ISO TARIFF APPENDIX G

Must-Run Agreements

To be filed upon settlement

ISO TARIFF APPENDIX H

Methodology for Developing the Weighted Average Rate for Wheeling Service

Methodology for Developing the Weighted Average Rate for Wheeling Service

The weighted average rate payable for Wheeling over joint facilities at each Scheduling Point shall be calculated as follows:

$$\text{WBAC} = \sum\left(P_n \times \frac{Q_n}{\sum Q_n}\right)$$

Where:

WBAC = Weighted-average Wheeling Access Charge for each ISO Scheduling Point

P_n = The Wheeling Access Charge rate for a Participating TO_n in $/kWh as set forth in Section 5 of the TO Tariff.

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

n = the number of Participating TOs from 1 to n

ISO TARIFF APPENDIX I

Initial ISO Congestion Management Zones

Initial ISO Congestion Management Zones

1. **Active Zones**
   - A. Northern Zone
   - B. Southern Zone

2. **Inactive Zones**
   - A. Humboldt Zone
   - B. San Francisco Zone

Note: These Zones are further described in the Joint Application of the IOUs for Authorization to Convey Operational Control of Designated Jurisdictional Facilities to an ISO filed April 29, 1996, Docket No. EC96-19-000.

ISO TARIFF APPENDIX J

End-Use Meter Standards & Capabilities

End-Use Meter Standards & Capabilities Part A

END-USE METER STANDARDS & CAPABILITIES

End Use Meter Standards. All metering shall be of a revenue class metering accuracy in accordance with the ANSI C12 standards on metering and any other requirements of the relevant UDC or Local Regulatory Authority that may apply. Such requirements may apply to meters, current transformers and potential transformers, and associated equipment. ANSI C12 metering standards include the following:

ANSI C12.1 - American National Standard Code For Electricity Metering

ANSI C12.4 - American National Standard For Mechanical Demand Registers

ANSI C12.5 - American National Standard For Thermal Demand Meters

ANSI C12.6 - American National Standard For Marking And Arrangement Of Terminals For Phase-Shifting Devices Used In Metering

ANSI C12.7 - American National Standard For Watt-hour Meter Sockets

ANSI C12.8 - American National Standard For Test Blocks And Cabinets For installation Of Self-Contained A-Base Watt-hour Meters

ANSI C12.9 - American National Standard For Test Switches For Transformer-Rated Meters

ANSI C12.10 - American National Standard For Electromechanical Watt-hour Meters

ANSI C12.11 - American National Standard For Instrument Transformers For Revenue Metering, 10 kV BIL Through 350 kV BIL

ANSI C12.13 - American National Standard For Electronic Time-Of -Use Registers For Electricity Meters

ANSI C12.14 - American National Standard For Magnetic Tape Pulse Recorders For Electricity Meters

ANSI C12.15 - American National Standard For Solid-State Demand Registers For Electromechanical Watt-hour Meters

ANSI C12.16 - American National Standard For Solid-State Electricity Meters

ANSI C12.17 - American National Standard For Cartridge-Type Solid-State Pulse Recorders For Electricity Metering

ANSI C12.18 - American National Standard For Protocol Specification For ANSI Type 2 Optical Port

Part B

PARTICIPATING SELLERS METER STANDARDS AND CAPABILITIES

ISO TARIFF APPENDIX K

Scheduling Protocol to Integrate Transmission Rights with ISO Protocols

Scheduling Protocol to Integrate Transmission Rights with ISO Protocols

This sample scheduling protocol is intended to ensure that existing contractual obligations for transmission services are honored and that the parties to Existing Contracts continue to receive the benefits and burdens of those contracts, consistent with the principles set forth in Sections 2.4.3 and 2.4.4 of the ISO Operating Agreement and Tariff. The intent of this scheduling protocol is to implement the transmission service rights under Existing Contracts to ensure that transmission service under those Existing Contracts is neither diminished nor enhanced, due purely to the new operational practices and uses of the ISO Controlled Grid under ISO Operational Control of the ISO Controlled Grid.

The protocol also demonstrates how existing firm entitlements will be automatically scheduled into and through the ISO in constrained situations and what priority these transactions would have vis-a-vis other ISO schedules. The final protocol adopted by the ISO may differ somewhat from this sample protocol, because the specific details of each and every then-existing contract must be taken into account in that final protocol.

This draft protocol utilizes the definitions set forth in the Master Definitions Supplement. Unless otherwise stated the reference to a Section is to a Section of this protocol.

Note: This draft of the protocol does not attempt to cover all of the situations that could arise under all types of Existing Contracts, nor does it address the related complex issues associated with curtailment priorities or other operational issues.

1. Scheduling rules are provided to the ISO.

1.1 Each Participating TO will provide the ISO with lists (including rights-holders, amounts and special conditions) of the firm, conditional firm and non-firm scheduling rights that have been allocated under Existing Contracts.[1] Each Participating TO will also provide the ISO with all operating instructions and/or decision rules that are currently used by that TO to allocate, schedule and curtail the various categories of transmission uses associated with Existing Contracts.

1.2 To the extent that a Participating TO's operating instructions can be exercised independently of the ISO and the results simply passed to the ISO, the operating instructions shall be exercised by the Participating TO, and the outcomes of the exercise of those instructions passed to the ISO instead.

2. The ISO determines the blocks of transmission capacities that (i) must be reserved for firm Existing Rights and firm Non-Converted Rights, (ii) may be allocated for use as ISO transmission service (i.e., "new firm uses"), (iii) must be reserved by the ISO for conditional firm Existing Rights and conditional firm Non-Converted Rights, and (iv)

[1] Even in each of these categories, the terms and conditions of service may differ among transmission contracts. The general outline provided above will therefore need to be adapted for each individual contract.

remain for any other uses, such as non-firm Existing Rights and non-firm Non-Converted Rights for which a Participating TO has no discretion over whether or not to provide such non-firm service.

2.1 Prior to the start of the Day-Ahead scheduling process, for each Inter-Zonal Interface, the ISO will allocate the forecasted total transfer capability of the Interface into the four categories listed above. (Important note: these amounts will generally depend on the total transfer capability of the Inter-Zonal Interface and the parallel path flows forecasted for the upcoming day.)

3. The ISO coordinates the scheduling of Existing Rights and Non-Converted Rights with new transmission uses, in the Day-Ahead process.

3.1 Holders of Existing Rights and Non-Converted Rights must schedule their upcoming uses of their transmission rights by the deadlines specified in the Existing Contracts except where those deadlines occur during the hour of use. Those rights-holders who must schedule (or otherwise lose) their rights by the Day-Ahead deadlines, do so.

3.2 The ISO validates the submitted schedules for conformity with the operating instructions provided by the Participating TOs.

3.3 Before allocating any remaining transmission rights through the otherwise-applicable ISO scheduling and Congestion Management protocols, the ISO accepts the firm transmission schedules associated with Existing Rights and Non-Converted Rights (whether submitted directly by the existing rights-holders or indirectly through the Participating TOs, as appropriate), allocating transmission usage to these rights-holders.[2]

3.4 Any capacity which was reserved for existing firm transmission rights-holders (under Section 2) and which can now be released because a rights-holder's scheduling deadline has passed, is added to the block of capacity that may be sold by the ISO for new firm uses.[3]

3.5 The ISO executes its Day-Ahead Congestion Management protocols, using as available capacity the block of capacity that may be sold for new firm uses plus capacity blocks (iii) and (iv) under Section 2; and using as demand the Scheduling Coordinators' requests for new transmission uses, plus the requested conditional firm

[2] Note that the rights-holder's uses of the grid are subtracted "off the top" from the ISO's available scheduling capacities prior to the use of the ISO congestion management process. Therefore, there is no need to designate these uses as "must schedule," to charge Usage Charges for these uses, or to have rebating mechanisms such as transmission congestion contracts for these uses, which are treated as traditional physical rights.

[3] The ISO will, in the next steps, allocate this capacity to other ISO Controlled Grid users, and any ISO revenues associated Usage Charges will be credited to the appropriate transmission owner(s)' transmission revenue requirement or to the appropriate rights-holders, as described in Section 2.4.4 of the Tariff.

uses (which are treated as bids which place a $0 value on the use of the associated Inter-Zonal Interfaces in the ISO's Congestion Management algorithm), plus any requested non-firm transmission rights for which service must be provided under the terms of an Existing Contract (which are also treated as bids which place a $0 value on the use of the associated Inter-Zonal Interfaces.)[4]

3.6 This produces a tentative allocation of the Inter-Zonal Interface capacity. If under this tentative allocation, all desired new firm uses and all desired conditional firm uses can be accommodated, the tentative schedule becomes final. If under this tentative allocation, new transmission uses do not exceed the size of the block reserved for new firm uses, the tentative schedule of new firm uses becomes final, and conditional firm schedules are allocated to the block reserved for conditional firm uses in accordance with the decision rules. If the tentative allocation of new firm uses is greater than the block reserved for new firm uses, only the highest-valued new firm uses (based on the submitted Adjustment Bids) are allocated capacity, and the conditional firm schedules are allocated to the block reserved for conditional firm uses in accordance with the decision rules submitted under Section 1.

3.7 Any remaining new firm uses not allocated capacity above, and any non-firm schedules under Existing Contracts, are allocated any remaining capacity.[5]

4. The ISO coordinates the scheduling of Existing Rights and Non-Converted Rights with new transmission uses, in the Hour-Ahead process.

4.1 Holders of Existing Rights and Non-Converted Rights must schedule their upcoming uses of their transmission rights by the deadlines specified in their Existing Contracts. Holders of Non-Converted Rights must schedule (or otherwise lose) their rights by the deadlines specified in the ISO's Hour-Ahead scheduling process.

4.2 The ISO updates the Inter-Zonal Interface capacities available for scheduling (using the same categories specified in Section 2) to reflect any changes in system conditions.

4.3 The ISO validates the submitted schedules for conformity with the operating instructions provided by the Participating TOs.

4.4 Before allocating any remaining transmission rights through the otherwise-applicable ISO scheduling and Congestion Management protocols, the ISO accepts any

[4] As is generally consistent with the complete recallability of non-firm service, this means that the schedule will be accepted by the ISO only if the Inter-Zonal Interfaces are uncongested. Any other party that is willing to pay for the use of the interface will have higher priority. Depending on the existence of priority queues within the non-firm services - e.g., for "As Available Non-Firm" service, there may be a need to add another level of complexity to this step.

[5] Note that if this non-firm service has been scheduled by the ISO in the Day-Ahead market, but in the Hour-Ahead market the relevant Inter-Zonal Interfaces become congested (i.e., the price for use of the interface increases from $0), the service will be recalled.

additional (since the Day-Ahead process was completed) firm transmission schedules associated with Existing Rights and Non-Converted Rights (whether submitted directly by the existing rights-holders or indirectly through the Participating TOs, as appropriate), allocating transmission usage to these rights-holders.

4.5 The ISO may, at its discretion, release any or all of the remaining capacity which has been held back for holders of Existing Rights. This amount is added to the block of capacity that may be made available by the ISO for new firm uses. However, these new firm uses are sold on the basis that transmission service can be curtailed by the ISO to accommodate transmission service schedules submitted by holders of Existing Rights after the Hour-Ahead scheduling process.

4.6 The ISO executes its Hour-Ahead Congestion Management protocols, using as available capacity the block of capacity that may be sold for new firm uses, minus that portion of the block which may have been allocated in the Day-Ahead process; plus any remaining capacity in block (iii) under Section 2, minus that portion of the block which may have been allocated in the Day-Ahead process; plus any remaining capacity (not taking into account any non-firm uses scheduled in the Day-Ahead process, since these can be recalled if there is insufficient capacity); and using as demand any additional (since the Day-Ahead process was completed) Scheduling Coordinator requests for new transmission uses, plus any new (since the Day-Ahead process was completed) schedules for conditional firm uses (which are treated as bids which place a $0 value on the use of the associated Inter-Zonal Interfaces in the ISO's Congestion Management algorithm), plus any additional (since the Day-Ahead process was completed) requests for non-firm transmission rights for which service must be provided under the terms of an Existing Contract (which are also treated as bids which place a $0 value on the use of the associated Inter-Zonal Interfaces.)

4.7 This produces a tentative allocation of the Inter-Zonal Interface capacity. If under this tentative allocation, all desired new firm uses and all desired conditional firm uses can be accommodated, the tentative schedule becomes final. If under this tentative allocation, new transmission uses do not exceed the size of the block reserved for new firm uses, the tentative schedule of new firm uses becomes final, and conditional firm schedules are allocated to the remaining available capacity in accordance with the decision rules submitted under Section 1. If the tentative allocation of new firm uses is greater than the block reserved for new firm uses, only the highest-valued new firm uses (based on the submitted Adjustment Bids) are allocated capacity, and the conditional firm schedules are allocated to the block reserved for conditional firm uses in accordance with the decision rules referred to under Section 1.

4.8 Any remaining new firm uses not allocated capacity above, and any non-firm schedules under Existing Contracts, are allocated any remaining capacity.[6]

[6] Note that the non-firm schedules are allocated use of the Inter-Zonal Interfaces only after all other uses, including all requests for ISO-provided transmission service, have been met. Thus, these non-firm uses are only granted when the relevant Inter-Zonal Interfaces are not congested. Although they are treated as firm uses by the ISO, in the event of curtailment - whether due to system operating conditions or to the ISO's need to recall transmission

ISO TARIFF APPENDIX L

ISO Protocols

service to respond to subsequent scheduling requests under the terms of the Existing Contracts - these uses will be the first uses to be curtailed.)

ISO PROTOCOLS

Index