

### **3. RELATIONSHIP BETWEEN ISO AND PARTICIPATING TOs.**

#### **3.1 Nature of Relationship.**

Each Participating TO shall enter into a Transmission Control Agreement with the ISO.

#### **3.2 Transmission Expansion.**

A Participating TO shall be obligated to construct all transmission additions and upgrades within its Service Area that are determined to be needed in accordance with the requirements of this Section 3.2. A Participating TO's obligation to construct such transmission additions and upgrades shall be subject to: (1) its ability, after making a good faith effort, to obtain all necessary approvals and property rights under applicable federal, state, and local laws and (2) the presence of a cost recovery mechanism with cost responsibility assigned in accordance with Section 3.2.7. The obligations of the Participating TO to construct such transmission additions or upgrades will not alter the rights of any entity to construct and expand transmission facilities as those rights would exist in the absence of the TO's obligations under this ISO Tariff or as those rights may be conferred by the ISO or may arise or exist pursuant to this ISO Tariff.

##### **3.2.1 Determination of Need.**

The ISO, a Participating TO, or any other Market Participant may determine the need for and propose a transmission system addition. A transmission addition or upgrade is determined to be needed where it would promote economic efficiency or maintain system reliability as set forth below.

**3.2.1.1 Economically Driven Projects.** The determination that a transmission addition or upgrade is needed to promote economic efficiency shall be made in any of the following ways:

**3.2.1.1.1** If the Participating TO or any party questions the economic need for the project (except where the Project Sponsor commits to pay the full cost of construction) the proposal will be submitted to the ISO ADR Procedures for resolution.

**3.2.1.1.2** Where a Project Sponsor other than the Participating TO commits to pay the full cost of construction of a transmission addition or upgrade and its operation, and demonstrates to the ISO financial capability to pay those costs, such commitment and demonstration shall be sufficient to demonstrate need. To ensure that the Project Sponsor is financially able to pay the costs of the project to be constructed by the Participating TO, the Participating TO may require (1) a demonstration of creditworthiness (e.g. an appropriate credit rating), or (2) sufficient security in the form of an unconditional and irrevocable letter of credit or other similar security sufficient to meet its responsibilities and obligations for the full costs of the transmission addition or upgrade.

**3.2.1.1.3** Where a Project Sponsor asserts that a transmission addition or upgrade is economically beneficial, but that Project Sponsor is unwilling to commit to pay the full cost of the addition or upgrade; where (1) the proposed transmission expansion or upgrade was submitted to the Participating TO but was not included in the transmission expansion plan of that Participating TO in accordance with Section

3.2.2 or (2) the operation date of the planned expansion is not acceptable to the ISO or the Project Sponsor or (3) the Participating TO unreasonably delays implementing or subsequently decides not to proceed with the project, the Project Sponsor may submit its proposal to the ISO ADR Procedure for determination of need. A determination of need shall be made as follows:

**3.2.1.1.3.1** The Project Sponsor shall include in its proposal a showing: (1) that the economic benefits of the proposed transmission addition or upgrade are expected to exceed its costs (giving consideration to any reasonable alternatives to the construction of transmission additions or upgrades), and (2) a proposed pricing methodology for the transmission upgrades that, to the extent practicable, assigns the costs of the planned upgrades to the beneficiaries in proportion to their net benefits.

**3.2.1.1.3.2** If neither any Market Participant nor the ISO disputes the Project Sponsor's showing, then the proposal is determined to be needed.

**3.2.1.1.3.3** If any Market Participant or the ISO disputes the Project Sponsor's showing, then if the proposed transmission addition or upgrade is determined to be needed, the disputing Market Participant, the ISO, or the Project Sponsor may submit to resolution through the ISO ADR Procedure the issues of (1) whether the transmission addition or upgrade is needed on the ground that its economic benefits exceed its costs, (2) whether the beneficiaries of the transmission addition or upgrade can reasonably be identified, and (3) if so, the identity of those beneficiaries and their respective net benefits. If a Market Participant fails to raise through the

ISO ADR Procedure a dispute as to whether a proposed transmission addition or upgrade is needed, or as to the identity, if any, of the beneficiary, then the Market Participant shall be deemed to have waived its right to raise such dispute at a later date. The determination under the ISO ADR Procedure as to whether the transmission addition or upgrade is needed and the identity, if any, of the beneficiaries, including any determination by FERC or on appeal of a FERC determination in accordance with that process, shall be final.

**3.2.1.2 Reliability Driven Projects.** The ISO or the Participating TO, in coordination with the ISO and Market Participants, through the coordinated planning processes of the WSCC and the RTGs, will identify the need for any transmission additions or upgrades required to ensure system reliability consistent with all Applicable Reliability Criteria. In making this determination, the Participating TO and the ISO, in coordination with the other Market Participants, shall consider lower cost alternatives to the construction of transmission additions or upgrades, such as acceleration or expansion of existing projects, demand-side management, remedial action schemes, constrained-on Generation, interruptible Loads or reactive support. The Participating TO shall perform the necessary studies to determine the facilities needed to meet all Applicable Reliability Criteria. The Participating TO shall provide the ISO and other Market Participants with all information relating to a proposed transmission addition or upgrade that they may reasonably request (other than information available to them through the WSCC or RTG) and shall, through the WSCC or RTG coordinated planning processes, develop the scope of and assumptions for such studies that are

acceptable to the ISO and those other Market Participants. The ISO shall be free to propose any transmission upgrades it deems necessary to ensure System Reliability consistent with Applicable Reliability Criteria and subject to appropriate appeals, the TO shall be obligated to construct such lines. After the ISO Operations Date, the ISO, in consultation with Participating TOs and any affected UDCs, will work to develop a consistent set of reliability criteria for the ISO Controlled Grid which the TOs will use in their transmission planning and expansion studies or decisions.

**3.2.2 Transmission Planning and Coordination.**

The ISO shall actively participate with each Participating TO and the other Market Participants in the ISO Controlled Grid planning process in accordance with the terms of this ISO Tariff and the Transmission Control Agreement.

**3.2.2.1** Each Participating TO shall develop annually a transmission expansion plan covering a minimum five-year planning horizon for its service area. Such Participating TO shall coordinate with the ISO and other Market Participants in the development of such plan. The Participating TO shall be responsible for ensuring that its transmission expansion plan meets all Applicable Reliability Criteria.

**3.2.2.2** The ISO shall review the Participating TOs' transmission expansion plans to ensure that each Participating TO's expansion plans meet the Applicable Reliability Criteria. The Participating TO will provide the necessary assistance and information as part of the coordinated planning process to the ISO to enable it to carry out its own studies for these purposes. If the ISO finds that the Participating TO's plan or projects do not meet the Applicable Reliability Criteria, the ISO will provide comments

and the Participating TO will reassess its plans, as appropriate. The ISO may also propose new projects or suggest project changes (*e.g.*, timing, project size) for consideration by the Participating TO. Changes or additions made by the ISO and accepted by the TO will be included in the Participating TO's expansion plan. Changes or additions not accepted in the coordinated planning process will be resolved through the ISO ADR Procedure.

**3.2.2.3** The Participating TO will act as a Project Sponsor for Participating TO proposed economic or reliability projects that are included in its expansion plan. The Participating TO shall provide to the ISO any information that the ISO requires to enable the ISO to comply with WSCC and RTG regional coordination requirements pursuant to Section 3.2.6.

**3.2.2.4** The ISO will be a member of the WSCC and applicable RTGs (including WRTA) and participate in WSCC's operation and planning committees, and in the applicable RTG coordinated planning process. No Participating TO, Market Participant nor the ISO shall take any position before the WSCC or an RTG that is inconsistent with a binding decision reached through the ISO ADR Procedure.

**3.2.3 Studies to Determine Facilities to be Constructed.**

Where a Participating TO is obligated to construct or expand facilities in accordance with this ISO Tariff or where the ISO or any Market Participant requests that a Facility Study be carried out, the Participating TO (in coordination with the ISO or the relevant Market Participants as the case may require), shall perform the necessary study or studies to determine the appropriate facilities to be constructed in

accordance with the terms set forth in the TO Tariff. The scope of and assumptions for any studies requested by Market Participants sponsoring a transmission addition or upgrade on economic grounds shall be acceptable to the Project Sponsors and the ISO. Any dispute relating to a Facility Study Agreement (including any dispute over the scope of the study or its assumptions) shall be resolved through the ISO ADR Procedures.

**3.2.4 Operational Review.**

The ISO will perform an operational review of all facilities that are to be connected to, or made part of, the ISO Controlled Grid to ensure that the facilities being proposed provide for acceptable operating flexibility and meet all its requirements for proper integration with the ISO Controlled Grid. If the ISO finds that such facilities do not provide for acceptable operating flexibility or do not adequately integrate with the ISO Controlled Grid, the Participating TO will reassess its determination of the facilities required to be constructed.

**3.2.5 State and Local Approval and Property Rights.**

**3.2.5.1** The Participating TO shall be obligated to make a good faith effort to obtain all approvals and property rights under applicable federal, state and local laws that are necessary to complete the construction of transmission additions or upgrades required to be constructed in accordance with this ISO Tariff. This obligation includes the Participating TO's use of eminent domain authority, where provided by state law.

**3.2.5.2** If the Participating TO cannot secure any such necessary approvals or property rights and consequently is unable to construct a transmission addition or upgrade, it shall promptly notify the ISO and the Project Sponsor and shall comply with its obligations under the TO Tariff to convene a technical meeting to evaluate alternative proposals. The ISO shall take such action as it reasonably considers appropriate, in coordination with the Participating TO, the Project Sponsor (if any) and other affected Market Participants, to facilitate the development and evaluation of alternative proposals including, where possible, conferring on a third party the right to build the transmission addition or upgrade.

**3.2.5.3** Where it is possible for a third party to obtain all approvals and property rights under applicable federal, state and local laws that are necessary to complete the construction of transmission additions or upgrades required to be constructed in accordance with this ISO Tariff (including the use of eminent domain authority, where provided by state law) the ISO may confer on a third party the right to build the transmission addition or upgrade which shall enter into the Transmission Control Agreement in relation to such transmission addition or upgrade.

**3.2.6 WSCC and RTG Coordination.**

The Project Sponsor will have responsibility for completing any applicable WSCC or RTG regional coordination and rating study requirements to ensure that a proposed transmission addition or upgrade meets regional planning requirements. The Project Sponsor may request the Participating TO to perform this coordination on behalf of the Project Sponsor.



**3.2.7 Cost Responsibility for Transmission Expansions or Upgrades.**

Cost responsibility for transmission additions or upgrades constructed pursuant to this Section 3.2 (including the responsibility for any costs incurred under Section 3.2.6) shall be determined as follows:

**3.2.7.1** Where a Project Sponsor commits to pay the full cost of a transmission addition or upgrade as set forth in Section 3.2.1.1.2, the full costs shall be borne by the Project Sponsor.

**3.2.7.2** Where the need for a transmission addition or upgrade is determined by the ISO or as a result of the ISO ADR Procedure as set forth in Section 3.2.1.1.3, the costs shall be borne by the beneficiaries, in the approximate relative proportions by which they benefit, if those beneficiaries and such proportions can reasonably be determined.

**3.2.7.3** If specific beneficiaries cannot be reasonably identified then the cost of the transmission addition or upgrade borne by the Participating TO that is the owner of the transmission addition or upgrade shall be reflected in its Access Charge. Each of the Project Sponsors and specifically identified beneficiaries shall be entitled to receive:

- (a) its share of the Wheeling revenues attributable to the transmission addition or upgrade which shall be allocated to each of the Project Sponsors and specifically identified beneficiaries in the proportion that the cost of the transmission addition or upgrade borne by it bears to the total cost of the transmission addition or upgrade; and
- (b) a share of any Congestion Charges for the use of a Congested Inter-Zonal Interface of which the transmission addition or upgrade forms part in the proportion that the incremental transmission capacity of the Inter-Zonal Interface the cost of which has been allocated to it bears to its total transmission capacity.

**3.2.8 Ownership of and Charges for Expansion Facilities.**

**3.2.8.1** All transmission additions and upgrades constructed in accordance with this Section 3.2 shall form part of the ISO Controlled Grid and shall be operated and maintained by a Participating TO in accordance with the Transmission Control Agreement.

**3.2.8.2** The Participating TO which owns or operates transmission additions and upgrades constructed in accordance with this Section 3.2 shall provide access to them and charge for their use in accordance with this ISO Tariff and the TO Tariff.

**3.2.9 Expansion by “Local Furnishing” Participating TOs.**

Notwithstanding any other provision of this ISO Tariff, a Local Furnishing Participating TO shall not be obligated to construct or expand facilities, (including interconnection facilities as described in Section 8 of the TO Tariff) unless the ISO or Project Sponsor has tendered an application under FPA Section 211 that requests FERC to issue an order directing the Local Furnishing TO to construct such facilities pursuant to Section 3.2 of the ISO Tariff. The Local Furnishing TO shall, within 10 days of receiving a copy of the Section 211 application, waive its right to a request for service under

FPA Section 213(a) and to the issuance of a proposed order under FPA Section 212(c).  
Upon receipt of a final order from FERC that is no longer subject to rehearing or appeal,  
such Local Furnishing TO shall construct such facilities in accordance with this Section  
3.2.

#### **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

shall also be made available to Scheduling Coordinators upon receipt of reasonable notice.

**4.2 Coordinating Maintenance Outages of UDC Facilities.**

Each UDC and the Participating TO with which it is interconnected shall coordinate their Outage requirements that will have an effect on their transmission interconnection prior to the submission by that Participating TO of its maintenance Outage requirements under Section 2.3.3.

**4.3 UDC Responsibilities.**

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

**4.3.1** operate and maintain its facilities, in accordance with applicable safety and reliability standards, regulatory requirements, applicable operating guidelines, applicable rates, tariffs, statutes and regulations governing their provision of service to their End-Use Customers and Good Utility Practice so as to avoid any material adverse impact on the ISO Controlled Grid;

**4.3.2** provide the ISO Outage Coordination Office each year with a schedule of upcoming maintenance that has a reasonable potential of impacting the ISO Controlled Grid in accordance with Section 2.3.3.5 of this ISO Tariff; and

**4.3.3** coordinate with the ISO, Participating TOs and Generators to ensure that ISO Controlled Grid Critical Protective Systems, including relay systems, are installed and maintained in order to function on a coordinated and complementary basis with UDCs, Generator's and Participating TO's protective systems.

**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

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

regain operational control over the ISO Controlled Grid during an actual System Emergency. The ISO shall direct the UDCs to shed Load in accordance with the prioritization schedule developed pursuant to Section 2.3.2.6. When ISO Controlled Grid conditions permit restoration of Load, the ISO shall restore Load according to the prioritization schedule developed pursuant to Section 2.3.2.6 hereof.

**4.5 Electrical Emergency Plan (EEP).**

**4.5.1** The ISO shall in accordance with Section 2.3.2.4 hereof implement the Electrical Emergency Plan in consultation with the UDCs or other entities, at the ISO's discretion, when Energy reserve margins are forecast to be at the levels specified in the plan.

**4.5.2** Each UDC will notify its End-Use Customers connected to its Distribution System of any voluntary curtailments notified to the UDC by the ISO pursuant to the provisions of the EEP.

**4.5.3** If a Load curtailment is required to manage System Emergencies, the ISO will determine the amount and location of Load to be reduced and to the extent practicable, will allocate a portion to each UDC based on the ratio of its Demand (at the time of the Control Area annual peak for the previous year) to total Control Area annual peak Demand for the previous year taking into account system considerations and the UDC's curtailment rights under their tariffs. Each UDC shall be responsible for notifying its customers and Generators connected to its system of curtailments and service interruption.

**4.6 System Emergency Reports: UDC Obligations.**

**4.6.1** Each UDC shall maintain all appropriate records pertaining to a System Emergency.

**4.6.2** Each UDC shall cooperate with the ISO in the preparation of an Outage review pursuant to Section 2.3.2.9.

**4.7 Coordination of Expansion or Modifications to UDC Facilities.**

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

**4.8 Information Sharing.**

**4.8.1 System Planning Studies.**

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

**4.8.2 System Surveys and Inspections.**

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

**4.8.3 Reports.**

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



**4.8.3.2** The ISO and UDCs shall develop an operating procedure to record requests received for Maintenance Outages by the ISO and the completion of the requested maintenance and turnaround times.

**4.8.3.3** The UDCs shall maintain records that substantiate all maintenance performed on UDC facilities which are under the Operational Control of the ISO. These records shall be made available to the ISO upon receipt of reasonable notice.

**4.8.4 Installation of and Rights of Access to UDC Facilities.**

**4.8.4.1 Installation of Facilities.**

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

**4.8.4.1.2 Governing Agreements for Installations.** The ISO and the UDC shall enter into agreements governing the installation of equipment or other facilities containing customary, reasonable terms and conditions.

**4.8.4.2 Access to Facilities.**

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

**4.8.4.3 Access During Emergencies.**

Notwithstanding any provision in this Section 4 the ISO may have access, without giving prior notice, to any UDC's equipment or other facilities during times of a System Emergency or where access is needed in connection with an audit function.

**4.9 UDC Facilities under ISO Control.**

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

## **5. RELATIONSHIP BETWEEN ISO AND GENERATORS.**

The ISO shall not Schedule Energy or Ancillary Services generated by any Generating Unit interconnected to the ISO Controlled Grid, or to the Distribution System of a Participating TO or of a UDC otherwise than through a Scheduling Coordinator. The ISO shall not be obligated to accept Schedules or Adjustment Bids or bids for Ancillary Services relating to Generation from any Generating Unit interconnected to the ISO Controlled Grid unless the relevant Generator undertakes in writing to the ISO to comply with all applicable provisions of this ISO Tariff as they may be amended from time to time, including, without limitation, the applicable provisions of this Section 5 and Section 2.3.2.

### **5.1 General Responsibilities.**

#### **5.1.1 Operate Pursuant to Relevant Provisions of ISO Tariff.**

Participating Generators shall operate, or cause their facilities to be operated, in accordance with the relevant provisions of this ISO Tariff, including, but not limited to, the operating requirements for normal and emergency operating conditions specified in Section 2.3 and the requirements for the dispatch and testing of Ancillary Services specified in Section 2.5.

#### **5.1.2 Operate Pursuant to Relevant Operating Protocols.**

Participating Generators shall operate, or cause their Generating Units and associated facilities to be operated, in accordance with the relevant operating protocols established by the ISO or, prior to the establishment of such protocols, the operating

protocols established by the TO or UDC owning the facilities that interconnect with the Generating Unit of the Participating Generator.

**5.1.3 Actions for Maintaining Reliability of ISO Controlled Grid.**

The ISO plans to obtain the control over Generating Units that it needs to control the ISO Controlled Grid and maintain reliability by purchasing Ancillary Services from the market auction for these services. When the ISO responds to events or circumstances, it shall first use the generation control it is able to obtain from the Ancillary Services bids it has received to respond to the operating event and maintain reliability. Only when the ISO has used the Ancillary Services that are available to it under such Ancillary Services bids which prove to be effective in responding to the problem and the ISO is still in need of additional control over Generating Units, shall the ISO assume supervisory control over other Generating Units. It is expected that at this point, the operational circumstances will be so severe that a real-time system problem or emergency condition could be in existence or imminent.

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

- (a) compliance with the ISO's Dispatch instructions including instructions to deliver Ancillary Services in real time pursuant to the Final Day-Ahead Schedules and Final Hour-Ahead Schedules;

- (b) compliance with the system operation requirements set out in Section 2.3 of this ISO Tariff;
- (c) notification to the ISO of the persons to whom an instruction of the ISO should be directed on a 24-hour basis, including their telephone and facsimile numbers; and
- (d) the provision of communications, telemetry and direct control requirements, including the establishment of a direct communication link from the control room of the Generator to the ISO in a manner that ensures that the ISO will have the ability, consistent with this ISO Tariff and the ISO Protocols, to direct the operations of the Generator as necessary to maintain the reliability of the ISO Controlled Grid.

**5.1.4 Generators Connected to UDC Systems.**

A Participating Generator with a Generating Unit directly connected to a UDC system will be exempt from compliance with this Section 5 in relation to that Generating Unit, other than Section 5.6 (System Emergencies) provided that (i) the output of the Generating Unit is less than 10 MW, and (ii) the total output is sold to the interconnecting UDC or to customers connected to the UDC's system. Any such Participating Generator shall comply with applicable UDC tariffs, interconnection requirements and generation agreements. This exemption in no way affects any obligation to pay the appropriate Access Charges or to comply with all the other applicable Sections of this ISO Tariff.

**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



located is intended to cover that utility's outstanding liability for all payments it is liable to make to the ISO under Section 5.2.7 including monthly payments, any reimbursement for capital improvements, exit fees and any other payments to which the ISO is liable under the Reliability Must Run Contracts. The amount of such security in any month shall be equal to two times the highest monthly payment invoiced by the ISO in the previous quarter. In any month for which all relevant data is not yet available, the ISO will calculate the amount of security required on the basis of a reasonable estimate of its requirements for Reliability Must Run Generation.

**5.3 Identification of Generating Units.**

Each Generator shall provide data identifying each of its Generating Units and such information regarding the capacity and the operating characteristics of the Generating Unit as may be reasonably requested from time to time by the ISO.

**5.4 Generator Performance Standard.**

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

**5.5 Outages.**

**5.5.1 Planned Maintenance.**

Each Participating Generator shall, for informational purposes only, on an annual, quarterly and monthly basis in accordance with the ISO Protocol on Outage planning in relation to each of its Generating Units other than Reliability Must-Run Units (in respect of

which the provisions of Section 2.3.3 shall apply) provide to the ISO details of its planned maintenance. Any such Participating Generator shall inform the ISO of any changes to its planned maintenance schedule effective during the period of one month ahead of real time with as much notice as reasonably practicable. If the Participating Generator wishes to make any change to its planned maintenance schedule which will be effective at less than seven (7) days notice, it shall not take the relevant Generating Unit out of service unless it has first obtained the ISO's consent which may only be withheld for reasons of System Reliability or security. Each Participating Generator shall in relation to each of its Reliability Must-Run Units comply with the requirements of Section 2.3.3 for planning Maintenance Outages.

**5.5.2** The ISO shall, on the basis of the information supplied by Participating Generators under Section 5.5.1 and other information available to the ISO, prepare and publish on WEnet forecast aggregate available Generation capacity and forecast Demand on an annual, quarterly and monthly basis in accordance with the provisions of the ISO Protocol on Outage planning. In publishing these forecasts, the ISO shall identify any expected congestion conditions caused by planned Outages of

Participating Generators but shall not disclose the identity of individual Generators or the location of Generating Units.

**5.5.3 Forced Outages.**

Procedures equivalent to those set out in Section 2.3.3 shall apply to all Participating Generators in relation to Forced Outages.

**5.6 System Emergencies.**

**5.6.1** All Generating Units and System Resources that are owned or controlled by a Participating Generator are (without limitation to the ISO's other rights under this ISO Tariff) subject to control by the ISO during a System Emergency and in circumstances in which the ISO considers that a System Emergency is imminent or threatened. The ISO shall, subject to Section 5.6.2, have the authority to instruct a Participating Generator to bring its Generating Unit on-line, off-line, or increase or curtail the output of the Generating Unit and to alter scheduled deliveries of Energy and Ancillary Services into or out of the ISO Controlled Grid, if such an instruction is reasonably necessary to prevent an imminent or threatened System Emergency or to retain Operational Control over the ISO Controlled Grid during an actual System Emergency.

**5.6.2** The ISO shall, where reasonably practicable, utilize Ancillary Services which it has the contractual right to instruct and which are capable of contributing to containing or correcting the actual, imminent or threatened System Emergency prior to issuing instructions to a Participating Generator under Section 5.6.1

**5.7 Interconnection to the ISO Controlled Grid.**

**5.7.1 Submitting Requests to Interconnect.**

Any existing or prospective Generator that requests interconnection to the ISO Controlled Grid shall submit a request to interconnect to the Participating TO or UDC that will supply

the interconnection and shall copy such request to the ISO. The Participating TO shall coordinate all aspects of the interconnection requests pursuant to the TO Tariff and the TCA. An existing or prospective Generator shall not be entitled to have its interconnection to the ISO Controlled Grid energized unless and until it has demonstrated to the ISO's reasonable satisfaction that it has complied with or is capable of complying with all of the requirements of this Section 5.

**5.7.2 Generating Unit Interconnection.**

The interconnection standards and agreements of the interconnecting Participating TO or UDC, which are available upon request, shall govern the interconnection of additional Generating Units including the costs of such interconnection. Protocols and standards developed and adopted by the ISO may supersede, where appropriate, protocols and standards specific to the Participating TO or UDC.

**5.7.3 Coordination of Critical Protective Systems.**

Generators shall coordinate with the ISO, Participating TOs and UDCs to ensure that ISO Controlled Grid Critical Protective Systems, including relay systems, are installed and maintained in order to function on a coordinated and complementary basis with Generator's, Participating TO's and UDC's protective systems.

**5.8 Recordkeeping; Information Sharing.**

**5.8.1 Requirements for Maintaining Records.**

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

**5.8.2 Providing Information to Generators.**

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

**5.8.3 Preparation of Reports on Major Incidents.**

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

**5.8.4 Sharing Information on Reliability of ISO Controlled Grid.**

The ISO and each Participating Generator shall have the obligation to inform each other, as promptly as possible, of any circumstance of which it becomes aware (including, but not limited to, abnormal temperatures, storms, floods, earthquakes, and equipment depletions and malfunctions and deviations from the Registered Data and operating characteristics) that is reasonably likely to threaten the reliability of the ISO Controlled Grid or the integrity of the Participating Generator's facilities. The ISO

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.

**5.10.3** The ISO shall have the sole right to determine when the operation of Black Start Generating Units is required to respond to conditions on the ISO Controlled Grid.

**5.10.4** If the ISO has intervened in the market for Energy and/or Ancillary Services pursuant to Section 2.3.2.3, the price paid by the ISO for Black Start services shall be sufficient to permit the relevant Participating Generator to recover its costs over the period that it is directed to operate by the ISO.

**5.10.5** If a Black Start Generating Unit fails to achieve a Black Start when called upon by the ISO, or fails to pass a performance test administered by the ISO, the relevant owner of Reliability Must-Run Unit shall re-pay to the ISO any reserve payment(s) that it has received since the administration of the last performance test or the last occasion upon which it successfully achieved a Black Start when called upon by the ISO, whichever is the shorter period.

**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

Controlled Grid when compared to that provided to Market Participants through dedicated user data links.

**6.3 Information to be Provided By Connected Entities to the ISO.**

**6.3.1 Each Participating TO and Connected Entity shall provide to the ISO:**

**6.3.1.1** A single and an alternative telephone number and a single and an alternative facsimile number by which the ISO may contact 24 hours a day a representative of the Participating TO or Connected Entity in, or in relation to, a System Emergency;

**6.3.1.2** The names or titles of the Participating TO's or Connected Entity's representatives who may be contacted at such telephone and facsimile numbers.

**6.3.2** Each representative specified pursuant to Section 6.3.1 shall be a person having appropriate experience, qualification, authority, responsibility and accountability within the Participating TO or the Connected Entity to act as the primary contact for the ISO in the event of a System Emergency.

**6.3.3** The details required under this Section 6.3 shall at all times be maintained up to date and the Participating TO and the Connected Entity shall notify the ISO of any changes promptly and as far in advance as possible.

**6.4 Failure or Corruption of the WEnet.**

The ISO shall, in consultation with Scheduling Coordinators, make provision for procedures to be implemented in the event of a total or partial failure of WEnet or the material corruption of data on WEnet and include these procedures in the ISO Protocols.

The ISO shall ensure that such alternative communications systems are tested periodically.

**6.5 Confidentiality.**

All information posted on WEnet shall be subject to the confidentiality obligations contained in Section 20.3 of this ISO Tariff.

**6.6 Standards of Conduct.**

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

## **7. TRANSMISSION PRICING.**

### **7.1 Access Charges.**

All Market Participants withdrawing Energy from the ISO Controlled Grid shall pay an Access Charge in accordance with this Section 7.1. The Access Charge for each Participating TO shall be determined in accordance with the principles set forth in this Section 7.1 and in Section 5 of the TO Tariff. The Access Charge shall comprise of two components, which together shall be designed to recover each Participating TO's Transmission Revenue Requirement. The first component shall be based on the Transmission Revenue Requirement without any adjustment for revenues associated with Wheeling and Usage Charges ("Transmission Revenue Credits"). The second component shall be based on the proceeds of the Transmission Revenue Balancing Account (TRBA) which shall be designed to flow through to the Participating TO's Transmission Revenue Credits, which are calculated in accordance with Section 5 of the TO Tariff.

#### **7.1.1 Publicly Owned Electric Utilities Access Charge**

Local Publicly Owned Electric Utilities and federal power marketing agencies whose transmission facilities are under ISO Operational Control shall file with the ISO their proposed Access Charge and shall file with the ISO, at least 60 days in advance, any change to their Access Charge. If requested, the ISO Board shall consider assertions that an Access Charge has been set so high that competition in the Energy or Ancillary Services markets, for which access to the ISO Controlled Grid is requested, is likely to be adversely affected. If after review of the Access Charge, the ISO

Board finds the assertion to be substantiated, the ISO Board will request that the appropriate Local Regulatory Authority or supervisory regulatory authority for a federal power marketing agency review the Access Charge. To enable filings to be made on a comparable basis the ISO will develop and publish a uniform accounting system for all such transmission facilities applicable until a new rate methodology for Access Charges is implemented pursuant to Section 7.1.

**7.1.2 Self-Sufficient Participating TO.**

A Self-Sufficient Participating TO shall bear no responsibility for the Access Charge of any other Participating TO. A Self-Sufficient Participating TO shall continue to be responsible for any payments it is contractually obligated to make under Existing Contracts.

**7.1.3 Dependent Participating TO.**

A Dependent Participating TO shall pay to the Participating TO to which it is physically interconnected, an Access Charge equal to: (i) the product of the Non Self-Sufficient Contract Demand rate of that Participating TO and the Non Self-Sufficient Contract Demand of that Dependent Participating TO; plus (ii) the TRBA adjustment charges as provided in Section 5.5 of the TO Tariff. The Non Self-Sufficient Contract Demand rate of a Participating TO shall be calculated by dividing its Base Transmission Revenue Requirement by the sum of the highest hourly system demand delivered by the Participating TO to End-Use Customers connected to its transmission and distribution facilities for each month of the year used by that Participating TO for rate development. The Non Self-Sufficient Contract Demand of a

Dependent Participating TO shall be (i) the sum of the amount in megawatts for each month of the Self-Sufficiency Test Period by which that Dependent Participating TO's Dependable Generation plus its Firm Import Interconnection Transmission Capacity ("FIITC") is less than its monthly peak Demand (ii) divided by 12. The megawatt amounts for those months in which that Dependent Participating TO's Dependable Generation plus its FIITC exceeds its monthly peak Demand shall not be considered in the calculation of its Non Self-Sufficient Contract Demand.

**7.1.3.1 Determination of Self-Sufficiency.** If the sum of the Dependable Generation connected to a Participating TO's transmission system or Distribution System and the FIITC included for the purposes of calculating the Access Charge of the Participating TO is greater than or equal to the monthly peak Demand for a Participating TO for each month of the Self-Sufficiency Test Period, the Participating TO shall be considered to be a Self-Sufficient Participating TO. To the extent that a Participating TO has Existing Contracts with the Participating TO to which it is physically connected for delivery of its Energy requirements, that Participating TO shall be considered to be a Self-Sufficient Participating TO. No later than two years after the initial operation of the ISO, the ISO shall review the criteria for determining Self-Sufficiency. Subject to Section 7.1.3.2, all Participating TO's that satisfied the criteria for determining Self-Sufficiency for the initial Self-Sufficiency Test Period will be deemed to be Self-Sufficient until there is any change in the criteria for determining Self-Sufficiency as a result of the ISO's review.

**7.1.3.2 Re-Determination of Self-Sufficiency.** If there are significant changes in Dependable Generation or load after two (2) years from the ISO Operations Date or an Existing Contract for transmission to which a Participating TO is a party is terminated or modified in a manner that reduces the FIITC of that Participating TO, then that Participating TO shall be subject to a new Self-Sufficiency determination in accordance with Section 7.1.3.1. The new Self-Sufficiency determination shall reflect the resulting reduction in FIITC. Any resulting changes in Self-Sufficiency status or Non Self-Sufficient Contract Demand of the Participating TO shall be effective on the first day of the month following the month in which the Existing Contract was terminated or modified in a manner which reduced the Participating TO's FIITC or changes the Dependable Generation or Load.

**7.1.3.3 Self-Sufficiency Test Period.** For the initial Self-Sufficiency determination for a Participating TO, the Self-Sufficiency Test Period shall be the twelve month period ending December 31, 1996. The Self-Sufficiency Test Period for a Participating TO undergoing a new Self-Sufficiency determination as a result of the termination or modification of an Existing Contract as referred in Section 7.1.3.2 shall be the twelve-month period ending in the month prior to the month that the Existing Contract was terminated or modified.

**7.1.3.4 Self-Sufficiency Test Procedures.** Each Participating TO shall perform an evaluation of its own Self-Sufficiency status in accordance with Section 7.1.3.1, and shall provide the ISO with the results of its self evaluation no later than ninety days before the date the TO becomes a Participating TO. Pursuant to Section 7.1.3.3, the



self evaluation shall include Dependable Generation, FIITC, and monthly peak Demand for each month of the applicable Self-Sufficiency Test Period. The ISO shall review the Participating TO's self evaluation and shall advise the Participating TO of its Self-Sufficiency status no later than sixty days before the date on which the TO becomes a Participating TO.

**7.1.3.5 Disputes Regarding the Self-Sufficiency Test.** Disputes regarding the application of the Self-Sufficiency test to a Participating TO shall be resolved through the ISO ADR Procedure.

**7.1.4 Wheeling.**

Any Scheduling Coordinator or other such entity scheduling a Wheeling transaction shall pay to the ISO the product of (i) the applicable Wheeling Access Charge, and (ii) the total hourly schedules of Wheeling in kilowatt-hours for each month at each Scheduling Point associated with that transaction. Schedules that include Wheeling transactions shall be subject to the Congestion Management procedures and protocols in accordance with Sections 7.2 and 7.3.

**7.1.4.1 Wheeling Access Charge.** The Wheeling Access Charge for each Participating TO shall be its Base Transmission Revenue Requirement divided by the annual kilowatt-hour deliveries by the Participating TO or End-Use Customers connected to its transmission and distribution facilities plus the Participating TO's TRBA adjustment as set forth in Section 5 of the TO Tariff. The Wheeling Access Charge for transmission service will be the TO-specific Wheeling Access Charge at the point in the ISO Controlled Grid where the Energy is scheduled to exit the ISO

Controlled Grid. Wheeling Access Charges shall not apply for Wheeling under a bundled non-economy Energy coordination agreement of a Participating TO executed prior to July 9, 1996.

**7.1.4.2 Wheeling Over Joint Facilities.** To the extent that more than one Participating TO owns or has firm entitlement to transmission capacity exiting the ISO Controlled Grid at a Scheduling Point, the Scheduling Coordinator shall pay the ISO each month a rate for Wheeling at that Scheduling Point which reflects an average of the Wheeling Access Charge of those Participating TOs, weighted by the relative share of such ownership or firm entitlement to transmission capacity. The methodology for developing the weighted average rate for Wheeling at each Scheduling Point is set forth in Appendix H.

**7.1.4.3 Disbursement of Wheeling Revenues.** The ISO shall collect and pay to Participating TOs all Wheeling revenues at the same time as other ISO charges and payments are settled. Wheeling revenues shall be disbursed by the ISO to Participating TOs based on the ratio of each Participating TO's Transmission Revenue Requirement, as set forth in Section 5.4 of the TO Tariff, (less the Transmission Revenue Requirement associated with Non-Converted Rights and Existing Rights) to the sum of all Participating TO's Transmission Revenue Requirements (less the Transmission Revenue Requirement associated with Non-Converted Rights and Existing Rights).

**7.1.4.4 Information Required from Scheduling Coordinators.** Scheduling Coordinators that schedule Wheeling Out or Wheeling Through transactions to a Bulk

Supply Point, or other point of interconnection between the ISO Controlled Grid and the transmission system of a Non-Participating TO, that are located within the ISO Control Area, shall provide the ISO, within 5 days from the end of the calendar month to which the relevant Trading Day relates, details of such transactions scheduled by them (other than transactions scheduled pursuant to Existing Contracts) sorted by Bulk Supply Point or point of interconnection for each Settlement Period (including kWh scheduled). The ISO shall use such information, which may be subject to review by the ISO, to settle Wheeling Access Charges and payments. The ISO shall publish a list of the Bulk Supply Points or interconnection points to which this Section 7.1.4.4 applies together with details of the electronic form and procedure to be used by Scheduling Coordinators to submit the required information on the ISO "Home Page".

**7.1.4.4.1 Application.**

Notwithstanding any other provision in this Tariff, including the ISO Protocols, the temporary simplification measure specified in this Section 7.1.4.4 shall have effect until discontinued by a Notice of Full-Scale Operations issued by the Chief Executive of the ISO.

**7.1.4.4.2 Notice of Full-Scale Operations.**

When the Chief Executive Officer of the ISO determines that the ISO is capable of implementing this Tariff, including the ISO Protocols, without modification in accordance with a temporary simplification measure specified in this Section 7.1.4.4, he shall issue a notice ("Notice of Full Scale Operations") and shall specify the

relevant temporary simplification measure and the date on which it will permanently cease to apply, which date shall be not less than seven (7) days after the Notice of Full-Scale Operations is issued.

**7.1.4.4.3** A Notice of Full-Scale Operations shall be issued when it is posted on the ISO Internet "Home Page", at <http://www.caiso.com> or such other Internet address as the ISO may publish from time to time.

**7.1.5 Unbundled Retail Transmission Rates.**

Except for the TRBA adjustment provided in Section 5.5 of the TO Tariff, the Access Charge for unbundled retail transmission service provided to End-Users by a FERC-jurisdictional electric utility Participating TO shall be, for an initial period, determined by the Local Regulatory Authority. Such rates for FERC-jurisdictional utilities shall be based on the Base Transmission Revenue Requirement authorized by FERC. In addition, all customers of a FERC-jurisdictional Participating TO shall be subject to the FERC-authorized TRBA adjustment. For a Local Publicly Owned Electric Utility, such rates shall be submitted to the ISO for information only. In addition, all customers of a Local Publicly Owned Electric Utility shall be subject to the Local Regulatory Authority authorized TRBA, which shall also be submitted to the ISO.

**7.1.6 ISO Filed Access Charge Methodology.**

No later than two years after the ISO Operations Date, the ISO Governing Board shall recommend to FERC a rate methodology for Access Charges. The ISO Governing Board shall base its decision on such principles it approves (including, but not limited to, the introduction of off-peak transmission rates and an equitable balance of costs

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

recorded in a tracking account. The balance of that tracking account will be recovered from customers and paid to the appropriate Participating TO after termination of the cost recovery plan set forth in Section 368 of California Public Utilities Code (as added by AB 1890). The recovery and payments shall be based on an amortization period not exceeding three years in the case of electric corporations regulated by the CPUC or five years for Local Publicly Owned Electric Utilities.

**7.1.6.2 Addition of New Facilities After ISO Implementation.** The costs of transmission facilities placed in service after the ISO Operations Date shall be recovered consistent with the cost recovery determinations made pursuant to Section 3.2.7.

**7.1.6.3 Effect on Tax-Exempt Status.** Nothing in this Section shall compel any Participating TO to violate any restrictions applicable to facilities financed with tax-exempt bonds or contractual restrictions and covenants regarding the use of transmission facilities existing as of December 20, 1995.

## **7.2 Zonal Congestion Management.**

### **7.2.1 The ISO Will Perform Congestion Management.**

**7.2.1.1 Transmission Congestion.** Congestion occurs when there is insufficient transfer capacity to simultaneously implement all of the Preferred Schedules that Scheduling Coordinators submit to the ISO.

**7.2.1.2 Zone-Based Approach.** The ISO will use a Zone-based approach to manage Congestion. A Zone is a portion of the ISO Controlled Grid within which Congestion is expected to occur infrequently or have relatively low Congestion Management

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:

**7.2.2.1** only operate if the Scheduling Coordinators do not eliminate Congestion voluntarily;

**7.2.2.2** adjust the Schedules submitted by Scheduling Coordinators only as necessary to alleviate Congestion;

**7.2.2.3** maintain separation between the resource portfolios of different Scheduling Coordinators, by not arranging any trades between Scheduling Coordinators as part of the Inter-Zonal Congestion Management process;

**7.2.2.4** for Inter-Zonal Congestion Management, suggest, but not require, rescheduling within Scheduling Coordinators' portfolios of Schedules to produce a feasible Schedule by the conclusion of the scheduling procedure;

**7.2.2.5 [Not Used]**

**7.2.2.6** publish information and, if requested by Scheduling Coordinators will provide a mechanism to facilitate voluntary trades among Scheduling Coordinators;

**7.2.2.7 [Not Used]**

**7.2.2.8** adjust the Schedules submitted by Scheduling Coordinators on the basis of any price information voluntarily submitted through their Adjustment Bids; and

**7.2.2.9** for the hours when the ISO applies its Inter-Zonal Congestion Management apply the same Usage Charge to all Scheduling Coordinators for their allocated share of the Inter-Zonal Interface capacity.

**7.2.3 Use of Computational Algorithms for Congestion Management and Pricing.**

The ISO will use computer optimization algorithms to implement its Congestion Management process.



**7.2.4 Adjustment Bids Will Be Used by the ISO to Manage Congestion.**

**7.2.4.1 Uses of Adjustment Bids by the ISO.**

**7.2.4.1.1** The ISO shall use the Adjustment Bids, in both the Day-Ahead Market and the Hour-Ahead Market, to schedule Inter-Zonal Interface capacity to those Scheduling Coordinators which value it the most and to reflect the Scheduling Coordinators' implicit values for Inter-Zonal Interface capacity.

**7.2.4.1.2** The Adjustment Bids will be used by the ISO to determine the marginal value associated with each Congested Inter-Zonal Interface.

**7.2.4.1.3 [Not used]**

**7.2.4.1.4** The ISO shall also use the Adjustment Bids (in addition to other resources), in the ISO's real time system operation, for Intra-Zonal Congestion Management and to decrement Generation in order to accommodate Reliability Must-Run Generation which the ISO requests under Reliability Must-Run Contracts.

**7.2.4.1.5** To facilitate trades amongst Scheduling Coordinators, the ISO will develop procedures to publish Adjustment Bids of those Scheduling Coordinators who authorize the publication of their identity and/or Adjustment Bids. Scheduling Coordinators will then be able to utilize this information to conduct trades to aid Congestion Management.

**7.2.4.2 Submission of Adjustment Bids.**

**7.2.4.2.1** Each Scheduling Coordinator is required to submit a preferred operating point for each of its resources. However, a Scheduling Coordinator is not required to submit an Adjustment Bid for a resource.

**7.2.4.2.2** The minimum MW output level specified for a resource, which may be zero MW, and the maximum MW output level specified for a resource must be physically realizable by the resource.

**7.2.4.2.3** The Scheduling Coordinator's preferred operating point for each resource must be within the range of the Adjustment Bids.

**7.2.4.2.4** Adjustment Bids can be revised by Scheduling Coordinators after the Day-Ahead Market has closed for consideration in the Hour-Ahead Market and, after the Hour-Ahead Market has closed, for consideration in the Real Time Market provided that, if the ISO has accepted all, or a portion of, an offered Adjustment Bid, the Scheduling Coordinator is obligated to provide the relevant capacity increase or decrease to the ISO at the price of the accepted Adjustment Bid.

**7.2.4.2.5** During the ISO's Day-Ahead scheduling process, the MW range of the Adjustment Bid, but not the price values, may be changed.

**7.2.4.2.6** An Adjustment Bid shall constitute a standing offer to the ISO until it is withdrawn.

**7.2.4.2.7** The ISO may impose additional restrictions and bidding activity rules on the form of Adjustment Bids and the updating of Adjustment Bids, as needed, to ensure that the ISO's computational algorithms can operate reliably and produce efficient outcomes.

**7.2.5 Inter-Zonal Congestion Management.**

**7.2.5.1** The scheduling procedures in the Day-Ahead Market and Hour-Ahead Market will first ascertain, through power flow calculations, whether or not Inter-

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.

**7.2.5.2.3** As part of the Day-Ahead scheduling procedure, but not the Hour-Ahead scheduling procedure, Scheduling Coordinators will be given the opportunity to adjust their Preferred Schedules (including the opportunity to make trades amongst one another) and to submit Revised Schedules to the ISO, in response to the ISO's Suggested Adjusted Schedules and prices for Inter-Zonal Interfaces.

**7.2.5.2.4** If the ISO receives any Revised Schedules it will execute its Inter-Zonal Congestion Management algorithms using revised Preferred Schedules, to produce a new set of allocations and prices.

**7.2.5.2.5** All of the ISO's calculations will treat each Settlement Period independently of the other Settlement Periods in the Trading Day.

**7.2.5.2.6 [Not Used]**

**7.2.5.2.7** If inadequate Adjustment Bids have been submitted to schedule Inter-Zonal Interface capacity on an economic basis and to the extent that scheduling decisions cannot be made on the basis of economic value, the ISO will allocate the available Inter-Zonal Interface capacity to Scheduling Coordinators in proportion to their respective proposed use of that capacity as indicated in their Schedules and shall curtail scheduled Generation and Demand to the extent necessary to ensure that each Scheduling Coordinator's Schedule remains balanced.

**7.2.5.2.8** The ISO will publish information prior to the Day-Ahead Market, between the iterations of the Day-Ahead Market, and prior to the Hour-Ahead Market, to assist the Scheduling Coordinators to construct their Adjustment Bids so as to actively participate in the management of Congestion and the valuation of Inter-Zonal

Interfaces. This information may include the ISO's most-current information regarding: potentially Congested paths, projected transmission uses, projected hourly Loop Flows across Inter-Zonal Interfaces, scheduled line Outages, forecasts of expected system-wide Load, the ISO's Ancillary Services requirements, Generation Meter Multipliers, and power flow outputs.

**7.2.5.2.9** The ISO will also publish information, once it is available, regarding tentative prices for the use of Inter-Zonal Interfaces, and Generation shift factors for the use of Inter-Zonal Interfaces, which indicate the relative effectiveness of Generation shifts in alleviating Congestion.

**7.2.6 Intra-Zonal Congestion Management.**

**7.2.6.1 [Not used]**

**7.2.6.1.1 [Not used]**

**7.2.6.1.2 [Not Used]**

**7.2.6.1.3 [Not Used]**

**7.2.6.1.4 [Not Used]**

**7.2.6.1.5 [Not Used]**

**7.2.6.1.6 [Not Used]**

**7.2.6.2 Intra-Zonal Congestion During Initial Period.** During the initial period of operation, the ISO will perform Intra-Zonal Congestion Management in real time using Adjustment Bids to minimize the cost of alleviating Congestion. The ISO will also use Adjustment Bids to decrement Generation in order to accommodate Reliability Must-Run Generation which the ISO requests under Reliability Must-Run Contracts. To the

extent that insufficient Adjustment Bids are available, the ISO will use incremental and decremental bids from available sources of Imbalance Energy in the Zone. In the event of no incremental or decremental bids being available, the ISO will exercise its authority to direct the redispatch of resources within the Zone.

**7.2.6.3 Cost of Intra-Zonal Congestion Management.** The ISO will pay Scheduling Coordinators for Reliability Must-Run Generation which the ISO requests under Reliability Must-Run Contracts at the Energy weighted average of the decremental Adjustment Bids which the ISO accepts to accommodate the Reliability Must-Run Generation and to carry out Intra-Zonal Congestion Management. After deduction of the amount paid for Reliability Must-Run Generation under Section 7.2.6.2, the net of the amounts paid by the ISO to the Scheduling Coordinators and the amounts charged to the Scheduling Coordinators will be calculated on a Zone-by-Zone basis and charged to all Scheduling Coordinators through a Grid Operations Charge, as described in Section 7.3.2.

**7.2.7 Creation, Modification and Elimination of Zones.**

**7.2.7.1 Initial Zones.** The initial Zones are as set forth in Appendix I to this ISO Tariff.

**7.2.7.2 Modifying Zones.** The ISO shall monitor usage of the ISO Controlled Grid to determine whether new Zones should be created, or whether existing Zones should be eliminated, in accordance with the following procedures.

**7.2.7.2.1** If over a 12-month period, the ISO finds that within a Zone the cost to alleviate the Congestion on a path is equivalent to at least 5 percent of the product of

the rated capacity of the path and the weighted average Access Charge of the Participating TOs the ISO may announce its intention to create a new Zone. In making this calculation, the ISO will only consider periods of normal operations. A new Zone will become effective 90 days after the ISO Governing Board has determined that a new Zone is necessary.

**7.2.7.2.2** The ISO may, at its own discretion, shorten the 12-month and 90-day periods for creating new Zones if the ISO Governing Board determines that the planned addition of new Generation or Load would result in Congestion that would meet the criterion specified in Section 7.2.7.2.1.

**7.2.7.2.3** During the initial 6 months following the ISO Operations Date, the ISO may create new Zones if within an existing Zone the cost to alleviate the Congestion on a path is equivalent to at least 10 percent of the product of the rated capacity of the path and the weighted average Access Charge of all the Participating TOs.

**7.2.7.2.4** If a new transmission project or other factors will eliminate Congestion between existing Zones, the ISO may modify or eliminate those Zones at its discretion.

**7.2.7.2.5** The ISO may change the criteria for establishing or modifying Zone boundaries, subject to regulatory approval by the FERC.

**7.2.7.3 Active and Inactive Zones.**

**7.2.7.3.1** An Active Zone is one for which a workably-competitive Generation market exists on both sides of the relevant Inter-Zonal Interface for a substantial portion of the year so that Congestion Management can be effectively used to

manage Congestion on the relevant Inter-Zonal Interface. Pending the ISO's determination of the criteria for defining "workable competitive generation markets", the Inactive Zones will, as an interim measure, be those specified in Section 7.2.7.3.4.

**7.2.7.3.2** The Congestion Management described in this Section 7.2, and the Usage Charges stemming from the application of these procedures, shall not apply to Inter-Zonal Interfaces with Inactive Zones.

**7.2.7.3.3** For Inactive Zones, any costs associated with Congestion Management on the inactive Inter-Zonal Interface (for example, the above market costs associated with Generation "call" contracts) will be allocated to the Service Area of the Participating TOs who own the inactive Inter-Zonal Interface, as set forth in the TO Tariff and any Intra-Zonal Congestion Management costs within the Inactive Zone and the adjacent Zone will be combined and will be allocated as if the two Zones were a single Zone.

**7.2.7.3.4** The initial inactive Inter-Zonal Interfaces are the interface between the San Francisco Zone and the remainder of the ISO Controlled Grid, and the interface between the Humboldt Zone and the remainder of the ISO Controlled Grid. The initial Inactive Zones are the San Francisco Zone and the Humboldt Zone.

**7.2.7.3.5** The determination of whether a new Zone or an existing Inactive Zone should become an Active Zone and the determination of whether a workably-competitive Generation market exists for a substantial portion of the year, shall be made by the ISO Governing Board, using the same approval criteria as are used for



the creation or modification of Zones. The ISO Governing Board shall adopt criteria that defines a “workably competitive Generation” market. The ISO Governing Board will review the methodology used for the creation or modification of Zones (including Active Zones and Inactive Zones) on an annual basis and make such changes as it considers appropriate.

**7.3 Usage Charges and Grid Operations Charges.**

**7.3.1 Usage Charges for Inter-Zonal Congestion.**

The Usage Charge is used by the ISO to charge Scheduling Coordinators for the use of Congested Inter-Zonal Interfaces. Subject to Section 2.4.4.4.1, the Usage Charge shall be paid by all Scheduling Coordinators that use a Congested Inter-Zonal Interface. If a Scheduling Coordinator uses more than one Congested Inter-Zonal Interface, it will pay a Usage Charge for each Congested Inter-Zonal Interface that it uses.

**7.3.1.1 Calculation and Allocation of Usage Charge.** Those Scheduling Coordinators who are permitted by the ISO to use a Congested Inter-Zonal Interface will pay a Usage Charge. The Usage Charge is determined using Inter-Zonal Congestion Management described in Section 7.2.5, and is calculated as the hourly marginal value of an incremental kW of Inter-Zonal Interface capacity (in cents per kWh). The same Usage Charge will be used to compensate Scheduling Coordinators who, in effect, create transmission capacity through counter Schedules on Congested Inter-Zonal Interfaces.

**7.3.1.2 Calculation of Marginal Value of an Inter-Zonal Interface.** The marginal value of an Inter-Zonal Interface is the basis for the Usage Charge associated with the scheduled use of the Inter-Zonal Interface. This price is calculated from the Adjustment Bids of the Scheduling Coordinators and the ISO's computer optimization algorithms, using the procedures described in Section 7.2.

**7.3.1.2.1** The price used to determine the Usage Charge will be the Day-Ahead price for those scheduling in the Day-Ahead Market, or the Hour-Ahead price for those Schedules submitted after the Day-Ahead Market closed.

**7.3.1.2.2** The Day-Ahead prices are calculated based on the Adjustment Bids of the Scheduling Coordinators who participate in the Day-Ahead Market. These Day-Ahead prices are used to calculate Usage Charges for Schedules accepted in the Day-Ahead Market.

**7.3.1.2.3** The Hour-Ahead prices are calculated based on Adjustment Bids submitted or otherwise still in effect after the Day-Ahead procedures have concluded. These prices are applied to all Schedules for the use of the Congested Inter-Zonal Interfaces that have been submitted and accepted after the ISO's Day-Ahead scheduling and Congestion Management have concluded.

**7.3.1.3 Default Usage Charge.** If inadequate or unusable Adjustment Bids have been submitted to the ISO to enable the ISO's Congestion Management to schedule Inter-Zonal Interface capacity on an economic basis, then the ISO will calculate and

impose a default Usage Charge, in accordance with Sections 7.3.1.3.1 through 7.3.1.3.4.

**7.3.1.3.1** The default Usage Charge will be calculated within a range having an absolute floor of \$0/MWh and an absolute ceiling of \$500/MWh; provided that the ISO may vary the floor within the absolute limits, with day-prior notice (e.g., applicable to next day's Day-Ahead Market) to Scheduling Coordinators, and vary the ceiling within the absolute limits, with at least seven (7) days notice to Scheduling Coordinators.

**7.3.1.3.2** The default Usage Charge will be calculated, in accordance with this Section 7.3.1.3, by applying a pre-set adder, ranging from \$0/MWh to \$99/MWh, to the highest incremental Adjustment Bid used, less the applicable decremental Adjustment Bid used; provided that in all cases where there are insufficient decremental Adjustment Bids or no decremental Adjustment Bids available, in the exercise of mitigating Congestion, the applicable decremental price will be set equal to \$0/MWh; provided, further, that the ISO may vary the pre-set adder with day-prior notice to Scheduling Coordinators (e.g., applicable to next day's Day-Ahead Market).

**7.3.1.3.3** Upon the ISO Operations Date, and until such time as the ISO determines otherwise, the ceiling price for the default Usage Charge will be set at \$250/MWh; the floor price for the default Usage Charge will be set at \$30/MWh; and the pre-set adder that is to be applied in accordance with section 7.3.1.3.2 will be set at \$0/MWh.

**7.3.1.3.4** The ISO will develop and implement a procedure for posting default Usage Charges on the WEnet or ISO Home Page.

**7.3.1.3.5** If the Congestion Management software is not capable of calculating the default Usage Charge upon the ISO Operations Date in accordance with Sections 7.3.1.3.1 through 7.3.1.3.4, the ISO will establish a fixed default Usage Charge within the absolute limits of \$0/MWh and \$500/MWh, which may be changed by the ISO with day-prior notice. Initially, the default Usage Charge would be capped at \$100/MWh. As soon as tested and available, the ISO will implement the Congestion Management software to calculate the default Usage Charge in accordance with Sections 7.3.1.3.1 through 7.3.1.3.4 after giving at least seven (7) days notice to Scheduling Coordinators, by way of a notice posted on the ISO Internet "Home Page" at <http://www.caiso.com> or such other Internet address as the ISO may publish from time to time.

**7.3.1.4 Determination of Usage Charges to be Paid by Scheduling Coordinator.** All Scheduling Coordinators whose Schedules requiring use of a Congested Inter-Zonal Interface have been accepted by the ISO, shall pay a Usage Charge for each hour for which they have been scheduled to use the Inter-Zonal Interface. The amount payable shall be the product of the Usage Charge referred to in Section 7.3.1.2 for the particular hour, multiplied by the Scheduling Coordinator's scheduled flows (in kW) and capacity, if any, reserved for Ancillary Services over the Inter-Zonal Interface for that particular hour.

**7.3.1.5 Determination of Usage Charges to be Paid to Scheduling Coordinators Who Counter-Schedule.**

**7.3.1.5.1** Scheduling Coordinators who in effect create additional Inter-Zonal Interface transmission capacity on Congested Inter-Zonal Interfaces will receive from the ISO a Usage Charge for each hour they have counter-scheduled on the Congested Inter-Zonal

Interfaces. The amount payable shall be the product of the Usage Charge referred to in Section 7.3.1.2 for that particular hour, multiplied by the Scheduling Coordinator's scheduled flows.

**7.3.1.5.2** If a Scheduling Coordinator fails to provide the scheduled flows in a counter direction, it must reimburse the ISO for the ISO's costs of buying or selling Imbalance Energy in each of the Zones affected by the non-provided scheduled flows in a counter direction, at the ISO's Zonal Imbalance Energy prices. That is, for any Scheduling Coordinator that does not produce, in real time, the amount of Energy scheduled in the Day-Ahead Market or Hour-Ahead Market will be deemed to have

purchased/sold the amount of Energy under/over produced in the real time imbalance market at the real time price.

**7.3.1.6 ISO Disbursement of Net Usage Charge Revenues.** The ISO will determine the net Usage Charges on an interface-by-interface basis by subtracting the Usage Charge fees paid to Scheduling Coordinators from the Usage Charge fees paid by Scheduling Coordinators. The net Usage Charge revenues collected by the ISO for each Inter-Zonal Interface shall be, subject to the provisions of Section 7.3.1.7 of the ISO Tariff, paid to Participating TOs who own the Inter-Zonal Interfaces (to be credited in turn by them to their Transmission Revenue Balancing Account).

**7.3.1.7 ISO Debit of Net Usage Charge Revenues.** If, after the issuance of Final Day-Ahead Schedules by the ISO, (a) Participating TOs instruct the ISO to reduce interface limits based on operating conditions or (b) an unscheduled transmission outage occurs and as a result of either of those events, Congestion is increased and Available Transfer Capacity is decreased in the Inter-Zonal Interface in the Hour-Ahead Market, the ISO shall: (1) charge each Participating TO and FTR Holder with an amount equal to its proportionate share, based on its financial entitlement to Usage Charges in the Day-Ahead Market in accordance with Section 7.3.1.6, of the product of (i) the Usage Charge in the Day-Ahead Market and (ii) the reduction in Available Transfer Capacity across the Inter-Zonal Interface in the direction of the

Congestion (such amount due to the Participating TOs to be debited by them in turn from their Transmission Revenue Balancing Accounts or, for those Participating TOs that do not have such accounts, to their transmission revenue requirements); (2) charge each Scheduling Coordinator with its proportionate share, based on Schedules in the Day-Ahead Market across the Inter-Zonal Interface in the direction of the Congestion, of the difference between the amount charged to Participating TOs and FTR Holders under clause (1) and the Usage Charges in the Hour-Ahead Market associated with the reduced Available Transfer Capacity across the Congested Inter-Zonal Interface; and (3) credit each Scheduling Coordinator whose Schedule in the Hour-Ahead Market for the transfer of Energy across the Congested Inter-Zonal Interface was adjusted due to the reduction in Available Transfer Capacity an amount equal to the product of the adjustment (in MW) and the Usage Charge in the Hour-Ahead Market (in \$/MW).

**7.3.2 Grid Operations Charge for Intra-Zonal Congestion.**

Scheduling Coordinators whose resources are redispatched by the ISO, in accordance with Intra-Zonal Congestion Management, and in order to accommodate Reliability Must-Run Generation which the ISO requests under Reliability Must-Run Contracts

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

total Transmission Losses for the ISO Controlled Grid of injecting an increment of Generation at each such Generating Unit location to serve an equivalent incremental MW of Demand distributed on a pro-rata basis throughout the ISO Controlled Grid.

**7.4.2.2.3** The ISO shall determine the Loss Scale Factor for an hour by determining the ratio of forecast Transmission Losses to the total Transmission Losses which would be collected if Full Marginal Loss Rates were applied to each Generating Unit in that hour.

**7.4.3 [Not Used]**

**8. GRID MANAGEMENT CHARGE.**

**8.1 ISO's Obligations.**

**8.1.1 FERC's Uniform System of Accounts.**

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

**8.1.2 [Not Used]**

**8.2 Components of the Grid Management Charge.**

The formula adopted for setting the Grid Management Charge shall include the following components:

**8.2.1 Start Up and Development Costs.**

The ISO start up and development costs shall include an amortized amount standing to the credit of the ISO Memorandum Account plus any additional start up or development costs incurred after the date of Resolution E-3459 (July 17, 1996) plus any additional capital expenditure budgeted to be incurred by the ISO in 1998 ("Start Up and Development Costs"). The amortized amount to be included in the Grid Management Charge shall be equal to the amount necessary to fully amortize all Start Up and Development Costs over a period 5 years, or such longer period as the ISO Governing Board shall decide.

**8.2.2 Operating Costs.**

Budgeted annual operating costs, which shall include all staffing costs including remuneration of contractors and consultants, salaries, benefits and any incentive programs for employees, costs of operating, replacing and maintaining ISO systems,

lease payments on facilities necessary for the ISO to carry out its business, reasonable contingencies, and annual costs of financing the ISO's working capital ("Operating Costs").

**8.2.3 Financing Costs.**

The other financing costs that are approved by the ISO Governing Board, including debt service on start-up costs and future capital expenditures. Capital expenditures may be financed over such period as the ISO Governing Board shall decide ("Financing Costs").

**8.2.4 Operating and Capital Reserves Cost.**

The budgeted annual cost of pay-as-you-go capital expenditures and reasonable coverage of debt service obligations. Such reserves shall be utilized to minimize the impact of any variance between forecast and actual costs throughout the year ("Operating and Capital Reserves Costs").

**8.3 Allocation of the Grid Management Charge Among Scheduling Coordinators.**

The Grid Management Charge shall be levied monthly in arrears on all Scheduling Coordinators by charging each Scheduling Coordinator the product of the Grid Management Charge rate as calculated under Section 8.4, and the monthly metered consumption in MWh of Energy (including Wheeling Out and Wheeling Through the ISO Controlled Grid) for that Scheduling Coordinator or by such other method as shall be approved by the ISO Governing Board and filed with FERC.

**8.4 Calculation and Adjustment of the Grid Management Charge.**

The Grid Management Charge shall be calculated by summing the Start Up and Development Costs, the Operating Costs, the Financing Costs and the Operating and Capital Cost Reserves Cost for each fiscal year. The sum of the calculation provided in this section shall be adjusted annually, or over such lesser period as approved by the ISO Governing Board and filed with the FERC, to reflect any variance between forecast and actual costs for the previous year or period, or the inability to recover from a Scheduling Coordinator its share of the Grid Management Charge, or any under-forecast of annual metered Demand for the previous year or period or any surplus revenues from the previous year or period as defined under Section 8.5. The result of the Grid Management Charge calculation, adjusted for variances as set out in this Section 8.4 shall then be divided by the forecast annual or periodic volume in MWh of Energy to establish a Grid Management Charge rate in \$/MWh, which will be payable by Scheduling Coordinators as set out in Section 8.3.

**8.5 Operating and Reserve Account.**

Revenues collected to fund Operating Reserves shall be deposited in an Operating and Reserve Account until such account reaches a level specified by the ISO Governing Board. If the Operating and Reserve Account is fully funded, surplus revenues will be considered revenues in the next fiscal year's operating budget.

## **9. FIRM TRANSMISSION RIGHTS**

### **9.1 General**

**9.1.1** The ISO shall make Firm Transmission Rights (each, an "FTR"), as defined in Section 9.2, available commencing effective January 1, 1999. For 1999, the ISO shall make FTRs available in the amounts determined in accordance with Section 9.3, with the rights and other characteristics described in Sections 9.2, 9.6, 9.7 and 9.8, and through the process described in Section 9.4. The owners of FTRs shall be entitled to share in Usage Charge revenues associated with Inter-Zonal Congestion in accordance with Section 9.6, and to scheduling priority in the event of congestion in the Day-Ahead Market, as described in Section 9.2.1.

### **9.2 Definition and Characteristics of Firm Transmission Rights**

**9.2.1** Each FTR shall be a contractual right, subject to the terms and conditions of the ISO Tariff, that entitles the FTR Holder to receive, for each hour of the term of the FTR, a portion of the Usage Charges received by the ISO for transportation of energy from a specific originating Zone to a specific receiving Zone. In the event of an uneconomic curtailment to manage Day-Ahead congestion, an FTR entitles its holder to a Day- Ahead scheduling priority higher than that of a schedule using Converted Rights capacity that does not have an FTR.

**9.2.1.1** For the purpose of Section 9 of this Tariff, the term "Zone" shall be construed to mean both "Zone" and "Scheduling Point."

**9.2.2** Each FTR shall be defined by a transmission path from an originating Zone to a receiving Zone that is contiguous to the originating Zone. Each FTR shall entitle the FTR Holder to a share of Usage Charges attributable to Inter-Zonal Congestion for transfers on that path from the designated originating Zone to the designated receiving Zone. This entitlement shall be the sum of:

- a) Where there is congestion in the Day-Ahead Market, the Usage Charge applicable to congestion management in the Day-Ahead Market times the number of FTRs, as adjusted pursuant to Section 9.6.3, in MWs, owned by the FTR Holder; and
- b) Where there is congestion in the Hour-Ahead Market, the Usage Charge applicable to congestion management in the Hour-Ahead Market shall be paid, per MW, according to the following priority: (i) to those submitting Adjustment Bids to sell in the Hour-Ahead Market; (ii) FTRs not scheduled or committed in the Day-Ahead Market; and (iii) the Transmission Owners.

An FTR is a right in one direction only. Its holder shall not be entitled to share in Usage Charges attributable to Inter-Zonal Congestion from the designated receiving Zone to the designated originating Zone, except as provided in Section 7.3.1.5 for a counter-schedule.

**9.2.3** The ISO Governing Board shall, from time to time, approve the amount of FTRs to be auctioned for each Inter-Zonal Interface and the ISO shall publish this information on its Web site at least 30 days prior to the auction. No additional FTRs auctioned as a result of changes in the ISO's defined Inter-Zonal Interfaces shall affect existing FTRs .

**9.2.3.1** Should the ISO create additional Zones or otherwise change the ISO's defined Inter-Zonal Interface, and if such changes would affect outstanding FTRs, such changes will not take effect prior to the expiration date of any such outstanding FTRs. The ISO shall also publish an announcement of any such pending changes on its Web site at least 30 days prior to the applicable FTR auction.

**9.2.3.2** Any additional FTRs auctioned as a result of changes in the ISO's defined Inter-Zonal Interfaces shall not affect the rights associated with existing FTRs.

**9.2.4** Each FTR shall be issued in the denomination of 1 MW and shall have a duration of one year, starting with the hour beginning at 12:00 a.m., on January 1 of the year for which the

FTR is issued and ending with the hour beginning at 11:00 p.m., on December 31 of the same year, provided, however, that if additional FTRs are auctioned after the commencement of the calendar year for that year, those auctioned after the commencement of the calendar year for that year, those FTRs shall have a duration of the balance of the calendar year. An FTR shall not afford the FTR Holder any right to share in Usage Charges attributable to Inter-Zonal Congestion occurring in any hour before or after the term of the FTR.

**9.2.5** The portion of the Usage Charges attributable to the Inter-Zonal Congestion affecting transfers from the originating Zone to the receiving Zone to which the FTR Holder is entitled shall be determined in accordance with Section 9.6.

**9.2.6** FTR Holders shall be entitled to priority in the scheduling of Energy in the Day-Ahead Market in the circumstances and subject to the limitations specified in Section 9.7.

**9.2.7** Any entity, with the exception of the ISO, shall be eligible to acquire FTRs by participating in the ISO's auction of FTRs, as described in Section 9.4, or by purchasing FTRs in secondary markets. To participate in the ISO's auction of FTRs, an entity must either be a certified Scheduling Coordinator or have met financial requirements equivalent to the financial certification criteria required of all Scheduling Coordinators.

**9.3 Maximum Number of Firm Transmission Rights**

**9.3.1** On each Inter-Zonal Interface and direction combination for which FTRs are issued, the ISO shall issue a number of FTRs that is less than or equal to the difference between:

- (i) The WSCC Approved Path Rating of the interface in the direction from the originating zone to the receiving zone or, if the interface has not received a WSCC Approved Rating, a rating determined by a methodology that is consistent with the WSCC's rating methodology; and
- (ii) The portion of the transfer capability of the interface used to schedule rights that have a higher scheduling priority than Converted Rights.



**9.4 Issuance of Firm Transmission Rights by the ISO by Auction**

The ISO shall make FTRs available by conducting an annual primary auction of FTRs, commencing approximately two months before the beginning of the term of the FTRs. The auction of FTRs shall be a multi-round, clearing price auction conducted separately, independently and simultaneously for each Inter-Zonal Interface and direction combination for which FTRs are issued. In addition, if the ISO Governing Board decides to make additional FTRs available between annual auctions, the ISO may conduct additional auctions of such FTRs. The term of such FTRs shall only be for the remaining duration of the calendar year during which they were issued.

**9.5 Distribution of Auction Revenues Received by the ISO for Firm Transmission Rights**

**9.5.1** For each Inter-Zonal Interface and direction for which an FTR is defined, the total proceeds received by the ISO through the auction described in Section 9.4 shall be allocated to the Participating TO in proportion to their Converted Rights associated with the corresponding Inter-Zonal Interface. Each Participating TO shall credit its FTR auction proceeds against its Access Charge.

**9.5.2** In the event the transmission facilities or rights making up an Inter-Zonal Interface with respect to which FTRs are defined are owned by more than one Participating TO, the proceeds of the auction of such FTRs shall be allocated to those Participating TOs in proportion to their Converted Rights associated with the Inter-Zonal Interface.

**9.6 Distribution of Usage Charges to FTR Holders**

**9.6.1** For each FTR, the FTR Holder shall be entitled to receive from the ISO a portion of the total Usage Charges related to Inter-Zonal Congestion calculated by the ISO in the Day-Ahead Market and collected by the ISO with respect to the Inter-Zonal Interface and direction

combination for which the FTR was defined. This portion equals the Usage Charge calculated by the ISO in the Day-Ahead Market for the transfer of 1 MW of Energy from the originating zone to the receiving zone during each hour in which Usage Charges are payable, subject to adjustment in accordance with Section 9.6.3.

**9.6.2** In addition, an FTR holder shall be entitled to receive a portion of the additional Usage Charges related to Inter-Zonal Congestion calculated by the ISO in the Hour-Ahead Market and collected by the ISO with respect to the Inter-Zonal Interface and direction combination for which the FTR was defined, subject to adjustment in accordance with Section 9.6.3.

**9.6.3** When the Day Ahead scheduling capability of an Inter-Zonal Interface is less than its normal scheduling capacity prior to the Day Ahead Market, the financial entitlements associated with an FTR shall not be reduced until and unless the scheduling capacity available to non-FTR Holders has been reduced to zero. In that event, the financial entitlements associated with the corresponding FTRs shall be multiplied by a factor equal to the amount of scheduling capability available to FTR holders divided by the number of FTRs.

**9.6.4** When the congestion Usage Charges calculated and collected by the ISO from both the Day-Ahead Market and the Hour-Ahead Market with respect to transfers across an Inter-Zonal Interface in a particular direction result in a net obligation to the ISO, the provisions of this Section 9.6 shall continue to apply, and FTR Holders shall be required to pay the ISO these amounts.

**9.6.5** The ISO will calculate the congestion Usage Charge revenues to be credited or debited to the account of each FTR Holder on an hourly basis. Such calculation will identify the Inter-Zonal Interface and direction to which each credit or debit applies.

**9.7 Scheduling Priority of FTR Holders**

**9.7.1** FTRs will not affect the ISO's dispatch and operation of the ISO Controlled Grid except that each FTR Holder will have a priority, as described in this Section 9.7, for the scheduling of Energy in the Day-Ahead Market when an Inter-Zonal Interface experiences Inter-Zonal Congestion in the direction for which its FTR is defined. Any FTRs not used in Preferred Schedules in the Day-Ahead Market for any hour have no scheduling priority for that hour in the trading day. FTR Holders shall have no scheduling priority in the Hour-Ahead Market or in real time operations.

**9.7.2** When Inter-Zonal Congestion is experienced or projected to be experienced in the Day-Ahead Market, the ISO shall first attempt to relieve the Inter-Zonal Congestion using Adjustment Bids submitted by Scheduling Coordinators.

**9.7.2.1** If the ISO is unable to relieve the Day-Ahead Inter-Zonal Congestion using Adjustment Bids, then the ISO will allocate Day-Ahead inter-zonal transmission capacity first to schedules of Market Participants that are using Existing Contract rights that have higher scheduling priority than Converted Rights capacity and second to Market Participants who hold FTRs and have indicated to the ISO that they wish to exercise their scheduling priority option. The ISO will allocate any remaining transmission capacity to remaining Market Participants' schedules pro rata.

**9.7.3** When the scheduling capability of an Inter-Zonal Interface is less than or greater than its normal scheduling capability prior to the Day-Ahead Market, as described in Section 9.6.3, the priority scheduling rights of FTR Holders, as described in Section 9.7.2, shall remain constant (in MWs) to the extent that the total scheduling

rights of FTR Holders do not exceed the total Interface scheduling capability of the associated Inter-Zonal Interface after adjustments have been made for transmission capacity allocated to Existing Contract rights that have higher scheduling priority than Converted Rights. If the total Interface scheduling capability, adjusted for transmission capacity allocated to Existing Contract rights that have higher scheduling priority than Converted Rights, is less than the total of all scheduling capability represented by FTR holders who have chosen to exercise the FTR scheduling priority option, scheduling capability shall be allocated to FTR Holders pro rata.

**9.7.4** The scheduling priority of FTR Holders:

- (i) Shall not apply in the Hour-Ahead Market or in real-time dispatch and operation of the ISO Controlled Grid;
- (ii) Shall not apply to any transfer of Energy other than a transfer across the Inter-Zonal Interface in the direction for which the FTR was defined during the hour or hours during which the circumstances described in Section 9.7.2 apply; and
- (iii) Shall not be transferable, except in connection with a transfer of the FTR that is registered with the ISO, as described in Section 9.8.

**9.8 Assignment of Firm Transmission Rights**

**9.8.1** An FTR may be assigned, sold, or otherwise transferred by the FTR Holder in full MW increments, either for the entire term of the FTR or for any portion of that term providing, however, that any such transfer shall be in full hour increments that correspond to the FTR issued to the FTR Holder. The FTR Holder of record may register the transfer of the FTR with the ISO by notifying the ISO through the form specified for that purpose by the ISO. At such time as the ISO shall specify before the deadline

applicable to scheduling Energy in the Day-Ahead Market, the FTR Holder of record will notify the ISO of the quantity and identification numbers of the FTRs being transferred and the portion of the term of the FTR for which they are transferred. After the ISO receives such notice, the transferee shall be considered the FTR Holder of record with respect to the portion of the term of the FTR that is transferred. In order to use the Scheduling Priority of an FTR, pursuant to section 9.7, an FTR must be registered with the ISO.

**9.8.2** Alternatively, an FTR Holder may choose not to register the transfer of an FTR with the ISO. In that event, the ISO will not recognize the transfer for any purpose under the ISO Tariff and the rights and obligations of the transferor and the transferee shall be solely as set forth in any agreement between them. The ISO shall have no authority or responsibility for enforcing any such agreement.

**9.8.3** To facilitate the operation of secondary markets in FTRs, the ISO shall post on WENet: (i) at the request of such entities, the identity of entities that hold FTRs that have been registered with the ISO, together with the quantity and identification numbers of the FTRs held by such entities; and (ii) the name and a contact telephone number or telecopy number of any entity that operates a secondary market in FTRs and that requests the ISO to post such information.