ASRP 5.2(a) and (b).

ASRP 5.1 Standard for Spinning Reserve: Quantity Needed

ASRP 5.1.1 Minimum Spinning Reserve Quantity

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, the Hour-Ahead Market and the Real Time Market.

ASRP 5.1.2 Providing both Spinning Reserve and Regulation

Spinning Reserve and Regulation may be provided as separate services from the same Generating Unit, provided that the sum of Spinning Reserve and Regulation provided is not greater than the maximum ramp rate of the Generating Unit (MW/minute) times ten.

ASRP 5.2 Standard for Non-Spinning Reserve: Quantity Needed

The required quantity of Non-Spinning Reserve shall be equal to the required quantity of Operating Reserve less the quantity of Spinning Reserve determined in ASRP 5.1 plus;

(a) an amount of Non-Spinning Reserve equal to Interruptible Imports (which must be self provided by the Scheduling Coordinators responsible for the Interruptible Imports from resources within the ISO Controlled Grid); and

(b) an amount of Non-Spinning Reserve equal to on-demand obligations to other entities or Control Areas (which must be self provided by the Scheduling Coordinators responsible for the on-demand obligations from resources within the ISO Controlled Grid).

Scheduling Coordinators may self provide their allocated quantity of Non-Spinning Reserve under ASRP 5.2(a) and (b) from Spinning Reserve not already committed to the ISO, if they wish.

DFP 4 ISO Responsibilities

DFP 4.1 Advisory Control Area Demand Forecasts

The ISO will publish on WEnet and supply to the SCs advisory Control Area Demand Forecasts comprised of Hourly Demand Forecasts for each Congestion Zone for each Settlement Period of the relevant Trading Day. The ISO will publish this information in accordance with the timing requirements set forth in the SP.

DFP 4.2 ISO Demand Forecasts

The ISO shall publish monthly on WEnet the following two (2) Demand Forecasts for the next 52 weeks.

(i) Consolidated SC Forecast. This forecast will be developed by adding together the Weekly Peak Demand Forecasts of the individual SCs.

(ii) Independent ISO Forecast. This forecast will be developed by the ISO.

The ISO may, at its discretion, publish on WEnet additional Demand Forecasts for two or more years following the next year.

DFP 5 AMENDMENTS TO THE PROTOCOL

If the ISO determines a need for an amendment to this Protocol, the ISO will follow the requirements as set forth in Section 16 of the ISO Tariff.

SCHEDULE 1

SC DEMAND FORECAST FORMAT

SC 52 Weeks Load Forecast (for the next 52 operating weeks)

This template is used to post 52 Weeks Load Forecast.

(a) SC's ID code

(b) Forecast Weekly Maximum Generation capacity for each of the next 52 weeks

(c) Forecast Weekly Maximum Demand for each of the next 52 weeks

SCHEDULE 2

UDC DEMAND FORECAST FORMAT

SC/UDC Direct-Access Load Forecast

This template is for use by the SCs to forecast their direct-access loads for each UDC. The forecast must be for seven (7) future days including the current Day-Ahead Market.

(a) SC's ID code

(b) Trading Day of current Day-Ahead Market (month/day/year)

(c) UDC's ID code

(d) Hourly Demand Forecast for the 168 hours beginning with the first hour of the current Day-Ahead Market

Units, Interconnection schedules and Inter-Scheduling Coordinator Trades. This will include any changes in Generating Unit capacity that could affect planned dispatch and conditions that could affect the reliability of a Generating Unit. Each EOE shall immediately pass to the ISO, through its respective SC, any information which it receives from a Generator which the Generator provides to the EOE pursuant to DP 3.9.

DP 4 METHODS OF COMMUNICATIONS

DP 4.1 Methods of Transmitting Dispatch Instructions

DP 4.1.1 Full-Time Communications Facility Requirement

Each Participant 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 ISO.

DP 4.1.2 Communication via Telephone

The ISO will issue Dispatch Instructions by telephone.

DP 4.2 Verbal Dispatch Instructions

DP 4.2.1 Phone Lines

Each Participant must maintain a dedicated telephone line available twenty-four (24) hours a day every day of the year for immediate access by the ISO.

DP 4.2.2 Voice Recording

The ISO shall record all voice conversations that occur on the Dispatch Instruction communication equipment. These recordings may be used by the ISO to audit the Dispatch Instruction, and to verify the response of the Participant concerned to the Dispatch Instruction.

DP 4.2.3 Logging

The Dispatch Instruction and all information associated with it shall be logged and recorded by the ISO as soon as practical after issuing each Dispatch Instruction.

($/MWh) or the Curtailable Demand located within the Zone (or the Interconnection schedule in a Control Area adjacent to the Zone) with a non-zero capacity remaining to reduce which has the lowest Demand reduction bid price.

DP 8.3.3 Selection of Generating Unit to Reduce Generation

Where the ISO determines that it is necessary to reduce Generation in a Zone in order to relieve Inter-Zonal Congestion, the ISO shall select from the merit order stack the Generating Unit within the Zone with a non-zero capacity remaining to decrement which has the highest decremental bid price.

DP 8.4 Intra-Zonal Congestion

In the event of Intra-Zonal Congestion in real time, the ISO shall adjust Generating Units and Curtailable Demands within the Zone (or Interconnection schedules in the Control Areas adjacent to the Zone) to alleviate the constraints, based on any Adjustment Bids which have been carried forward from the Day-Ahead and Hour-Ahead Markets as described in SBP 4 and on the incremental and decremental prices of resources within the Zone (or in the Control Areas adjacent to the Zone) taken from the merit order stack.

DP 8.5 Additional Congestion Relief

In the event that there are insufficient resources which provide financial bids to mitigate Inter-Zonal and Intra-Zonal Congestion, Final Schedules which do not rely on Existing Contracts will be adjusted in real time by allocating transmission capacity on a pro rata basis. Final Schedules which rely on Existing Contracts will be adjusted in real time by allocating transmission capacity in accordance with the operating instructions submitted under SBP 3.3. With respect to facilities financed with Local Furnishing Bonds the ISO shall adjust Final Schedules in real time in a fashion consistent with Section 2.1.3 and 7.1.6.3 of the ISO Tariff, Appendix B of the TCA, and Operating Procedures governing the use of such facilities.

DP 8.6 Real Time Dispatch Application

DP 8.6.1 Real Time Dispatch

During real time, the ISO shall dispatch Generating Units, Curtailable Demands and Interconnection schedules to meet imbalances between actual and scheduled Demand and Generation.

(b) the ISO will dispatch Regulation in merit order of Energy bid prices as determined by the EMS;

(c) in the event of an unscheduled increase in system Demand or a shortfall in Generation output and Regulation margin drops below a predetermined value, the ISO will use scheduled Operating Reserve, Replacement Reserve or Supplemental Energy to restore Regulation margin; and

(d) when scheduled Operating Reserve is used for restoration of Regulation reserve, the ISO shall arrange for the replacement of that Operating Reserve (see DP 8.7.4);

DP 8.7.2 Operating Reserve

(a) Spinning Reserve:

(i) Spinning Reserve provided from Generating Units and Interconnection schedules (for self-providers of Ancillary Services) must meet the standards specified in the ASRP;

(ii) the ISO will dispatch Spinning Reserve as may be required to meet the Applicable Reliability Criteria;

(iii) the ISO may dispatch Spinning Reserve as balancing Energy to return Regulation Generating Units to their Set Points and restore full Regulation margin; and

(iv) the ISO will dispatch Spinning Reserve in merit order of Energy bid prices as determined by BEEP;

(b) Non-Spinning Reserve:

(i) Non-Spinning Reserve provided from Generating Units and Demands must meet the standards specified in the ASRP;

(ii) the ISO may dispatch Non-Spinning Reserve in place of Spinning Reserve to meet Applicable Reliability Criteria;

(iii) the ISO will dispatch Non-Spinning Reserve in merit order of Energy bid prices as determined by BEEP; and

(iv) the ISO may dispatch Non-Spinning Reserve to replace Spinning Reserve if there is a shortfall in Spinning Reserve because of a deficiency of balancing Energy;

DP 8.7.3 Replacement Reserve

(a) Replacement Reserve provided from Generating Units, Curtailable Demands and Interconnection schedules must meet the standards specified in the ASRP;

(b) the ISO will utilize Replacement Reserve to replace Operating Reserve that has been dispatched due to a shortfall in Generation or an increase in Demand;

(c) the ISO may dispatch Replacement Reserve to replace Operating Reserve that has been dispatched for balancing Energy; and

(d) the ISO will dispatch Replacement Reserve in merit order of Energy bid prices as determined by BEEP;

DP 8.7.4 Replacement of Operating Reserve

(a) in the event of an unforecasted increase in system Demand or a shortfall in Generation output, the ISO shall utilize Replacement Reserve to restore Operating Reserve;

(b) if pre-arranged Operating Reserve is used to meet balancing Energy requirements, the ISO may replace such Operating Reserve by dispatch of additional balancing Energy available from Supplemental Energy bids;

(c) any additional Operating Reserve needs may also be met the same way;

(d) where the ISO elects to rely upon Supplemental Energy bids, the ISO shall select the resources with the lowest incremental Energy bid price as established by BEEP; and

(e) if the ISO restores Operating Reserve through utilization of Replacement Reserve, the ISO is not required to replace the utilized Replacement Reserve;

DP 8.7.5 Voltage Support

(a) Voltage Support provided from Generating Units shall meet the standards specified in the ASRP;

(b) the ISO may Dispatch Generating Units to increase or decrease MVar output within the power factor limits of 0.9 lagging to 0.95 leading (or within other limits specified by the ISO in any exemption granted pursuant to Section 2.5.3.4 of the ISO Tariff) at no cost to the ISO when required for System Reliability;

sanctions or penalties as it believes necessary and as are permitted under the ISO Tariff and related protocols approved by FERC; or it may make any such referral to such regulatory or antitrust agency as it sees fit to recommend the imposition of sanctions and penalties. The audit by the Market Surveillance Unit shall investigate whether the abuse or behavior identified meets the criteria for and has such effect as to warrant the sanctions or penalties recommended.

MMIP 8 PUBLICATION OF INFORMATION

MMIP 8.1 Market Monitoring Data and Indices

The ISO Market Surveillance Unit shall, pursuant to MMIP 4.1, develop a catalog of data and indices. Upon approval of the ISO CEO, such catalogs shall be duly published on the ISO Home Page and disseminated to all ISO Participants.

MMIP 8.2 Regular Information Publication

The following information shall be published by the ISO Market Surveillance Unit, in a medium and form helpful to Market Participants, on a regular basis:

MMIP 8.2.1.1 Market Clearing Prices for Energy;

MMIP 8.2.1.2 Market Clearing Prices for Ancillary Services;

MMIP 8.2.1.3 Aggregate Supply and Demand for each Zone;

MMIP 8.2.1.4 Congestion and Congestion costs;

MMIP 8.2.1.5 Generation Unit and transmission line outages; and

MMIP 8.2.1.6 Hydro-electric Generation

MMIP 8.3 Reports to Regulators

The Market Surveillance Unit shall develop a schedule, format and proposed table of contents for the annual reports to FERC, and such other reports as may be required by FERC, which shall be submitted as a proposal to the ISO CEO and ISO MSC. Upon approval of such proposal, the Market Surveillance Unit shall proceed to prepare such reports according to such schedule for approval and submission by the ISO CEO to the Governing Board and to the regulatory agency concerned.

OCP 2.3.2 System Adequacy Reports

The ISO will publish the following reports comparing the projected aggregate Generation capacity to the peak forecast Demands, as calculated in accordance with the Demand Forecast Protocol (DFP):

(a) on an annual basis and within eight weeks after receiving the annual or updated provisional planned Outage programs from all Participating Generators, the ISO shall publish on WEnet a report comparing the aggregated weekly peak Generation capacity to the weekly peak forecast Demand for the next 52 weeks;

(b) on a quarterly basis, the ISO shall publish on WEnet a report comparing the aggregated weekly peak Generation capacity to the weekly peak forecast Demand for the next 3 months; and

(c) on a monthly basis, the ISO shall publish on WEnet a report comparing the aggregated weekly peak Generation capacity to the weekly peak forecast Demand for the next month.

OCP 2.3.3 Approval of Reliability Must-Run Generation Outages

The information relating to each Maintenance Outage submitted by a Participating Generator with Reliability Must-Run Units in accordance with OCP 2.2 constitutes a request for a provisional Maintenance Outage and is not considered an Approved Maintenance Outage until the ISO has notified that Participating Generator of such approval pursuant to OCP 4.3.

OCP 3 PLANNING OF ISO CONTROLLED GRID MAINTENANCE

OCP 3.1 Data to ISO

All information submitted in relation to planned Outages of ISO Controlled Grid facilities must be submitted in accordance with OCP 7.

OCP 3.1.1 Provisional Program

By October 1st of each year, each Participating TO will provide the ISO in writing with its list of proposed Maintenance Outages for the next calendar year. This list shall include the following data:

(a) the identification of the facility including Participating TO 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.

OCP 3.1.1.1 Additional Maintenance Outages

If conditions require, a Participating TO may, upon seventy-two (72) hours advance notice, schedule with the ISO Outage Coordination Office a Maintenance Outage on its system. The Participating TO shall supply to the ISO the data set out in OCP 3.1.1.

OCP 3.1.2 Quarterly Update

Each Participating TO will provide the ISO with quarterly updates of the data provided under OCP 3.1.1 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 ISO Controlled Grid facility Maintenance Outages and any additional Outages anticipated over the next twelve months. As part of this update, each Participating TO must include all known planned Outages for the following twelve months.

OCP 3.1.3 Changes to Planned Maintenance Outages

A Participating TO may submit changes to its planned Maintenance Outage information at any time.

OCP 3.1.4 Nature of Maintenance Outage Information

The information relating to each Maintenance Outage submitted by a Participating TO in accordance with OCP 3.1 constitutes a request for a provisional Maintenance Outage and is not considered an Approved Maintenance Outage until the ISO has notified the Participating TO of such approval pursuant to OCP 5.4.

OCP 3.1.5 Additional Information

The ISO may request additional information or seek clarification from Participating TOs of the information submitted in relation to a planned Maintenance Outage.

OCP 3.1.6 Adjacent Control Areas

The ISO will coordinate the exchange of proposed ISO Controlled Grid Maintenance Outages, as appropriate, with the operators of adjacent Control Areas.

OCP 5.3.2 One (1) Day Prior Notification

Any request to confirm or change the Schedule for an Approved Maintenance Outage must be submitted no later than 11:30 am at least one (1) day prior to the starting date of the Outage. For example, a request under this OCP 5.3.2 may be for:

(a) washing insulators on an energized line or station equipment;

(b) circuit breaker Outages;

(c) relay protection maintenance that does not reduce the transfer capability of a line or path; or

(d) reactive device maintenance that does not reduce the transfer capability of a line or path.

Failure to submit a request for an Outage by the proper time may mean a delay in approval from the ISO.

OCP 5.3.3 Priority of Transmission Facility Outage Requests

Outage requests which are listed in the planned maintenance schedule submitted to the ISO will be given a priority in scheduling and approval of Outage requests over those which have not been listed.

OCP 5.3.4 Delay

The ISO Outage Coordination Office may delay its approval of an Approved Maintenance Outage schedule if sufficient or complete information is not received by the ISO Outage Coordination Office within the time frames referred to in OCP 5.3.1 and 5.3.2.

OCP 5.4 Acceptance or Rejection of Outage Schedule

The ISO Outage Coordination Office shall acknowledge each request to confirm or approve a Maintenance Outage within two (2) working hours of the receipt of the request. The ISO Outage Coordination Office shall approve or reject each request within a reasonable time of the receipt of the request but in any event shall notify the Participating TO of its decision not later than 3:30 pm of the working day after receipt of the request pursuant to OCP 5.3.1 and 3:30 pm of the same working day as the receipt of the request pursuant to OCP 5.3.2.

OCP 7.2 Method of Communications

The method of communication from the Operator or Participating Generator to the ISO can be in the form of the following:

(a) voice;

(b) fax; and

(c) electronic (E-mail, FTP file, etc.).

OCP 7.3 Confirmation

When fax or electronic communication is utilized, confirmation from the ISO must be received by the Participating TO or Participating Generator to validate the receipt of the request pursuant to OCP 7.2.

OCP 7.4 Communication of Approval or Rejection

The ISO 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 Participating TO or Participating Generator.

OCP 8 OUTAGE COORDINATION FOR NEW FACILITIES

OCP 8.1 Coordination by ISO

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

OCP 8.2 Types of Work Requiring Coordination

The types of work which the ISO will coordinate under OCP 8 includes any new addition, replacement or modification to the ISO Controlled Grid, including:

(a) transmission lines forming part of the ISO Controlled Grid;

(b) equipment including circuit breakers, transformers, disconnects, reactive devices, wave traps, forming part of the ISO Controlled Grid;

(c) Generating Unit interconnections; and

TO, Participating Generator or Connected Entity and the other entities likely to be affected.

OCP 8.4.4 Changes to Procedure

Once the procedure is approved by the ISO Outage Coordination Office any modifications to the procedure will require the requesting Participating TO, Participating Generator or Connected Entity to notify the ISO 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 ISO Outage Coordination Office to which the provisions of OCP 8.4.3 will apply.

OCP 8.4.5 Approval of Work Requiring Coordination

No work can begin pursuant to any approved procedure unless approved by the ISO Outage Coordination Office and only in accordance with OCP 4 and OCP 5.

OCP 9 RECORDS AND REPORTS

OCP 9.1 Records of Approved Maintenance Outages

The ISO Outage Coordination Office will maintain a record of each Approved Maintenance Outage as it is implemented. Such records are available for inspection by Participating Generators, Participating TOs and Connected Entities at the ISO Outage Coordination Office.

OCP 10 AMENDMENTS TO THE PROTOCOL

If the ISO determines a need for an amendment to this Protocol, the ISO will follow the requirements as set forth in Section 16 of the ISO Tariff.

OUTAGE COORDINATION PROTOCOL

APPENDIX A

PROGRAM PREPARATION OUTLINE FOR NEW FACILITIES

The following information must be included in each request for an Outage under OCP 8.

1.0 Entity performing work.

2.0 Location of work including Location Code if applicable.

3.0 Comprehensive scope of work identifying existing facilities involved and new facilities (if any) being added or existing facilities being permanently removed from service.

4.0 Outages required (clearly identify each Outage if multiple Outages are required) including:
- 4.1 sequence of Outage;
- 4.2 estimate of Outage duration.

5.0 Clearances required (including identification of all switching devices to be tagged) including:
- 5.1 line;
- 5.2 Generating Unit;
- 5.3 equipment.

6.0 Detailed statement of work to be completed with intermediate progress dates/events identified including:
- 6.1 transmission line work;
- 6.2 Generating Unit work;
- 6.3 SCADA modification work;
- 6.4 protective scheme work.

7.0 Procedure for reporting work accomplished including:
- 7.1 to the ISO Control Center;
- 7.2 to the Participating TO;
- 7.3 to the Participating Generator;
- 7.4 to other Connected Entities.

8.0 Method used to energize and test new/rebuilt Generating Units, line(s) and station equipment including:
- 8.1 protection to be used:

8.1.1 relay settings;
8.1.2 CTs involved and status.
8.2 System status including:
8.2.1 line arrangement;
8.2.2 Generating Unit arrangement;
8.2.3 station equipment arrangement.

9.0 Procedure for phasing including:
9.1 Generating Unit/station synchroscope;
9.2 potentials required;
9.3 existing potentials;
9.4 portable phasing equipment;
9.5 personal performing phasing;
9.6 connections for phasing;
9.7 phase identification method.

10.0 Inservice testing including:
10.1 procedure to be performed;
10.2 notice of testing completion.

11.0 Statement of completion including:
11.1 statement to be made at the completion of each section of program;
11.2 statement to be made at completion of total project.

12.0 Drawings to be attached:
12.1 existing status;
12.2 for each intermediate stage;
12.3 proposed completion of job.

13.0 Transfer of facilities to ISO Controlled Grid.

SCHEDULES AND BIDS PROTOCOL (SBP)

SBP 1 OBJECTIVES, DEFINITIONS AND SCOPE

SBP 1.1 Objectives

The objectives of this Protocol are:

(a) to require the provision of scheduling data to enable the ISO to undertake its scheduling process as described in the ISO Tariff and in the Scheduling Protocol (SP) taking into account the exercise of rights under Existing Contracts for transmission service;

(b) to require the provision of Ancillary Services Schedules and bidding data required by the ISO to enable the ISO to conduct its Ancillary Services auction as described in the ISO Tariff and in the SP; and

(c) to specify the contents of Schedules and to specify in detail the bidding data referred to in the ISO Tariff. The scheduling process and timing of the submission of data referred to are set forth in the SP.

SBP 1.2 Definitions

SBP 1.2.1 Master Definitions Supplement

Unless the context requires otherwise, any word or expression defined in the Master Definitions Supplement to the ISO Tariff shall have the same meaning where used in this Protocol. A reference to a Section or an Appendix is to a Section or an Appendix of the ISO Tariff unless otherwise specified. References to SBP are to this Protocol or to the stated paragraph of this Protocol.

SBP 1.2.2 Special Definitions for this Protocol

In this Protocol, the following words and expressions shall have the meanings set opposite them:

"Existing Rights" as defined in Section 2.4.4.1.1 of the ISO Tariff, **"Non-Converted Rights"** and **"Converted Rights"** as defined in Section 2.4.4.2.1 of the ISO Tariff shall have the same meanings where used in this Protocol.

SBP 3.3 Instructions Defining Transmission Service Rights

SBP 3.3.1 Data Requirements

The Responsible PTO with respect to an Existing Contract or set of interdependent Existing Contracts is required to submit to the ISO, in accordance with the timing requirements of SBP 3.3.5, the instructions that are necessary to implement the exercise of the Existing Rights and/or the Non-Converted Rights in accordance with the ISO Tariff. These instructions will be submitted to the ISO electronically, by the Responsible PTO, utilizing a form provided by the ISO in a format similar to the one set out in the Appendix to this Protocol (the "Transmission Rights/Curtailment Instructions Template"). The instructions will include the following information at a minimum and such other information as the ISO may reasonably require to enable it to carry out its functions under the ISO Tariff and ISO Protocols (the letters below correspond with the letters of the instructions template in the Appendix to this Protocol):

(a) contract reference number a unique (Existing Contract reference number that will be assigned by the ISO and communicated to the Responsible PTO on the completed instruction and that references a single Existing Contract or a set of interdependent Existing Contracts; the provisions of SBP 3.4 will apply to the validation of scheduled uses of Existing Contract transmission rights);

(b) whether the instruction can be exercised independent of the ISO's day-to-day involvement (Yes/No);

(c) name of an operational single point of contact for instructions and a 24-hour a day telephone number for the Responsible PTO;

(d) name(s) and number(s) of Existing Contract(s);

(e) path name(s) and location(s) (described in terms of the Zones in which the point(s) of receipt and point(s) of delivery are located);

(f) names of the party(ies) to the Existing Contract(s);

(g) SC ID code: the ID number of the SC who will submit Schedules which make use of the Existing Contract(s) for the party(ies) indicated in (f);

(h) type(s) of rights, by rights holder, by Existing Contract (Existing Rights or Non-Converted Rights);

will assist the SC, within reason, in resolving the problem so that the SC is able to submit the Schedule successfully as soon as possible within the timing requirements of the SP. If the SC uses a contract reference number for which the responsible PTO has not reserved transmission capacity on a particular path (*i.e.,* the contract reference number cannot be found in the ISO's scheduling applications table of contract reference numbers), the scheduled use will be treated as a new firm use with a $0/MWh Adjustment Bid.

SBP 4 ADJUSTMENT BIDS

Adjustment Bids will be used by the ISO for Congestion Management as described in the SP and are initially valid only for the markets into which they are bid, being the Day-Ahead Market or the Hour-Ahead Market. These Adjustment Bids will not be transformed into Supplemental Energy bids. However, these Adjustment Bids are treated as standing offers to the ISO and may be used by the ISO in the Real Time Market for the purpose of managing Intra-Zonal Congestion and Overgeneration conditions.

SBP 4.1 Content of Adjustment Bids

Adjustment Bids are contained in Preferred Schedules and Revised Schedules submitted by SCs for particular Generating Units, Dispatchable Loads and external imports/exports. Adjustment Bids cannot be submitted with respect to Inter-Scheduling Coordinator Trades.

Each SC is required to submit a preferred operating point for each Generating Unit, Dispatchable Load and external import/export (these quantities are presented in the SC's submitted Schedule as "Hourly MWh"). The SC's preferred operating point for each Generating Unit, Dispatchable Load and external import/export must be within the range of any Adjustment Bids to be used by the ISO. The minimum MW output level, which may be zero MW (or negative for pumped storage resources), and the maximum MW output level must be physically achievable.

SBP 4.2 Format of Adjustment Bids

Adjustment Bids will be presented in the form of a monotonically non-decreasing staircase function for Generating Units and external imports. Adjustment Bids will be presented in the form of a monotonically non-increasing staircase function for Dispatchable Loads and external exports. These staircase functions will be

Period must be disclosed to the ISO one (1) hour prior to the start of the Settlement Period.

SBP 5.1 Content of Ancillary Services Schedules and Bids

Ancillary Services in the Day-Ahead Market and the Hour-Ahead Market are comprised of the following: Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve. Each Generating Unit, System Unit, Curtailable Demand or external import/export for which a SC wishes to submit Ancillary Services Schedules and bids must meet the requirements set forth in the Ancillary Services Requirements Protocol (ASRP). For each Ancillary Service offered to the ISO auction or self-provided, SCs must include a bid price for Energy in the form of a staircase function composed of up to eleven (11) ordered pairs (i.e., ten (10) steps or price bands) of quantity/price information. These staircase functions must be either monotonically non-decreasing (Generating Units, System Units, and external imports) or monotonically non-increasing (Curtailable Demands and external exports). The same resource capacity may be offered into more than one ISO Ancillary Service auction at the same time (the sequential evaluation of such multiple offers between Ancillary Services markets to eliminate double counting of capacity is described in the SP). In each category of Ancillary Service, the reference to "Revised" types of Schedules indicates a submittal which is part of a Revised Day-Ahead Schedule as described in the SP. Each of the following data sections can be submitted up to seven (7) days in advance. There is no provision for external imports/exports with regard to Ancillary Services bids, only self-provided Ancillary Service Schedules under Existing Contracts. The functionality necessary to accept such bids does not exist in the ISO scheduling software.

SBP 5.1.1 Regulation

Each SC desiring to self-provide Regulation or to participate in the ISO's Regulation auction will submit the following information for each relevant Generating Unit or System Unit for each Settlement Period of the relevant Trading Day:

(a) type of schedule: Regulation Ancillary Service (ANC_SRVC) or Revised Regulation Ancillary Service (REVISED_ANC_SRVC);

(b) SC's ID code;

(c) type of market (Day-Ahead or Hour-Ahead) and Trading Day;

(j) contract reference number for the Existing Contract;

(k) time to synchronize following notification (less than sixty (60) minutes mandatory);

(l) Replacement Reserve capacity (MW);

(m) ramp rate (MW/minute); and

(n) bid price for Replacement Reserve Energy if called upon ($/MWh).

SBP 5.2 Validation of Ancillary Services Bids

The ISO will verify that each Ancillary Services Schedule or bid conforms to the format specified for the relevant service. If the Ancillary Services Schedule or bid does not so conform, the ISO will send a notification to the SC notifying the SC of the errors in the Schedules and/or bids. SCs will comply with the ISO Data Templates and Validation Rules document, which contains the validation criteria for Ancillary Services Schedules and bids. Shown below are the two stages of validation carried out by the ISO:

SBP 5.2.1 Stage One Validation

During stage one validation, each incoming Ancillary Services schedule or bid will be validated to verify proper content, format and syntax. A technical validation will be performed to verify that a schedule or bid quantity of Regulation, Spinning Reserve, Non-Spinning Reserve or Replacement Reserve does not exceed the available capacity for Regulation, Operating Reserves and Replacement Reserve on the Generating Units, System Units, Curtailable Demands and external imports/exports scheduled or bid. The SC will be notified immediately through WEnet of any validation errors. For each error detected, an error message will be generated by the ISO in the SC's notification screen which will specify the nature of the error. The SC can then look at the notification messages to review the detailed list of errors, make changes, and resubmit if it is still within the timing requirements of the SP. The SC is also notified of successful validation via WEnet.

SBP 5.2.2 Stage Two Validation

Stage two validation will be conducted by the ISO in accordance with Appendix E of the ISO Tariff.

SBP 5.2.3 Validation Checks

The ISO's stage one validation checks are performed automatically whenever Ancillary Services Schedules and bids are submitted, as described in the SP. The ISO's stage two validation is performed automatically in accordance with the timing requirements described in the SP. A SC can also check whether its Ancillary Services Schedules and bids will pass the ISO's stage two validation by manually initiating validation of its Ancillary Services Schedules and bids, as described in the SP, at any time prior to the deadline for submission of Ancillary Services Schedules and bids. It is a SC's responsibility to perform such checks.

SBP 5.3 Buy Back of Ancillary Services

Each SC desiring to buy back in the Hour-Ahead Regulation, Spinning Reserve, Non-Spinning Reserve or Replacement Reserve capacity sold to the ISO in the Day-Ahead Market shall do so by submitting in the Hour-Ahead auction for the Settlement Period concerned bids complying with the requirements of SBP 5.1 for the Generating Units/System Units/Curtailable Demands for which the SC wishes to buy back the Ancillary Service capacity concerned, showing the revised quantity (which may be zero) of the Ancillary Service capacity which the SC wishes to provide in the Hour-Ahead Market from the Generating Units/System Units/Curtailable Demands concerned. The ISO will then calculate from this the Ancillary Services capacity which the SC wishes to buy back.

SBP 6 SUPPLEMENTAL ENERGY BIDS

There is no requirement for SCs to submit Supplemental Energy bids. Supplemental Energy bids submitted, however, are available to the ISO for procurement and use for Imbalance Energy, additional Voltage Support and Congestion Management in the Real Time Market.

SBP 6.1 Content of Supplemental Energy Bids

SBP 6.1.1 Generation Section of Supplemental Energy Bid Data

Each SC offering Supplemental Energy to the ISO will submit the following information for each Generating Unit for each Settlement Period:

(a) SC's ID code;

(b) name of Generating Unit;

(c) Generating Unit operating limits (high and low MW);

(d) Generating Unit ramp rate in MW/minute; and

(e) the MW and $/MWh values for each Generating Unit for which a Supplemental Energy bid is being submitted consistent with this SBP 6.

SBP 6.1.2 Demand Section of Supplemental Energy Bid Data

Each SC offering Supplemental Energy to the ISO will submit the following information for each Demand for each Settlement Period:

(a) SC's ID code;

(b) name of Demand; and

(c) the MW and $/MWh values for each Demand for which a Supplemental Energy bid is being submitted consistent with this SBP 6.

SBP 6.1.3 External Import Section of Supplemental Energy Bid Data

Each SC offering Supplemental Energy to the ISO will submit the following information for each external import for each Settlement Period;

(a) SC's ID code;

(b) name of Scheduling Point;

(c) interchange ID (the name of the selling entity, the buying entity, and a numeric identifier);

(d) external Control Area ID;

(e) Schedule ID (NERC ID number);

(f) complete WSCC tag;

(g) ramp rate (MW/minute); and

(h) the MW and $/MWh values for each external import for which a Supplemental Energy bid is being submitted consistent with this SBP 6.

SBP 6.2 Format of Supplemental Energy Bids

The SC's preferred operating point for each resource must be within the range of the Supplemental Energy bids. The minimum MW output level specified for a resource, which may be zero MW (or negative for pumped storage resources), and the maximum MW output level specified for a resource must be physically achievable

upon the interpretation of any of the terms and conditions of this Protocol.

(d) This Protocol shall be effective as of the ISO Operations Date.

SCAP 1.3 Scope

SCAP 1.3.1 Scope of Application to Parties

The SCAP will apply to:

(a) Scheduling Coordinator Applicants;

(b) Scheduling Coordinators; and

(c) the ISO.

SCAP 1.3.2 Liability of the ISO

Any liability of the ISO arising out of or in relation to this Protocol shall be subject to Section 14 of the ISO Tariff as if references to the ISO Tariff were references to this Protocol.

SCAP 2 PROCEDURE TO BECOME A SCHEDULING COORDINATOR

SCAP 2.1 SC Applicant makes a Request

To become a Scheduling Coordinator, a SC Applicant must submit a written request for an application and other necessary information to the ISO by mail, fax, e-mail or in person. Alternatively, a SC Applicant may retrieve the application and necessary information from the ISO Home Page.

SCAP 2.2 ISO Information

The ISO will provide the following information, in its most current form, on the ISO Home Page. Upon a request by a SC Applicant, the ISO will send the following information by mail:

(a) the SC Application Form (including the ISO Application File Template which is Appendix C);

(b) the ISO Tariff and ISO Protocols;

(c) pro forma meter service agreements and interim black start agreement;

SCAP 4 SC APPLICANT'S RESPONSE

SCAP 4.1 SC Applicant's Acceptance

If the ISO accepts the application, the SC Applicant must return an executed SC Agreement, meter service agreements, interim black start agreements and letter of credit, guarantee or escrow agreement for the ISO Security Amount, as applicable.

SCAP 4.2 SC Applicant's Rejection

SCAP 4.2.1 Resubmittal

If an application is rejected, the SC Applicant may resubmit its application at any time. An additional application fee will not be required for the second application submitted within 6 months after a rejection.

SCAP 4.2.2 Appeal

The SC Applicant may also appeal against the rejection of an application by the ISO. An appeal must be submitted within 28 days following the rejection of its application, as set forth in ISO Tariff Section 2.2.4.3 and 2.2.4.4.

SCAP 5 POST APPLICATION PROCEDURES PRIOR TO FINAL CERTIFICATION

SCAP 5.1 SC's Administrative, Financial and Technical Requirements

The ISO will not certify that an SC Applicant has become a Scheduling Coordinator until the SC Applicant has:

(a) provided the technical/operational information required to complete the ISO Application File Template, and to comply with ISO Tariff Section 10.6;

(b) executed software licensing agreement for the software used in conducting business with the ISO in a form approved by the ISO, if applicable;

(c) bought and installed any required software for functional interface in order to Validate, Estimate and Edit meter values (VEE).

(d) purchased the requisite Value Area Network (VAN) service in order to support Electronic Data Interchange (EDI) requirements;

(e) provided its bank account information and arranged for Fed-Wire System transfers as defined in SABP 1.2.2;

(f) submitted a timetable for completion of its operational facilities, in order to coordinate site visits by ISO staff to ensure compliance with the ISO Tariff Section 2.2.7.1; and

(g) bought and installed a WEnet account in order to communicate with the ISO.

SCAP 6 FINAL CERTIFICATION OF SC APPLICANT

The SC Applicant will become a Scheduling Coordinator when:

(a) its application has been accepted;

(b) it has entered into an SC Agreement, meter service agreements and interim black start agreements, if applicable, with the ISO;

(c) the SC Applicant has met the financial requirements of ISO Tariff Section 2.2.3.2; and

(d) the SC Applicant has fulfilled all technical/operational requirements of ISO Tariff Section 2.2.7.1, SCAP 5.1 and the ISO Application File Template.

The ISO will not certify an SC Applicant as a Scheduling Coordinator until the SC Applicant has completed all the above referenced requirements to the ISO's satisfaction, at least 14 days before the commencement of service.

SCAP 7 SC'S ONGOING OBLIGATIONS AFTER CERTIFICATION

SCAP 7.1 Scheduling Coordinator's Obligation to Report Changes

SCAP 7.1.1 Obligation to Report a Change in Filed Information

Each SC has an ongoing obligation to inform the ISO of any changes to any of the information submitted by it to the ISO as part of the application process, including any changes to the additional information requested by the ISO. SCAP Appendix B sets forth the procedures for changing the SC's information and timing of notifying the ISO of such changes.

SCAP 7.1.2 Obligation to Report a Change in Credit Rating

The SC has an ongoing obligation to inform the ISO within 3 business days if its Approved Credit Rating has been reduced below the ISO requirements.

SCAP 7.1.3 Obligation to Maintain ISO Security Amount

The SC has an ongoing obligation to maintain the ISO Security Amount as set forth in ISO Tariff Section 2.2.7.3. Alternatively, the SC has the right to inform the ISO of an improvement in its credit status and have the ISO review a new Approved Credit Rating, in order to determine if the ISO Security Amount is still necessary.

SCAP 7.2 ISO's Response for Failure to Inform

SCAP 7.2.1 Failure to Promptly Report a Material Change

If a SC fails to inform the ISO of a material change in its information provided to the ISO, which may affect the reliability or safety of the ISO Controlled Grid, or the financial security of the ISO, the ISO may suspend or terminate the SC's rights under the ISO Tariff in accordance with the terms of ISO Tariff Sections 2.2.7.3 and 2.2.4 respectively. If the ISO intends to terminate the SC's rights it shall file a Notice of Termination with FERC. Such termination shall be effective upon acceptance by FERC of a Notice of Termination.

SCAP 7.2.2 Failure to Report a Lost Approved Credit Rating

If the SC's Approved Credit Rating is reduced below the ISO requirements, the ISO will suspend the SC's scheduling rights under the ISO Tariff, until the SC submits another form of security in accordance with ISO Tariff Sections 2.2.3.2 and 2.2.7.3.

SCAP 7.2.3 Failure to Maintain ISO Security Amount

If the SC's estimated aggregate liability is greater than its ISO Security Amount, the ISO will reject any schedule in accordance with ISO Tariff Section 2.2.7.3 until such time as the SC increases its ISO Security Amount or decreases its outstanding payment balance.

SCAP 7.3 SC's Obligation to Uphold all SC Commitments

Each SC has an ongoing obligation to uphold and be bound by all the terms and conditions of the ISO Tariff as long as it remains a SC.

SCAP 8 AMENDMENTS TO THE PROTOCOL

If the ISO determines a need for an amendment to this Protocol, the ISO will follow the requirements as set forth in Section 16 of the ISO Tariff.

II. SC Customer Information

2.1 The information required under Appendix C, the ISO Application File Template, must be provided for represented SC Metered Entities which are Generators. The SC Applicant must submit all requested information prior to final certification which must occur fourteen (14) days before the commencement of service.

2.2 Information for SC Metered Entities which are End Users or Eligible Customers must be kept in a standard business format based on generally accepted accounting principals. The ISO shall have the right to inspect and audit a Scheduling Coordinator's accounts and files relating to its SC Metered Entities after giving two business days notice in writing.

2.3 The SC Applicant must submit a list of all ISO Metered Entities which it will represent.

III. Security Requirement

3.1 The SC Applicant has an Approved Credit Rating as set forth in the ISO Tariff: (yes/no).
The SC Applicant's credit rating is _____.

Please attach certified documentation of an Approved Credit Rating from Standard & Poor's, Moody's Investors Services or the equivalent. SC Applicant must also submit, before final certification, an executed letter of understanding for payment providing contact details in case of default. **OR**

3.2 The SC Applicant will provide an irrevocable and unconditional guarantee from a company which has an Approved Credit Rating: (yes / no).

The SC Applicant must submit a signed irrevocable and unconditional guarantee in an ISO approved form and

certified documentation of the other company's Approved Credit Rating before final certification. **OR**

3.3 The SC Applicant will provide an irrevocable and unconditional letter of credit: (yes / no).
Amount: $_____.

The SC Applicant must submit a signed irrevocable and unconditional letter of credit in an ISO approved form before final certification. **OR**

3.4 The SC Applicant will provide a cash deposit: (yes / no).
Amount: $_____. The SC Applicant must enter into an escrow agreement in an ISO approved form before final certification. **AND**

3.5 The SC Applicant must provide its bank account information before final certification. The SC Applicant's bank must be capable of performing Fed-Wire System transfers.

IV. Technical Requirements

4.1 Does the SC Applicant have the computer hardware, software and communication capabilities for interface compatibility with the ISO system for data transmission, for electronic data interchange (EDI) and for Fed-Wire System transfer accounts? (yes / no) If no, please submit a proposed completion date to be fully operational so that an ISO staff site visit can be arranged.

4.2 For Loads and Generating Units located within the ISO Controlled Grid, does the SC Applicant have any scheduling restrictions imposed by the parties they represent? (yes / no) If yes, provide full details on a separate sheet of paper.

4.3 Does the SC Applicant have adequate staffing to operate a SC's operational facility twenty-four (24) hours a day for 365 days a year? (yes / no) If no, please submit a proposed completion date to be fully operational so that an ISO staff site visit can be arranged.

VI. Additional Information and Obligations

6.1 The SC Applicant agrees to provide such further information to the ISO as the ISO may deem necessary to process the application and certify the SC Applicant as a SC now and on a continuing basis.

6.2 Subject to the ISO Tariff, the SC Applicant agrees to promptly report to the ISO within three (3) business days or earlier any changes regarding the information provided by it referred to in the SCAP and in the application.

6.3 The SC Applicant agrees to enclose herein the non-refundable application fee to cover the application processing costs, site visit and costs of providing ISO Tariff.

Please make check payable to:
The California Independent System Operator Corporation

6.4 SC Applicant agrees to promptly execute and return the SC Agreement, meter service agreements, interim black start agreements, software licensing agreement, letter of understanding, letter of credit, guarantee, escrow agreement, as applicable, and Fed-Wire System bank account number, after receiving its application approval letter from the ISO.

6.5 Final certification is contingent upon SC Applicant fulfilling all financial and technical requirements as referenced in the SCAP (including Appendix C, the ISO Application File Template).

(d) an estimate of the Ancillary Services requirements for the ISO Control Area (see the ASRP for the details on these requirements);

(e) a forecast of Loop Flows over interfaces with other Control Areas;

(f) a forecast of the potential for Congestion conditions;

(g) a forecast of total and Available Transfer Capacity over certain rated transmission paths and Inter-Zonal Interfaces.

SP 3.2.2 By 6:00 am, One Day Ahead

By 6:00 am on the day ahead of the Trading Day (for example, by 6:00 am on Tuesday for the Wednesday Trading Day), the following information flows for each Settlement Period of the Trading Day will be required to take place:

(a) SCs will provide, via WEnet, the ISO with forecasts of their Direct Access Demand by UDC Service Area ;

(b) the ISO will publish, via WEnet, an updated forecast of system Demands and of the Ancillary Services requirements; and

(c) the ISO will validate (in accordance with the SBP) the information submitted above by SCs and UDCs.

SP 3.2.3 By 6:30 am, One Day Ahead

By 6:30 am on the day ahead of the Trading Day (for example, by 6:30 am on Tuesday for the Wednesday Trading Day) and for each Settlement Period of the Trading Day: the ISO will provide to UDCs, via WEnet, the sum of the SCs' Direct Access Demand forecasts by UDC Service Area; and

SP 3.2.4 [**Unused**]

SP 3.2.5 [Unused]

SP 3.2.6 By 10:00 am, One Day Ahead

SP 3.2.6.1 Actions by SCs and the ISO

By 10:00 am on the day ahead of the Trading Day (for example, by 10:00 am on Tuesday for the Wednesday Trading Day) and for each Settlement Period of that Trading Day (see SP 3.2.6.2 for information on the pre-validation performed at ten (10) minutes prior to the 10:00 am deadline):

the Hour-Ahead Market Clearing Price for the same Settlement Period for the Ancillary Service capacity concerned);

(f) due to the design of the ISO's scheduling software, the ISO will not take into account Usage Charges in the evaluation of Ancillary Services bids or in price determination and, in the event of Congestion in the Day-Ahead Market or Hour-Ahead Market, Ancillary Services will be procured and priced on a Zonal basis; and

(g) due to the design of the ISO's scheduling system, any specific resource can bid to supply a specific Ancillary Service or can self-provide such Ancillary Service but cannot do both in the same Settlement Period.

SP 9.2 Sequential Evaluation of Bids

(a) When SCs bid into the Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve markets, the same resource capacity may be offered into more than one of these Ancillary Services markets at the same time. The ISO will evaluate bids in the reserve markets for Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve sequentially and separately in the following order:

(i) Regulation;

(ii) Spinning Reserve;

(iii) Non-Spinning Reserve; and

(iv) Replacement Reserve.

(b) SCs are allowed to specify different reserve prices and different Energy prices for each Ancillary Service they bid. SCs can bid the same resource capacity into any one or all of the Ancillary Service markets they desire. Any resource capacity accepted by the ISO in one of these reserve markets will be deducted from the resource capacity bid into the other reserve markets.

SP 9.3 Scheduling Ancillary Services Resources

(a) SCs are allowed to self-provide all or a portion of the following Ancillary Services to satisfy their obligations to the ISO:

(i) Regulation;

SABP 2.2.3 ISO Trust Accounts

The ISO will open and operate the following accounts which it will hold on trust for Market Participants:

(a) the ISO Clearing Account to and from which payments are made pursuant to Section 11.8.2.1 of the ISO Tariff and SABP 6.3.1;

(b) the ISO Reserve Account from which any debit balances on the ISO Clearing Account at the close of banking business are settled pursuant to Section 11.8.2.2 of the ISO Tariff and SABP 6.4; and

(c) the ISO Surplus Account consistent with Section 11.8.2.3 of the ISO Tariff and SABP 6.5.

The ISO may establish additional trust accounts as necessary to implement the Settlement and billing procedures outlined in this Protocol. It shall notify the Market Participants of the establishment of such accounts through the WEnet.

SABP 2.2.4 The ISO Clearing Account

Subject to SABP 6.1.2, ISO Debtors shall make all payments of ISO invoices by Fed-Wire to the ISO Clearing Account by 10:00 am on the due date according to the ISO Payments Calendar.

SABP 2.2.5 The ISO Reserve Account

The ISO shall operate the ISO Reserve Account as a trust account as follows:

(a) the proceeds of drawings under any line of credit or other credit facility of the ISO Reserve Account shall be held on trust for ISO Creditors;

(b) if the Reserve Account is replenished as provided for in SABP 6.9, any credits shall be held on trust for all ISO Creditors.

SABP 2.2.6 Accounts of the SCs and Participating TOs

Each Scheduling Coordinator and each Participating TO shall establish and maintain a Settlement Account at a commercial bank located in the United States and reasonably acceptable to the ISO which can effect money transfers via Fed-Wire where payments to and from the ISO Clearing Account shall be made in accordance with this Protocol. Each Scheduling Coordinator shall notify the ISO of its account details and of any changes to

APPENDIX B

GRID OPERATIONS CHARGE COMPUTATION

B 1 Purpose of charge

The Grid Operations Charge is a charge which recovers redispatch costs incurred due to the dispatch of Reliability Must-Run Generation pursuant to Section 2.2.8.1 of the ISO Tariff, the decrementing of Generation to accommodate the dispatch of such Reliability Must-Run Generation pursuant to Section 7.2.6.1 of the ISO Tariff and Intra-Zonal Congestion pursuant to Section 7.3.2 of the ISO Tariff. The Grid Operations Charge is paid by or charged to Scheduling Coordinators in order for the ISO to recover and properly redistribute the costs of adjusting the Balanced Schedules submitted by Scheduling Coordinators.

B 2 Fundamental formulae

B 2.1 Payments to SCs with incremented schedules

When it becomes necessary for the ISO to increase the output of a Scheduling Coordinator's Generating Unit$_i$ or reduce a Curtailable Demand$_i$ in order to relieve Congestion within a Zone, the ISO will pay the Scheduling Coordinator. The amount that ISO pays the Scheduling Coordinator$_j$ is the price specified in the Scheduling Coordinator's Day-Ahead or Hour-Ahead Adjustment Bid for the Generating Unit$_i$ or Curtailable Demand$_i$ multiplied by the quantity of Energy rescheduled. The formula for calculating the payment to Scheduling Coordinator$_j$ for each block$_b$ of Energy of its Adjustment Bid curve in Trading Interval$_t$ is:

$$INC_{bijt} = adjinc_{bijt} * \Delta inc_{bijt}$$

B 2.1.1 Total Payment for Trading Interval

The formula for calculating payment to Scheduling Coordinator$_j$ whose Generating Unit$_i$ has been increased or Curtailable Demand$_i$ reduced for all the relevant blocks$_b$ of Energy in the Adjustment Bid curve of that Generating Unit or Curtailable Demand in the same Trading Interval$_t$ is:

$$PayTI_{ijt} = \sum_{b} INC_{bijt}$$

B 2.2 Charges to Scheduling Coordinators with decremented schedules

When it becomes necessary for the ISO to decrease the output of a Scheduling Coordinator's Generating Unit$_i$ in order to relieve Congestion within a Zone, or to accommodate Generation which the ISO requires under Reliability Must-Run Contract from Reliability Must-Run Units within the Zone, the ISO will make a charge to the Scheduling Coordinator. The amount that the ISO will charge Scheduling Coordinator$_j$ is the price specified in the Scheduling Coordinator's Day-Ahead or Hour-Ahead Adjustment Bid for the Generating Unit$_i$ multiplied by the quantity of Energy rescheduled. The formula for calculating the charge to Scheduling Coordinator$_j$ for each block$_b$ of Energy in its Adjustment Bid curve in Trading Interval$_t$ is:

$$DEC_{bijt} = adjdec_{bijt} * \Delta dec_{bijt}$$

B 2.2.1 Total Charge for Trading Interval

The formula for calculating the charge to Scheduling Coordinator$_j$ whose Generating Unit$_i$ has been decreased for all the relevant blocks$_b$ of Energy in the Adjustment Bid curve of that Generating Unit in the same Trading Interval$_t$ is:

$$ChargeTI_{ijt} = \sum_b DEC_{bijt}$$

B 2.3 Reliability Must-Run Generation

When it becomes necessary for the ISO to request an increase in the output of a Scheduling Coordinator's Reliability Must-Run Generating Unit$_i$ in a Zone under a Reliability Must-Run Contract, the ISO will pay the Scheduling Coordinator. The amount that the ISO pays the Scheduling Coordinator$_j$ is the Energy weighted average price derived from the Day-Ahead and/or Hour-Ahead Adjustment Bids for all Generating Units whose Scheduled output is decreased under B 2.2 multiplied by the quantity of Energy requested under the Reliability Must-Run Contract and adjusted for any amounts not delivered. The formula for calculating the payment to Scheduling Coordinator$_j$ for each Trading Interval$_t$ during which the Reliability Must-Run Unit$_i$ is requested to increase its output is:

Scheduling Coordinator's consumption and Exports from the Zone. The formula for calculating the Grid Operations Charge for Scheduling Coordinator$_j$ in Trading Interval$_t$ is:

$$GOC_{jt} = GOP_t * \left(QCharge_{jt} + EXPORT_{jt}\right)$$

B 3 Meaning of terms of formulae

B 3.1 INC$_{bijt}$ - $

The payment from the ISO due to Scheduling Coordinator$_j$ whose Generating Unit$_i$ is increased or Curtailable Load$_i$ is reduced within a block$_b$ of Energy in its Adjustment Bid curve in Trading Interval$_t$ in order to relieve Intra-Zonal Congestion.

B 3.2 adjinc$_{bijt}$ - $/MWh

The incremental cost for the rescheduled Generating Unit$_i$ or Curtailable Load$_i$ taken from the relevant block$_b$ of Energy in the Day-Ahead or Hour-Ahead Adjustment Bid curve submitted by the Scheduling Coordinator$_j$ for the Trading Interval$_t$.

B 3.3 Δincbijt - MW

The amount by which the Generating Unit$_i$ or Curtailable Load$_i$ of Scheduling Coordinator$_j$ for Trading Interval$_t$ is increased by the ISO within the relevant block$_b$ of Energy in its Adjustment Bid curve.

B 3.4 PayTI$_{jit}$ - $

The Trading Interval payment to Scheduling Coordinator$_j$ whose Generating Unit$_i$ has been increased or Curtailable Load$_i$ reduced in Trading Interval$_t$ of the Trading Day.

B 3.5 DEC$_{bijt}$ - $

The charge to Scheduling Coordinator$_j$ whose Generating Unit$_i$ is decreased for Trading Interval$_t$ within a block$_b$ of Energy in its Adjustment Bid curve.

B 3.6 adjdec$_{bijt}$ - $/MWh

The decremental cost for the rescheduled Generating Unit$_i$ taken from the relevant block$_b$ of Energy of the Day-Ahead or Hour-Ahead Adjustment Bid curve submitted by Scheduling Coordinator$_j$ for the Trading Interval$_t$.

C 2.1.3 Real Time Market

Each Scheduling Coordinator will be paid for the real time instructed Energy output from Dispatched Spinning Reserve, Non-Spinning Reserve, and Replacement Reserve[1] resources which it represents at the real time Hourly Ex Post Price. Each Scheduling Coordinator will also be paid for Supplemental Energy Dispatched from resources which it represents at the same Hourly Ex Post Price. This payment for Scheduling Coordinator j for providing Energy output from a resource i in Zone x for Trading Interval t is calculated as follows:

$$EnQPay_{ijxt} = EnQ_{ijxt} * P_{xt}$$

The total payment to each Scheduling Coordinator for real time Energy output from all resources which it represents for a given Trading Interval in a given Zone is calculated by summing all the payments for the resources of the Scheduling Coordinator in the Zone for the Trading Interval. This payment for Scheduling Coordinator j in Zone x for Trading Interval t is calculated as follows:

$$EnQPayTotal_{ijxt} = \sum_{i} EnQPay_{ijxt}$$

C 2.2 ISO allocation of charges to Scheduling Coordinators

C 2.2.1 Day-Ahead Market

(a) *Regulation*. The ISO will charge the zonal cost of providing Regulation capacity that is not self provided by Scheduling Coordinators, in the Day-Ahead Market, through the application of a charge to each Scheduling Coordinator for each Trading Interval. This charge will be computed by multiplying the Regulation user rate for the Trading Interval by the Scheduling Coordinator's Regulation obligation, for which it has not self provided, for the same period.

The zonal Regulation user rate for the Day-Ahead Market is calculated by dividing the total cost to ISO of purchasing Regulation Capacity within the Zone, for the Trading Interval, by the total ISO Regulation obligation for the Trading Interval within the Zone. The Day-Ahead Regulation user rate in Zone x for Trading Interval t is calculated as follows:

[1] For Regulation, differences between instructed and metered Energy shall be settled as Imbalance Energy in accordance with Appendix G2.1.

$$AGCRateDA_{xt} = \frac{\sum_{j} AGCPayTotalDA_{jxt}}{AGCObligTotalDA_{xt}}$$

The Regulation capacity charge for Scheduling Coordinator j in the Day-Ahead Market in Zone x for Trading Interval t is calculated as follows:

$$\text{AGCChgDA}_{\text{jxt}} = \text{AGCObligDA}_{\text{jxt}} * \text{AGCRateDA}_{\text{xt}}$$

(b) *Spinning Reserve*. The ISO will charge the zonal cost of providing Spinning Reserve capacity that is not self provided by Scheduling Coordinators, in the Day-Ahead Market, through the application of a charge to each Scheduling Coordinator for each Trading Interval. This charge will be computed by multiplying the Spinning Reserve capacity user rate for the Trading Interval by the Scheduling Coordinator's Spinning Reserve obligation, for which it has not self provided, for the same period.

The zonal Spinning Reserve capacity user rate for the Day-Ahead Market is calculated by dividing the total cost to ISO of purchasing Spinning Reserve capacity within the Zone, for the Trading Interval, by the total ISO Spinning Reserve obligation for the Trading Interval within the Zone. The Day-Ahead Spinning Reserve capacity user rate in Zone x for Trading Interval t is calculated as follows:

$$SpinRateDA_{xt} = \frac{\sum_{j} SpinPayTotalDA_{jxt}}{SpinObligTotalDA_{xt}}$$

The Spinning Reserve capacity charge for Scheduling Coordinator j in the Day-Ahead Market in Zone x for Trading Interval t is calculated as follows:

$$\text{SpinChgDA}_{\text{jxt}} = \text{SpinObligDA}_{\text{jxt}} * \text{SpinRateDA}_{\text{xt}}$$

(c) *Non-Spinning Reserve*. The ISO will charge the zonal cost of providing Non-Spinning Reserve capacity that is not self provided by Scheduling Coordinators, in the Day-Ahead Market, through the application of a charge to each Scheduling Coordinator for each Trading Interval. This charge will be computed by multiplying the Non-Spinning Reserve capacity user rate for the Trading Interval by the Scheduling Coordinator's Non-Spinning Reserve obligation, for which it has not self provided, for the same period.

The zonal Non-Spinning Reserve capacity user rate for the Day-Ahead Market is calculated by dividing the total cost to ISO of purchasing Non-Spinning Reserve capacity within the Zone, for the Trading Interval, by the total ISO Non-Spinning Reserve obligation for the Trading Interval within the Zone. The Day-Ahead Non-Spinning Reserve capacity user rate in Zone x for Trading Interval t is calculated as follows:

$$\text{NonSpinRateDA}_{xt} = \frac{\sum_{j} \text{NonSpinPayTotalDA}_{jxt}}{\text{NonSpinObligTotalDA}_{xt}}$$

The Non-Spinning Reserve capacity charge for Scheduling Coordinator j in the Day-Ahead Market in Zone x for Trading Interval t is calculated as follows:

$$NonSpinChgDA_{jxt} = NonSpinObligDA_{jxt} * NonSpinRateDA_{xt}$$

C 2.2.2 Hour-Ahead Market

(a) *Regulation.* The ISO will charge the zonal net cost of providing Regulation capacity that is not self provided by Scheduling Coordinators, in the Hour-Ahead Market through the application of a charge to each Scheduling Coordinator for the Trading Interval concerned. This charge will be computed by multiplying the Regulation user rate for the Trading Interval by the Scheduling Coordinator's Spinning Reserve obligation, for which it has not self provided, for the same period.

The zonal Regulation capacity user rate for the Hour-Ahead Market is calculated by dividing the total cost to the ISO of purchasing Regulation capacity within the Zone less any amounts payable to the ISO by Scheduling Coordinators for Regulation bought back from the ISO in the Hour-Ahead Market on behalf of resources located in the Zone, for the Trading Interval, by the total ISO Regulation capacity obligation for the Trading Interval within the Zone. The Hour-Ahead Regulation capacity user rate in Zone x for Trading Interval t is calculated as follows:

$$\text{AGCRateHA}_{xt} = \frac{\sum_{j} \text{AGCPayTotalHA}_{jxt}}{\text{AGCObligTotalHA}_{xt}}$$

The Regulation capacity charge for Scheduling Coordinator j in the Hour-Ahead Market in Zone x for Trading Interval t is calculated as follows:

$$AGCChgHA_{jxt} = (AGCObligHA_{jxt} * AGCRateHA_{xt}) - (AGCSellBack_{jxt} * AGCRateHA_{xt})$$

(b) *Spinning Reserve*. The ISO will charge the zonal net cost of providing Spinning Reserve capacity that is not self provided by Scheduling Coordinators, in the Hour-Ahead Market, through the application of a charge to each Scheduling Coordinator for the Trading Interval. This charge will be computed by multiplying the Spinning Reserve capacity user rate for the Trading Interval by the Scheduling Coordinator's Spinning Reserve obligation, for which it has not self provided, for the same period.

The zonal Spinning Reserve capacity user rate for the Hour-Ahead Market is calculated by dividing the total cost to ISO of purchasing Spinning Reserve capacity within the Zone less any amounts payable to the ISO by Scheduling Coordinators for Spinning Reserve bought back from the ISO in the Hour-Ahead Market on behalf of resources located in the Zone, for the Trading Interval, by the total ISO Spinning Reserve obligation for the Trading Interval within the Zone. The Hour-Ahead Spinning Reserve capacity user rate in Zone x for Trading Interval t is calculated as follows:

$$SpinRateHA_{xt} = \frac{\sum_{j} SpinPayTotalHA_{jxt}}{SpinObligTotalHA_{xt}}$$

The Spinning Reserve capacity charge for Scheduling Coordinator j in the Hour-Ahead Market in Zone x for Trading Interval t is calculated as follows:

$$SpinChgHA_{jxt} = (SpinObligHA_{jxt} * SpinRateHA_{xt}) - (SpinSellBack_{jxt} * SpinRateHA_{xt})$$

(c) *Non-Spinning Reserve*. The ISO will charge the zonal net cost of providing Non-Spinning Reserve capacity that is not self provided by Scheduling Coordinators, in the Hour-Ahead Market, through the application of a charge to each Scheduling Coordinator for the Trading Interval. This charge will be computed by multiplying the Non-Spinning Reserve capacity user rate for the concerned Trading Interval by the Scheduling Coordinator's Non-Spinning Reserve obligation, for which it has not self provided, for the same period.

C 3.18 **EnQ_{ijxt} – MWh**

The Dispatched and Supplemental Energy output in the Real Time Market from resource i represented by Scheduling Coordinator j in Zone x for Trading Interval t.

C 3.19 **$EnQPayTotal_{jxt}$ - $**

The total payment to each Scheduling Coordinator j for Dispatched and Supplemental Energy output in the Real Time Market from all resources which it represents for Trading Interval t in Zone x.

C 3.20 **P_{xt} - $/MWh**

The Hourly Ex Post Price of Imbalance Energy in the Real Time Market in Zone x for Trading Interval t.

C 3.21 **$SpinPayDA_{ijxt}$ - $**

The payment for Scheduling Coordinator j for providing Spinning Reserve capacity in the Day-Ahead Market from a resource i in Zone x for Trading Interval t.

C 3.22 **$SpinQDA_{ijxt}$ – MW**

The total quantity of Spinning Reserve capacity provided in the Day-Ahead Market by resource i represented by Scheduling Coordinator j in Zone x for Trading Interval t.

C 3.23 **$PSpinDA_{xt}$ -$/MW**

The Day-Ahead Market Clearing Price for units exempt from FERC Ancillary Service rate caps or the bid price for those units subject to the cap for Spinning Reserve capacity in Zone x for Trading Interval t.

C 3.24 **$SpinPayTotalDA_{jxt}$ - $**

The total payment to Scheduling Coordinator j for Spinning Reserve capacity in the Day-Ahead Market in Zone x for Trading Interval t.

C 3.25 **$SpinPayHA_{ijxt}$ - $**

The payment for Scheduling Coordinator j for providing incremental (additional to Day-Ahead) Spinning Reserve capacity in the Hour-Ahead Market from a resource i in Zone x for Trading Interval t.

C 3.25.1 **$SpinReceiveHA_{ljxt}$ - $**

The payment from Scheduling Coordinator j for buying back from the ISO in the Hour-Ahead, Spinning Reserve capacity which the

F 3.3 **Q_n (MW)**

The Available Transfer Capacity, whether from transmission ownership or contractual entitlements, of each Participating TO n for each ISO Scheduling Point which has been placed within the ISO Controlled Grid. Available Transfer Capacity does not include capacity associated with Non-Converted Rights and Existing Rights of a Participating TO as defined in Section 2.4.4 of the ISO Tariff.

F 3.4 **$WChg_{jq}$ ($)**

The Wheeling Charges by the ISO on Scheduling Coordinator j for Scheduling Point q in Trading Interval t. Both Wheeling Out and Wheeling Through transactions are included in this term.

F 3.5 **$QChargeW_{jqt}$ (kWh)**

The summation of kWh wheeled over Scheduling Point q by Scheduling Coordinator j in Trading Interval t. Both Wheeling Out and Wheeling Through transactions are included in this term.

F 3.6 **$TotalWChg_j$ ($)**

The total Wheeling Charges payable by Scheduling Coordinator j to the ISO for all Scheduling Points over which it has Wheeling transactions in Trading Interval t. Both Wheeling Out and Wheeling Through transactions are included in this term.

F 3.7 **$PayTO_n$ ($)**

The Trading Interval payment of Wheeling Out and Through Revenues from the ISO to Participating TO n.

F 3.8 **TRR_n**

The Transmission Revenue Requirement of Participating TO_n.

"Business Day" shall have the meaning ascribed to it in the Conditions of Must-Run Contract.

"Estimated RMR Invoice" means the monthly invoice issued by the Owner to the ISO for estimated RMR Charges or Rebates pursuant to Section 4.5(a) or 4.6(a) (as appropriate) of the Conditions of Must-Run Contract.

"ISO Home Page" means the ISO internet home page at http://www.caiso.com/iso or such other internet address as the ISO shall publish from time to time.

"ISO RMR Account" means the account established and operated by the ISO to and from which all payments under this Annex shall be made.

"Owner" means the entity which has entered into a Reliability Must-Run Contract with the ISO pursuant to the ISO Tariff.

"Participating Utility" means a utility that is a party to the TCA in whose Service Area a Reliability Must-Run Generating Unit is located as referred to in Section 5.2.7 of the ISO Tariff.

"RMR Charge" means the sum payable by the Participating Utility to the ISO pursuant to Section 5.2.7 of the ISO Tariff for the cost of Reliability Must-Run Generation and Ancillary Services as set out in the Conditions of Must-Run Contract. If the ISO has received a RMR Rebate, the RMR Charge may take the form of a sum payable to the Participating Utility by the ISO.

"RMR Payment" means any amounts payable by the ISO to an Owner pursuant to a Reliability Must-Run Contract.

"RMR Payments Calendar" means the Payments Calendar issued by the ISO pursuant to section 3 of this Annex 1.

"RMR Rebate" means any amounts payable to the ISO by an Owner pursuant to a Reliability Must-Run Contract.

"RMR Security" means the form of security provided by a Participating Utility to cover its liability under this Annex pursuant to Section 5.2.7.1 of the ISO Tariff.

1.2.4 Rules of Interpretation and Other Terms and Conventions

The rules of interpretation set out in SABP 1.2.3, and the provisions of SABP 1.2.4, 1.2.5 and 1.2.6 shall apply to this Annex.

6.4.6 Payment Pending Dispute

Neither the Participating Utility nor the ISO shall be obligated to pay the disputed amount to the Owner pending the resolution of the dispute but interest shall be payable thereon as provided for in the Conditions of Must-Run Contract.

7 Payment Procedures

7.1 Payment Date

The Payment Date for RMR Payments to and RMR Rebates from Owners shall be the date specified in their Conditions of Must-Run Contract and in the RMR Payments Calendar and the same shall be the Payment Date for the ISO and Participating Utilities in relation to RMR Charges.

7.2 Payments to be made via Fed-Wire

All payments by the ISO to Owners and Participating Utilities shall be made via Fed-Wire.

All payments to the ISO by Owners and Participating Utilities shall be made via Fed-Wire.

7.3 Payment by Owners, Participating Utilities and Scheduling Coordinators

Each Owner shall remit to the ISO RMR Account the amount shown on the relevant Estimated RMR Invoice or Adjustment RMR Invoice as payable by that Owner for value not later that 10:00 am on the Payment Date.

Each Participating Utility shall remit to the ISO RMR Account the amount shown on the relevant invoice issued by the ISO pursuant to paragraph 6.5 as payable by that Participating Utility for value not later than 10:00 am on the Payment Date.

7.4 Payment by the ISO

The ISO shall calculate the amounts available for distribution to Participating Utilities and/or Owners on the Payment Date and shall give irrevocable instructions to the ISO Bank to remit from the ISO RMR Account to the relevant settlement account maintained by each Participating Utility or Owner the amounts determined by the

ISO METERING PROTOCOL (MP)

MP 1 OBJECTIVES, DEFINITIONS AND SCOPE

MP 1.1 Objective

The objective of this Metering Protocol is to implement ISO Tariff Section 10 in relation to the acquisition by the ISO of revenue quality meter data for Settlement and billing purposes.

MP 1.1.1 Applicable Reference Materials

This Protocol must be read and interpreted in accordance with:

(a) Section 10 and Appendix J of the ISO Tariff;

(b) Settlement and Billing Protocol (SABP);

(c) American National Standards Institute (ANSI) C12 standards; and

(d) ISO Metered Entity Meter Service Agreements and SC Meter Service Agreements.

MP 1.1.2 Role of the ISO

The ISO is responsible for establishing and maintaining the revenue meter data acquisition and processing system (MDAS). MDAS will acquire revenue quality meter data for use in the ISO's Settlement and billing process. The ISO is also responsible for:

(a) setting standards and procedures for the registration, certification, auditing, testing and maintenance of revenue quality meters and meter data servers; and

(b) for establishing procedures for the collection, security, validation and estimation of Meter Data,

for metered entities that are subject to the ISO Tariff.

MP 1.3 Scope

MP 1.3.1 Scope of Application to Parties

This Protocol applies to the following entities:

(a) the ISO;

(b) ISO Metered Entities; and

(c) SCs in respect of the SC Metered Entities they represent.

If an ISO Metered Entity is also a SC, it shall be treated as an ISO Metered Entity for the purposes of this Protocol and Section 10 of the ISO Tariff. Such an ISO Metered Entity will not be required to enter into a SC Meter Service Agreement unless it represents any metered entities other than itself. A SC Meter Service Agreement entered into by an ISO Metered Entity shall only apply to those metered entities that the ISO Metered Entity represents; the SC Meter Service Agreement shall not apply to the ISO Metered Entity other than in its capacity as SC for those metered entities. If a SC Metered Entity is also a SC, it shall be treated as a SC for the purposes of this Protocol and Section 10 of the ISO Tariff and any references to entities that such a SC represents shall be deemed to include that SC itself.

MP 1.3.2 Scope of SC Responsibilities

SCs will be responsible:

(a) for ensuring that those SC Metered Entities that they represent and which are subject to the procedures and standards set forth in the ISO Tariff and this Protocol, comply with those procedures and standards; and

(b) for providing the ISO with Settlement Quality Meter Data in accordance with the ISO Tariff and this Protocol for those SC Metered Entities that they represent.

MP 1.3.3 Liability of the ISO

Any liability of the ISO arising out of or in relation to this Protocol shall be subject to Section 14 of the ISO Tariff as if references to the ISO Tariff were references to this Protocol.

MP 2 REVENUE METER DATA ACQUISITION AND PROCESSING SYSTEM (MDAS)

MP 2.1 Purpose of MDAS

MDAS will be used:

(a) by the ISO to obtain and receive the revenue quality meter data of ISO Metered Entities and SC Metered Entities for Settlement and billing purposes; and

(b) by SCs to access Settlement Quality Meter Data held by the ISO in respect of the SC Metered Entities and ISO Metered Entities that they represent.

MP 2.2 ISO Metered Entities

MP 2.2.1 Method of Providing Meter Data to ISO

Subject to any exemption granted by the ISO under MP 13, each ISO Metered Entity must provide Meter Data to MDAS by direct interface between MDAS and its revenue quality meter or Compatible Meter Data Server.

MP 2.2.2 Interface with MDAS

ISO Metered Entities will, in accordance with the ISO Tariff and this Protocol, use WEnet to interface directly with MDAS:

(a) in the case of Meter Data provided to MDAS from a revenue quality meter, via compatible metering communication equipment; or

(b) via a Compatible Meter Data Server.

MP 2.2.3 Frequency of Recording and Collecting Data

Subject to any exemption granted by the ISO under MP 13, Meter Data must be recorded:

(a) at 5-minute intervals by Generators providing Regulation and/or Ancillary Services; and

(b) at 1-hour intervals by other ISO Metered Entities.

Meter Data will be collected regularly by MDAS in accordance with the frequency for collection determined by the ISO from time to time. The ISO may also collect Meter Data on demand. The ISO will issue such demands using voice communications. If the ISO issues a demand for Meter Data, the ISO Metered Entity from

which such maintenance is expected to occur. During that period, the ISO Metered Entity or its authorized representative shall be entitled to access those sealed Metering Facilities to which access is required in order to undertake the required maintenance.

During periods for which no Meter Data is available from a meter which has a current Certificate of Compliance, the ISO will substitute estimated meter data for that ISO Metered Entity using the estimation procedures referred to in MP 10.1. That estimated meter data will be used by the ISO in its Settlement and billing process.

MP 6.1.2 Repairs

If a revenue quality meter of an ISO Metered Entity requires repairs to ensure that it operates in accordance with the requirements of the ISO Tariff and this Protocol, the ISO Metered Entity must immediately notify the ISO of the need for repairing that meter and must ensure that those repairs are completed:

(a) where there is no Check Meter installed, within 12 hours of the notification to the ISO; or

(b) where there is a Check Meter installed, within 5 business days of the notification to the ISO.

During periods for which no Meter Data is available from a meter which has a current Certificate of Compliance, the ISO will substitute estimated meter data for that ISO Metered Entity using the estimation procedures referred to in MP 10.1. That estimated meter data will be used by the ISO in its Settlement and billing process.

In respect of Metering Facilities (other than a revenue quality meter) of an ISO Metered Entity that need repair, the ISO Metered Entity shall notify the ISO of that need and, after consultation with the ISO Metered Entity, the ISO will set the time period in which such repairs must be completed.

MP 6.2 SC Metered Entities

SCs will be required to ensure that the SC Metered Entities that they represent maintain their Metering Facilities in accordance with the requirements of the relevant Local Regulatory Authority. If a SC Metered Entity's Local Regulatory Authority has not set any requirements in relation to the maintenance of its Metering Facilities, the SC representing that SC Metered Entity must ensure that it maintains its Metering Facilities in a manner that ensures that those

ISO has approved a request from an ISO Metered Entity for MDAS to apply the Transformer and/or Line Loss Correction Factor, MDAS will apply the Transformer and/or Line Loss Correction Factor set forth in the Technical Specifications. If MDAS is used to apply the Transformer and/or Line Loss Correction Factor, the ISO may require the ISO Metered Entity to pay the reasonable costs incurred by it in applying the Transformer and/or Line Loss Correction Factor.

MP 9 SECURITY OF METER DATA

MP 9.1 ISO Metered Entities

ISO Metered Entities will either submit Meter Data directly to MDAS via Compatible Meter Data Servers or their revenue quality meters will be directly polled by MDAS.

MP 9.1.1 Meter Site Security

Metering Facilities of ISO Metered Entities must meet the following requirements:

(a) secondary devices that could have any impact on the performance of the Metering Facilities must be sealed; and

(b) all Metering Facilities (including terminal servers and multiport devices) must be sealed.

MP 9.1.2 Third Party Access to Meters

(a) Local Access

If an ISO Metered Entity desires to grant a third party local access to its revenue quality meters, those meters must be equipped with ISO certified RS-232 or optical ports and software. The ISO may set the password and any other security requirements for locally accessing the revenue quality meters of ISO Metered Entities so as to ensure the security of those meters and their Meter Data. The ISO may alter the password and other requirements for locally accessing those meters from time to time as it determines necessary. The ISO must provide ISO Metered Entities with the current password and other requirements for locally accessing their revenue quality meters. ISO 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 ISO's prior approval which shall not unreasonably be withheld. ISO Metered Entities will be responsible for ensuring that a third party

MP 11.1.2 WEnet

MDAS will use WEnet to acquire Meter Data from ISO Metered Entities and receive Settlement Quality Metered Data from SCs. WEnet is an ISO-provided Wide Area Network (WAN). WEnet will use the TCP/IP networking protocol.

MP 11.1.3 Points of Presence (POP)

WEnet will have a Point of Presence (POP) in the general vicinity of most ISO Metered Entities and SCs. The POP is the interface point between WEnet and the facilities provided by ISO Metered Entities and SCs pursuant to MP 11.2 and MP 11.3.

MP 11.1.4 Facilities Failure

In the event that the primary or redundant MDAS master station or WEnet fails, the procedures referred to in Appendix A will be followed by the ISO, ISO Metered Entities and SCs.

MP 11.2 Facilities Provided by ISO Metered Entities

ISO Metered Entities must provide the telecommunication facilities referred to in MP 11.2.1 to MP 11.2.3 inclusive to connect their Compatible Meter Data Servers to the WEnet POP. The detailed requirements for this interface are described in the MCI Connected Entity Package.

MP 11.2.1 Telecommunications Channels

The ISO Metered Entity must provide one of the following types of telecommunication channels from the WEnet POP to its Compatible Meter Data Servers:

(a) Digital leased line;

(b) ISDN channel; or

(c) frame relay channel.

With the ISO's approval, the revenue quality meters of two or more ISO Metered Entities may be served by one telecommunications channel.

MP 11.2.2 Router/Terminal Server

ISO Metered Entities must provide router/terminal servers to interface the telecommunication channels to revenue quality meters. Each revenue quality meter will use an RS-232 interface nominally operating at 9600 bits/second.