

Appendix B
SMD Tariff

**Standard Market Design Pro Forma Open Access Transmission Tariff
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PART I. General Term and Conditions

A. Common Service Provisions

1. Definitions

Access Charge: A charge designed to recover the embedded costs of the Transmission System.

Ancillary Services: Those services that are necessary to support the transmission of Energy from Resources to Loads while maintaining reliable operation of the Independent Transmission Provider's Transmission System in accordance with Good Utility Practice.

Automatic Generation Control (“AGC”): The automatic regulation of the power output of electric generating facilities within a prescribed range in response to a change in system frequency, or tie-line loading, to maintain system frequency or scheduled interchange with other areas within predetermined limits.

Availability Bid: Bid by a Resource that indicates the minimum price at which Regulation or Operating Reserves is offered to be supplied.

Available Transfer Capability (“ATC”): A measure of the Transfer Capability remaining in the physical transmission network for further commercial activity over and above already committed uses. ATC is defined as the Total Transfer Capability, less the sum of existing transmission commitments (including transmission which is used for reliability purposes).

Base Point Signal: Signals sent from the Independent Transmission Provider and ultimately received by Resources specifying the scheduled MW level for the Resource.

Bid: Offer to purchase and/or sell products or services in an Auction, including Energy, Demand Reductions, Transmission Service, Congestion Revenue Rights and/or Ancillary Services at a specified location, quantity, and time-period that is duly submitted to the Independent Transmission Provider pursuant to Independent Transmission Provider Procedures. The Bid should indicate either a specific price or the Bidder's desire to have the Bid accepted regardless of the market clearing price.

Bid Revenue Sufficiency Guarantee: A guarantee by the Independent Transmission Provider that ensures the minimum recovery of the Bid prices for Resources scheduled through the Day-Ahead Market, in subsequent post Day-Ahead Market commitments for reliability, and in the Real-Time Market.

Bilateral Transaction Schedule: Simultaneous schedules of Load and Generation of the same MW level by a Market Participant.

Boundary Interface: Point(s) used to indicate Point(s) of Receipt and Point(s) of Delivery outside of the Service Area.

Commission (“FERC”): The Federal Energy Regulatory Commission, or any successor agency.

Completed Application: An application for Transmission or Market Service that satisfies all of the information and other requirements of the Tariff, including any required deposit.

Congestion: The state of a Transmission System when a binding limit (constraint) on the system’s Transfer Capability is reached that must be addressed.

Congestion Charges: Charges relating to the Marginal Congestion Component of Energy Purchases or Transmission Usage Charges. These charges reflect the increased cost that result from dispatching the Transmission System to respect Transmission System (or Flowgate) constraints.

Congestion Revenue Deficit: In the Day-Ahead Market, the absolute value of the difference between the Hourly Congestion Charge Collection and the Hourly Net Congestion Revenue Owed to Congestion Revenue Rights Holders when the difference is negative.

Congestion Revenue Right: A property right held by a Customer that entitles and/or obligates the holder of the right to receive specified Congestion revenues.

Congestion Revenue Surplus: In the Day-Ahead Market, the difference between the Hourly Congestion Charge Collection and the Hourly Net Congestion Revenue Owed to Congestion Revenue Rights Holders when the difference is positive.

Contingency: An actual or potential unexpected failure or outage of a system component, such as a Generator, transmission line, circuit breaker, switch or other electrical element. A Contingency also may include multiple components, which are related by situations leading to simultaneous component outages.

Control Center: The equipment, facilities and personnel used by the Independent Transmission Provider to coordinate and direct the operation of the Service Area and to administer the Day-Ahead and Real-Time Markets, including facilities and equipment

used to communicate and coordinate with the Market Participants in connection with transactions in the Day-Ahead and Real-Time Markets or the operation of the Service Area.

Curtailement: Reduced transmission service or provision of electricity to a Customer in response to a transmission capability for reliability purposes.

Customer: An entity which has complied with the requirements contained in this Tariff, including having signed a Service Agreement, and is eligible to utilize the services provided by the Independent Transmission Provider under this Tariff; provided, however, that a party taking services under this Tariff pursuant to an unsigned Network Access Service Agreement filed with the Commission by the Independent Transmission Provider shall be deemed a Customer.

Day-Ahead: Nominally, the twenty-four hour period directly preceding the Operating Day, except when this period may be extended by the Independent Transmission Provider to accommodate holidays and weekends.

Day-Ahead Market: The market administered by the Independent Transmission Provider in which Energy, Ancillary Services, and Transmission Services are scheduled and sold Day-Ahead, consistent of the Day-Ahead scheduling process, price calculations, and settlements.

Decremental Energy Bid: A Bid Price curve provided by an entity engaged in a bilateral Import or Internal Transaction to indicate the LMP below which that entity is willing to reduce its Generator's output and purchase Energy in the LMP Markets.

Delivering Party: The entity supplying capacity and Energy to be transmitted at Point(s) of Receipt.

Delivery Point: The location where a transaction terminates. A Delivery Point can be a delivery Node, an aggregation of delivery Nodes, an Interface, or a Trading Hub. For purposes of this Tariff, the Delivery Point does not have to be a location where power is consumed.

Direct Assignment Facilities: Facilities or portions of facilities that are constructed for the sole use/benefit of a particular Customer requesting service under the Tariff. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Customer and shall be subject to Commission approval.

Dispatch Hour: The sixty (60) minute period commencing at the beginning of each hour (0000 hour).

Dispatch Interval: Length of time between dispatch instructions from the Independent Transmission Provider.

Emergency: Any abnormal system condition that requires immediate automatic or manual action to prevent or limit loss of transmission facilities or Generators that could adversely affect the reliability of the electric system.

Energy: A quantity of electricity that is Bid, produced, purchased, consumed, sold or transmitted over a period of time and measured or calculated in megawatt-hours.

Energy Bid: For an Energy Supplier, a Bid curve that indicates an entity's willingness to supply Energy at certain prices to markets operated by the Independent Transmission Provider. For an Energy Purchaser, Bid curve that indicates an entity's willingness to purchase Energy at certain prices in markets operated by the Independent Transmission Provider.

Energy Limited Resource: Capacity Resources that, due to design considerations, environmental restrictions on operations, cyclical requirements, such as the need to recharge or refill, or other non-economic reasons, are unable to operate continuously on a daily basis.

Ex Ante Real-Time Energy LMP: The LMP that is produced by the Independent Transmission Provider's Security Constrained Dispatch and communicated to Resources under dispatch instructions in advance of real time. Under SMD, the LMP used for settlement is the Ex Post LMP.

Ex Post Real-Time Energy LMP: The LMP that is produced following the evaluation of actual dispatch relative to dispatch instructions. It is the LMP used for settlement purposes in the Real-Time Market.

Existing Transmission Contract: A contract for Transmission Service or wholesale requirements service currently in effect between two or more Transmission Owners, or between a Transmission Owner and another entity, that was executed on or before July 9, 1996, or earlier.

Export: Energy that is delivered from the Independent Transmission Provider Service Area Interconnection to another Service Area.

External Transaction: A Bilateral Transaction in which either the Receipt Point or the Delivery Point must be a point at the boundary of the Independent Transmission Provider Service Area. If the Receipt Point is a Boundary Interface, then the External Transaction is an Import. If the Delivery Point is a Boundary Interface, then the External Transaction is an Export.

Facilities Study: An engineering study conducted by the Independent Transmission Provider to determine the required modifications to the Independent Transmission Provider's Transmission System, including the cost and scheduled completion date for such modifications, that will be required to provide the requested transmission service.

Federal Power Act ("FPA"): The Federal Power Act, as may be amended from time-to-time (See 16 U.S.C. § 796 et seq.)

Fixed Block Resource: A unit that, due to operational characteristics, can only be in one of two states: either turned completely off, or turned on and run at a fixed capacity level.

Flowgate: A transmission facility (such as a transmission line or a transformer or some other component of the electrical network) or group of facilities (e.g., an Interface).

Flowgate Right: A Congestion Revenue Right specified by a portion of the total MW capacity over a particular transmission Flowgate in a specified direction. Flowgate Rights entitle the holder to collect congestion revenues associated with the specified MW flow over the identified Flowgate in the specified direction.

Generation Capacity: The sustained maximum net output of a Generator, measured in megawatts, as demonstrated by the performance of a test or through actual operation as defined in the Independent Transmission Provider Procedures.

Generator: A facility capable of supplying Energy, capacity and/or Ancillary Services that is accessible to the Service Area.

Good Utility Practice: Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Hourly Economic Maximum Level: The maximum MW level a Resource may operate under normal system conditions.

Hourly Economic Minimum Level: The minimum MW level a Resource may operate under normal system conditions.

Hourly Emergency Maximum Level: The maximum MW level a Resource may operate under Emergency system conditions.

Hourly Emergency Minimum Level: The maximum MW level a Resource may operate under Emergency system conditions.

Hub: A mathematical simplification of a set of buses to emulate a single bus for financial and trading purposes. A Hub is defined by a set of buses that are each associated with a fixed numerical weights such that the sum of weights equal one.

Hub Price: The weighted average of Energy LMP's at the buses that comprise the Hub.

Import: Energy that is delivered to an Independent Transmission Provider Service Area Interconnection from another Service Area.

Incremental Energy Bid: A Bid Price curve for Energy generated above the Hourly Minimum Economic Level.

Independent Transmission Provider: The entity that operates the facilities used for the transmission of Energy in interstate commerce and provides transmission service under the Tariff.

Independent Transmission Provider's Monthly Transmission System Peak: The maximum usage of the Independent Transmission Provider's Transmission System in a calendar month.

Interface: A defined set of transmission facilities (see also Boundary Interface).

Internal Transaction: Bilateral Transactions whose Receipt Point and Delivery Point are both within the Independent Transmission Provider's service territory.

Load: A term that refers to either a consumer of Energy or the amount of Energy (MWh) or demand (MW) consumed.

Load Forecast: Independent forecasts by the Independent Transmission Provider of Load within the Independent Transmission Provider's Service Area used in its scheduling decisions to ensure reliable operation of the system.

Load Ratio Share: The ratio of a Load-Serving Entity's Load to total Load within the Service Area during a specified time period.

Load-Serving Entity: An entity, including a municipal electric system and an electric cooperative, authorized by law, regulatory authorization or requirement, agreement, or contractual obligation to supply Energy, to retail Customers located within the Independent Transmission Provider's Service Area, including an entity that takes service directly from the Independent Transmission Provider to supply its own Load in the Independent Transmission Provider's Service Area.

Load Shedding: The systematic reduction of system demand by temporarily decreasing Load in response to Transmission System or area capacity shortages, system instability, or voltage control considerations.

Locational Marginal Pricing ("LMP"): A pricing methodology under which the price of Energy at each location in the Transmission System is equivalent to the cost to supply or the value to purchase the next increment of Load at that location taking into account the physical aspects of the Transmission System. The term LMP also refers to the price of Energy bought or sold at a specific location.

Lower Regulation Limit: The lowest operating point that the Independent Transmission Provider may dispatch a unit for Regulation under normal operating conditions.

Marginal Congestion Component ("MCC"): Component of Locational Marginal Price and Transmission Usage Charge reflecting the cost of dispatching the Resources available to the Independent Transmission Provider such that transmission constraints are respected.

Marginal Loss Charge Collection: The net amounts charged to purchasers associated with the Marginal Loss Component of the hourly LMPs at the purchasers' buses less the net amounts paid to sellers associated with the Marginal Loss Component of the hourly LMPs at the sellers' buses.

Marginal Losses: The Transmission System Real Power Losses associated with each additional MWh of consumption by Load, or each additional MWh transmitted under a Bilateral Transaction as measured at the Points of Withdrawal.

Marginal Losses Component ("MLC"): The component of LMP at a bus that accounts for the Marginal Losses, as measured between that bus and the Reference Bus.

Market Clearing Price: The price of a product or service determined by the Independent Transmission Provider at a given location and time at which the total amounts offered for sale and purchase are equal.

Market Monitor(ing Unit): Entity required to report directly to the Commission and to the independent governing board of the Independent Transmission Provider the results and recommendations derived from its study of the markets operated by the Independent Transmission Provider.

Market Services: Services provided by the Independent Transmission Provider under the Tariff related to the markets for Energy, capacity and Ancillary Services.

Maximum Curtailment Time: Maximum time (in hours) that a supplier of demand response Resources is willing to respond to Curtailment dispatch instructions.

Maximum Run Time: Maximum length of time (in hours) that a Generator can be reliably expected to operate.

Maximum Shut Down Limit: Maximum number of times a Generator is able to shut down in a 24 period.

Maximum Start-up Limit: Maximum number of times a Generator is able to start-up in a 24 period.

Minimum Curtailment Time: Minimum time (in hours) that a supplier of demand response Resources is willing to respond to Curtailment dispatch instructions.

Minimum Down Time: Minimum length of time (in hours) required for a Generator to begin operations following an outage due to operational constraints.

Minimum Generation Bid: The payment required by a Supplier to operate at the unit's Hourly Economic Minimum.

Minimum Generation Emergency: An Emergency declared by the Independent Transmission Provider in which the Independent Transmission Provider anticipates requesting one or more generating Resources to operate at or below Normal Minimum Generation, in order to manage, alleviate, or end the Emergency.

Minimum Run Time: Minimum length of time (in hours) required for a Generator to be in operation due to operational constraints.

Network Access Service: Transmission service offered by the Independent Transmission Provider under this Tariff. It offers use of the transmission grid by allowing Customers to: (1) serve Load with any Resource on the system, (2) access any Interface to import power from a neighboring system, (3) integrate, economically dispatch and regulate its current and planned Resources to serve its Load; (4) transmit power through and out of the Independent Transmission Provider's system, and (5) aggregate Resources for resale and hub-to-hub transfer.

Network Operating Agreement: Agreement that contains the terms and conditions under which the Customer shall operate its facilities and the technical and operational matters associated with the implementation of the Tariff.

Network Operating Committee: Committee responsible for coordinating operating criteria to determine each Party's responsibilities under the Network Operating Agreement.

No-load Cost: Hourly costs associated with generating at a unit's Hourly Economic Minimum.

Node: A location where Energy can be injected and/or withdrawn from the grid.

Normal Response Rate: The expected response rate of an Energy supplying Resource measured in MW/min.

Obligation Right: A Congestion Revenue Right that requires the Customer to receive the Congestion revenues (either positive or negative).

Open Access Same-Time Information System (OASIS): The information system and standards of conduct contained in Part 37 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS.

Operable Capacity: Capacity that is readily converted to Energy and is measured in MW.

Operating Day: The daily 24 hour period beginning at midnight for which transactions on the Energy Market are scheduled.

Operating Reserves: Generator Capacity that is available to supply Energy, or Load Resources that are available to Curtail Energy usage, in the event of Contingency conditions, which meet the requirements of the Independent Transmission Provider. Operating Reserves include Spinning Reserves and Supplemental Reserves.

Opportunity Cost: The cost of giving up the opportunity to sell (or consume) a product (or service) at a location and time in order to sell a related product (requiring the same inputs), at the same location and time or the same product at another location and time.

Optimal Power Flow (“OPF”): A Power Flow that maximizes the value (as expressed in the Bids) of the Congestion Revenue Rights, subject to the constraint that the selected set of Bids must be simultaneously feasible.

Option Right: A Congestion Revenue Right that allows the Customer to receive the positive Congestion revenues without the obligation to pay Congestion revenues when they are negative.

Planning Horizon: The number of years ahead in each region for which the Load-Serving Entities must demonstrate to the Independent Transmission Provider that they have procured adequate Energy Resources.

Power Flow: A simulation tool that provides an estimate of Energy flows on the Transmission System and adjacent transmission systems under a given set of assumed characteristics.

Primary Holder: The Owner of a Congestion Revenue Right recognized as such by the Independent Transmission Provider for settlement purposes.

Real Power Losses: The loss of Energy, resulting from transporting power over the Transmission System, between the Point of Injection and Point of Withdrawal of that Energy.

Real Time: Referring to the time period in which transmission and generation dispatch instructions are ultimately given.

Real-Time Market: The market administered by the Independent Transmission Provider for Energy, Ancillary Services, and Transmission Services in real time, consisting of the real time scheduling process, dispatch, price calculations, and settlements.

Receipt Point: The location where a Transaction originates. A Receipt Point can be a Generator Node, an aggregation of Generator Nodes, an Interface, or a Trading Hub. For purposes of this Tariff, a Receipt Point does not have to be a Generator.

Receipt Point-to-Delivery Point Congestion Revenue Right Obligation: Congestion Revenue Rights that confer: (i) the right to collect revenues equal to the applicable Marginal Congestion Component of the hourly Transmission Usage Charge from the Receipt Point to the Delivery Point when the Marginal Congestion Component is positive, and (ii) the obligation to pay an amount to the Independent Transmission Provider equal to the absolute value of the applicable Marginal Congestion Component of the hourly Transmission Usage Charge from the when the Marginal Congestion Component is negative.

Receipt Point-to-Delivery Point Congestion Revenue Right Option: Congestion Revenue Rights that confer to the holder the right to collect revenues equal to the applicable Congestion Charge component of the hourly Transmission Usage Charge from the Receipt Point to the Delivery Point when the Marginal Congestion Component is positive, but do not obligate the holder to pay the absolute value of the applicable Marginal Congestion Component of the hourly Transmission Usage Charge when the Marginal Congestion Component is negative.

Receiving Party: The entity receiving the capacity and Energy transmitted by the Independent Transmission Provider to Point(s) of Delivery.

Reference Bus: The location on the Transmission System relative to which all mathematical quantities, including Shift Factors and penalty factors relating to physical operation, will be calculated.

Regulation: The capability of a specific generating unit with appropriate telecommunications, control and response capability to increase or decrease its output in response to a regulating control signal, in accordance with the specifications in the Manuals. Regulation also encompasses regulation and frequency response service i.e. the continuous balancing of Resources (generation and interchange) with Load variations in order to maintain scheduled Interconnection frequency.

Regulation Capability: The maximum amount of Regulation Service in MW a Resource can operationally provide to the Independent Transmission Provider.

Regulation Requirement: Quantity of Regulation identified by the local reliability authority to be procured by the Independent Transmission Provider to ensure system reliability.

Reliability Rules: Those rules, standards, procedures and protocols, including Local Reliability Rules, developed in accordance with NERC, regional reliability councils, FERC, PSC and NRC standards, rules and regulations, and other criteria.

Reserve Location: Geographic area for which there a specific Operating Reserve requirement applies.

Resource: Either a Generator or a Load that can reliably adjust its electricity usage by some specified range and rate at a specific Withdrawal Point in response to Day-Ahead or Real-Time prices or by instruction by the Independent Transmission Provider.

Resource Adequacy Requirement: The Resource reserve margin, stated as a ratio of the reserves to the forecast peak load during the final year of the Planning Horizon, expressed as a percentage.

Response Rate: The capability (in MW/minute) of a Resource to adjust its generation level in response to dispatch signals.

Scheduled Amount: Megawatt supply or demand obligation as indicated by the Independent Transmission Provider's Schedule.

Scheduled Resource: Resource incurring a supply or demand obligation as indicated by the Independent Transmission Provider's Schedule.

Security Constrained Dispatch: The determination of the dispatch that incorporates all transmission constraints necessary for reliability.

Security Constrained Unit Commitment: The allocation of Load to Generators by the Independent Transmission Provider through the operation of a computer algorithm which continuously calculates individual Generator loading at minimum Bid cost, balancing Load and scheduled interchange with generation while meeting all reliability rules and Generator performance constraints.

Self-Schedule: The Supplier's provision to the Independent Transmission Provider with its hourly Energy schedule in the Day-Ahead Market and Real-Time Market independent of market prices.

Self-Supply: The provision of certain Ancillary Services, or the provision of Energy to replace Marginal Losses, by a Customer using either the Customer's own Generators or generation obtained from an entity other than the Independent Transmission Provider.

Seller: Market Participant whose Bid to supply into either the Day-Ahead or Real-Time Market has been accepted and who has incurred the associated supply obligations.

Service Agreement: The initial agreement and any amendments or supplements thereto entered into by the Customer and the Independent Transmission Provider for service under the Tariff.

Service Area: The geographic region and transmission facilities therein that are under the operational control of the Independent Transmission Provider.

Service Commencement Date: The date the Independent Transmission Provider begins to provide service pursuant to the terms of an executed Service Agreement, or the date the Independent Transmission Provider begins to provide service in accordance with the Tariff.

Settlement: The process of determining the charges to be paid to or by a Customer in the markets operated by the Independent Transmission Provider under this Tariff

Shift Factor: A ratio, calculated by the Independent Transmission Provider, that compares (1) the change in power flow through a transmission facility resulting from an incremental change in injection of power at a Receipt Point and withdrawal of power at the Delivery Point to (2) the incremental change in injection of power at the Receipt Point.

Shortage: A situation in which the markets for Energy, Regulation or Operating Reserves are not able to clear because of insufficient Bid-in capacity.

Spinning Reserves: Operating Reserves provided by synchronized Resources that can respond immediately to dispatch instructions.

Spinning Reserves Requirement: Quantity of Spinning Reserves identified by the local reliability authority to be procured by the Independent Transmission Provider to ensure system reliability.

Start Time: The number of hours required by a generating Resource to reach its Hourly Economic Minimum Level.

Start-up Cost: Payment needed by the Purchaser of Energy to cover the fixed costs associated with its Energy Bid or payment required by Generator to Start-up and reach its minimum operating level.

Supplemental Commitment: Scheduling of Resources by the Independent Transmission Provider following the posting of the Day-Ahead Schedule to meet the reliability needs.

Supplemental Reserves: Operating Reserves provided by Resources that can be started, synchronized and loaded within a specified time period.

Supplemental Reserves Requirement: Quantity of Supplemental Reserves identified by the local reliability authority to be procured by the Independent Transmission Provider to ensure system reliability.

Supplier: A Party that is supplying the Demand Reduction, Energy and/or associated Ancillary Services to be made available under the Tariff, including Generators and demand side Resources that satisfy all applicable Independent Transmission Provider requirements.

System Impact Study: An assessment by the Independent Transmission Provider of (i) the adequacy of the Transmission System to accommodate a request for Congestion Revenue Rights or (ii) whether any additional costs may be incurred in order to provide Congestion Revenue Rights.

System Marginal Price (SMP): The LMP of Energy at the Reference Bus.

Total Transfer Capability: The amount of electric power that can be transferred over the interconnected transmission network in a reliable manner.

Transaction: The purchase and/or sale of Energy, Congestion Revenue Rights, Ancillary Services, or Transmission Service.

Transfer Capability: The measure of the ability of interconnected electrical systems to reliably move or transfer power from a set of Receipt Points to a set of Delivery Points over all transmission facilities (or paths) between those areas under specified system conditions.

Transmission Owner: Entity with financial ownership of the transmission assets used in the provision of Transmission Service by the Independent Transmission Provider.

Transmission Owner's Monthly Transmission System Peak: The maximum hourly firm usage as measured in megawatts (MW) of the Transmission Owner's transmission system in a calendar month.

Transmission Planned Outage: Any transmission outage scheduled in advance for a pre-determined duration and which meets the notification requirements for such outages specified by the Independent Transmission Provider.

Transmission Service: Services needed to move Energy from a Receipt Point to a Delivery Point provided to Customers by the Independent Transmission Provider in accordance with this Tariff.

Transmission System: The facilities controlled and operated by the Independent Transmission Provider that are used to provide transmission service under of the Tariff.

Transmission Usage Charge: A per unit charge for Transmission Service to support a Bilateral Transaction. The Transmission Usage Charge is equal to the difference of the LMP at the Delivery Point and the LMP at the Receipt Point (in \$/MWh).

Unit-Specific Opportunity Cost: The Opportunity Cost calculation for specific Resources that are selected to provide Regulation or Operating Reserves in either the Day-Ahead or the Real-Time Markets.

Upper Regulation Limit: The highest operating point that the Independent Transmission Provider will dispatch a unit for Regulation under normal operating conditions.

Virtual Demand Bid: A Demand Bid in the Day-Ahead Market without a physical Resource capable of withdrawing Energy in the Real-Time Market.

Virtual Energy: Energy purchased or sold in the Day-Ahead Energy Market that is not backed by physical Resources.

Virtual Supply Bid: A Supply Bid in the Day-Ahead Market without a physical Resource capable of injecting Energy in the Real-Time Market.

Voltage Support Service: The provision of reactive power support necessary to maintain transmission voltage.

Wheel Through: Transmission Service through the Service Area of the Independent Transmission Provider that originates and terminates outside the Service Area of the Independent Transmission Provider.

Zonal-LMP: Load weighted average of Energy LMPs over a set of buses and weights defined by a zone.

Zone: A set of buses in a geographic area.

Zone Price: Load weighted average price over the defined set of buses in a zone.

2. Open Access Same-Time Information System (OASIS)

Terms and conditions regarding Open Access Same-Time Information System and standards of conduct are set forth in 18 CFR § 37 of the Commission's regulations (Open Access Same-Time Information System and Standards of Conduct for Public Utilities).

3. Local Furnishing Bonds

3.1 Transmission Owners That Own Facilities Financed by Local

Furnishing Bonds: This provision is applicable only to Transmission Owners that have financed facilities for the local furnishing of Energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code of 1986, as amended, or corresponding provisions of predecessor statutes ("local furnishing bonds"). Notwithstanding any other provision of this Tariff, the Independent Transmission Provider shall not be required to provide transmission service to any Customer pursuant to this Tariff if the provision of such transmission service would jeopardize the tax-exempt status of any local furnishing bond(s) used, in whole or in part, to finance the Transmission Owner's facilities, regardless of whether such facilities financed with these bonds are transmission, distribution, or generation facilities.

3.2 Alternative Procedures for Requesting Transmission Service:

- (i) If the Independent Transmission Provider determines that the provision of transmission service requested by a Customer would jeopardize the tax-exempt status of any outstanding local furnishing bond(s) used, in whole or part, to finance any of the Transmission Owner's facilities, regardless of whether such facilities financed with these bonds are transmission, distribution, or generation facilities, or would jeopardize the Transmission Owner's entitlement to income tax deductions for interest expense in connection with such tax-exempt bonds, it shall advise the Customer within thirty (30) days of receipt of the Completed Application of (a) such determination and (b) the reasonably expected amount of any costs resulting from such loss of tax-exempt status and/or income tax deductions (or from the prevention of any such loss). For purposes of this section, the costs resulting from such loss of tax exempt status and/or income tax deductions (or from the prevention of any such loss) due to the provision of such transmission service shall include, without limitation, any reasonable transactions costs (including any redemption premium) of defeasing and/or redeeming any outstanding local furnishing bonds and/or from any such refinancing with taxable debt and/or from any disallowance or loss of a deduction for tax purposes of the interest in respect of such bonds.
- (ii) If the Customer thereafter renews its request for the same transmission service referred to in (i) by tendering an application under Section 211 of the Federal Power Act, the Independent Transmission Provider, within ten (10) days of receiving a copy of the Section 211 application, will waive its rights to a request for service under Section 213(a) of the Federal Power Act and to the issuance of a proposed order under Section 212(c) of the Federal Power Act. The Commission, upon receipt of the Independent Transmission Provider's waiver of its rights to a request for service under Section 213(a) of the Federal Power Act and to the issuance of a proposed order under Section 212(c) of the Federal Power Act, shall issue an order under Section 211 of the Federal Power Act specifying that such service is provided subject to the Customer's payment of all costs deemed by the Commission to be eligible for recovery under Section 212(a) of the Federal Power Act. Upon issuance of the order under Section 211 of the Federal Power Act, the Independent Transmission Provider shall be required to provide

the requested transmission service in accordance with the terms and conditions of this Tariff and such order. Transmission service shall not commence until after the Customer complies with the creditworthiness provisions of Section 8 of this Tariff.

4. Reciprocity

A Customer receiving transmission service under this Tariff agrees to provide comparable transmission service that it is capable of providing on similar terms and conditions over facilities used for the transmission of Energy owned, controlled or operated by the Customer and over facilities used for the transmission of Energy owned, controlled or operated by the Customer's corporate affiliates. A Customer that is a member of a power pool or Regional Transmission Group also agrees to provide comparable transmission service to the members of such power pool and Regional Transmission Group on similar terms and conditions over facilities used for the transmission of Energy owned, controlled or operated by the Customer and over facilities used for the transmission of Energy owned, controlled or operated by the Customer's corporate affiliates.

This reciprocity requirement applies not only to the Customer that obtains transmission service under the Tariff, but also to all parties to a transaction that involves the use of transmission service under the Tariff, including the power seller, buyer and any intermediary, such as a power marketer. This reciprocity requirement also applies to any Customer that owns, controls or operates transmission facilities that uses an intermediary, such as a power marketer, to request transmission service under the Tariff. If the Customer does not own, control or operate transmission facilities, it must include in its Application a sworn statement of one of its duly authorized officers or other representatives that the purpose of its Application is not to assist a Customer to avoid the requirements of this provision.

5. Billing and Payment

5.1 Billing Procedure: Within a reasonable time after the first day of each month, the Independent Transmission Provider shall submit an invoice to the Customer for the charges for all services furnished under the Tariff during the preceding month. The invoice shall be paid by the Customer within twenty (20) days of receipt. All payments shall be made in immediately available funds payable to the Independent Transmission Provider, or by wire transfer to a bank named by the Independent Transmission Provider.

- 5.2 Interest on Unpaid Balances:** Interest on any unpaid amounts (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations at 18 C.F.R. § 35.19a(a)(2)(iii). Interest on delinquent amounts shall be calculated from the due date of the bill to the date of payment. When payments are made by mail, bills shall be considered as having been paid on the date of receipt by the Independent Transmission Provider.
- 5.3 Customer Default:** In the event the Customer fails, for any reason other than a billing dispute as described below, to make payment to the Independent Transmission Provider on or before the due date as described above, and such failure of payment is not corrected within thirty (30) calendar days after the Independent Transmission Provider notifies the Customer to cure such failure, a default by the Customer shall be deemed to exist. Upon the occurrence of a default, the Independent Transmission Provider may initiate a proceeding with the Commission to terminate service but shall not terminate service until the Commission so approves any such request. In the event of a billing dispute between the Independent Transmission Provider and the Customer, the Independent Transmission Provider will continue to provide service under the Service Agreement as long as the Customer (i) continues to make all payments not in dispute, and (ii) pays into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If the Customer fails to meet these two requirements for continuation of service, then the Independent Transmission Provider may provide notice to the Customer of its intention to suspend service in sixty (60) days, in accordance with Commission policy.

6. Regulatory Filings

Nothing contained in the Tariff or any Service Agreement shall be construed as affecting in any way the right of the jurisdictional Independent Transmission Provider to unilaterally make application to the Commission for a change in rates, terms and conditions, charges, classification of service, Service Agreement, rule or regulation under Section 205 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder.

Nothing contained in the Tariff or any Service Agreement shall be construed as affecting in any way the ability of any Party receiving service under the Tariff to exercise its rights under the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder.

7. Force Majeure and Indemnification

7.1 Force Majeure: An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any Curtailment, order, regulation or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing. Neither the Independent Transmission Provider nor the Customer will be considered in default as to any obligation under this Tariff if prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Tariff is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Tariff.

7.2 Indemnification: The Customer shall at all times indemnify, defend, and save the Independent Transmission Provider harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the Independent Transmission Provider's performance of its obligations under this Tariff on behalf of the Customer, except in cases of negligence or intentional wrongdoing by the Independent Transmission Provider.

8. Creditworthiness

For the purpose of determining the ability of the Customer to meet its obligations related to service hereunder, the Independent Transmission Provider may require reasonable credit review procedures. This review shall be made in accordance with standard commercial practices. In addition, the Independent Transmission Provider may require the Customer to provide and maintain in effect during the term of the Service Agreement, an unconditional and irrevocable letter of credit as security to meet its responsibilities and obligations under the Tariff, or an alternative form of security proposed by the Customer and acceptable to the Independent Transmission Provider and consistent with commercial practices established by the Uniform Commercial Code that protects the Independent Transmission Provider against the risk of non-payment.

9. Eligibility for Independent Transmission Provider Services

In order to purchase Network Access Service, purchase or supply Energy, or to supply Ancillary Services in the Independent Transmission Provider Administered Markets, Customers must satisfy the requirements of this Article.

- 9.1 Requirements for Network Access Service:** A Customer eligible for Network Access Service is: (i) any electric utility (including the Load-Serving Entity or any power marketer), Federal power marketing agency, or any person generating Energy for sale is eligible to be a Customer for Network Access Service under the Tariff. Energy sold or produced by such entity may be Energy produced in the United States, Canada or Mexico. However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Independent Transmission Provider offer the unbundled transmission service, or pursuant to a voluntary offer of such service by the Independent Transmission Provider. (ii) Any retail Customer taking unbundled transmission service pursuant to a state requirement that the Independent Transmission Provider offer the transmission service, or pursuant to a voluntary offer of such service by the Independent Transmission Provider, is an eligible to be a Customer under the Tariff.
- 9.2 Requirements for Market Services:** The Independent Transmission Provider and each market participant shall execute a Service Agreement for Market Services which sets forth the terms and conditions under which a market participant shall either supply or purchase market services, consistent with the Form of Service Agreement for Market Services in Part VII.
- 9.3 Participating Generator Agreements:** The Independent Transmission Provider and the owners of each Generator shall enter into a Participating Generator Agreement which shall be filed with the Commission. Each Participating Generator Agreement shall set forth the operating terms, conditions, and obligations concerning the dispatch of a generating unit.
- 9.4 Requirements Common to All Customers: Completed Application and Minimum Technical Requirements**

A Customer shall submit a Completed Application and shall receive Independent Transmission Provider approval prior to obtaining any services under the Independent Transmission Provider's Tariff. A Customer also shall demonstrate to the Independent Transmission Provider's reasonable

satisfaction that it is capable of performing all functions required by the Independent Transmission Provider's Tariff including operational, financial and settlement requirements.

9.4.1 Application: Each Customer requesting to schedule, take or provide any services under the Tariff must apply to the Independent Transmission Provider in writing at least sixty (60) days in advance of the month in which service is to commence. The Independent Transmission Provider will consider requests for such services on shorter notice when feasible. Service commencement will depend on the Independent Transmission Provider's ability to accommodate the request. To apply, the Customer shall complete and deliver a Service Agreement (in the form of Part VII) and an Application to the Independent Transmission Provider.

9.4.2 Completed Application: A Completed Application shall provide all of the information reasonably required by the Independent Transmission Provider to permit the Independent Transmission Provider to perform its responsibilities under the Independent Transmission Provider's Tariff. A Customer taking or providing service under the Tariff shall provide the Independent Transmission Provider, upon application for service, with a list identifying its parent company as well as any affiliate. The Customer shall notify the Independent Transmission Provider within 30 days of the effective date of any change to the original list. Any Customer shall notify the Independent Transmission Provider within 30 days of the effective date of any change to the original list. Any Customer shall respond within 10 days to a request by the Independent Transmission Provider to update the list of affiliates and/or parent company. The Independent Transmission Provider shall treat the information provided in the Application as Confidential Information except to the extent that disclosure of the information is required by the Independent Transmission Provider's Tariff, by regulatory or judicial order or for reliability purposes pursuant to Good Utility Practice.

9.4.3 Approval of Application and/or Notice of Deficient Application: The Independent Transmission Provider will promptly review the Application and may request additional information to determine whether the applicant meets the Independent Transmission Provider's minimum financial and technical requirements. The

Independent Transmission Provider will notify the applicant within thirty (30) days of receipt of a Completed Application.

If the Independent Transmission Provider rejects an Application, the Independent Transmission Provider shall provide a written explanation within fourteen (14) days of the rejection. The Independent Transmission Provider will attempt to remedy minor deficiencies in the Application through informal communications with the applicant. If such efforts are unsuccessful, the Independent Transmission Provider shall return the Application.

10. Dispute Resolution Procedures

10.1 Internal Dispute Resolution Procedures: Any dispute between a Customer and the Independent Transmission Provider involving transmission or Market Services under the Tariff (excluding applications for rate changes or other changes to the Tariff, or to any Service Agreement entered into under the Tariff, which shall be presented directly to the Commission for resolution) shall be referred to a designated senior representative of the Independent Transmission Provider and a senior representative of the Customer for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days [or such other period as the Parties may agree upon] by mutual agreement, such dispute may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.

10.2 External Arbitration Procedures: Any arbitration initiated under the Tariff shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) days of the referral of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the Commercial

Arbitration Rules of the American Arbitration Association and any applicable Commission regulations or Regional Transmission Group rules.

- 10.3 Arbitration Decisions:** Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff and any Service Agreement entered into under the Tariff and shall have no power to modify or change any of the above in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service or facilities.
- 10.4 Costs:** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:
- (A) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen;
or
 - (B) one half the cost of the single arbitrator jointly chosen by the Parties.
- 10.5 Rights Under the Federal Power Act:** Nothing in this section shall restrict the rights of any party to file a Complaint with the Commission under relevant provisions of the Federal Power Act.

11. Metering

- 11.1 Customer Requirements:** The Independent Transmission Provider shall establish metering specifications and standards for all metering that is used as a data source by the Independent Transmission Provider. Customers shall install and maintain such metering at their own expense and deliver data to the Independent Transmission Provider without charge. A Customer taking service under the Independent Transmission Provider's Tariff will make available to the Independent Transmission Provider metered data that meets Independent Transmission Provider requirements by one of the following means: (i) direct transmission to the Independent Transmission Provider; (ii) direct transmission to the Independent Transmission Provider through Transmission Owner communications equipment, or (iii) indirectly through metering provided by the Transmission Owner within whose area its Load is located. The Customer also shall provide its metered data to the Transmission Owner within whose area its Load is located, to the extent that the Transmission Owner determines that the metered data provided to the Independent Transmission Provider is required for its system operation and planning functions, for the billing of services it provides to the Customer, or to perform calculations required by the Independent Transmission Provider.
- 11.2 Load-Serving Entities:** Any Load that is not directly metered, as described above, will have its Load determined by the Transmission Owner within whose area its Load is located in accordance with the Transmission Owner's Retail Access plan on file with the {state commission} or otherwise authorized.
- 11.3 Ancillary Service Suppliers:** Suppliers shall ensure that adequate metering data is made available to the Independent Transmission Provider as described above.
- 11.4 Third Party Metering Services:** Customers whose metering services are provided by third parties qualified under rules, regulations and procedures of applicable state regulatory authorities shall be responsible to ensure that all data described in this Section are satisfactorily made available to the Independent Transmission Provider and applicable Transmission Owner(s) by those third parties.
- 11.5 Estimation of Metering:** In the event of a meter malfunction or inadequate metering data, the Independent Transmission Provider may use estimates to

determine Customer's rights and responsibilities under the Independent Transmission Provider's Tariff.

12. Data and Confidentiality Provisions

12.1 Access to Complete and Accurate Data: Customers under the Tariff shall provide to the Independent Transmission Provider such information and data as the Independent Transmission Provider reasonably deems necessary in order to perform its functions and fulfill its responsibilities under the Tariff and in accordance with the Independent Transmission Provider Market Monitoring Program. Such information will be provided on a timely basis and in the formats prescribed in the Independent Transmission Provider Procedures.

12.2 Independent Transmission Provider Procedures: The Independent Transmission Provider shall develop, and modify as appropriate, procedures for the efficient and non-discriminatory operation of the Independent Transmission Provider Administered Markets and for the safe and reliable operation of the Independent Transmission Provider's Service Area in accordance with the terms and conditions of the Tariff. All such procedures must be consistent with Good Utility Practice. Whenever requested by the Independent Transmission Provider, each Load-Serving Entity shall provide the Independent Transmission Provider with a forecast of the Loads for which it is responsible for the particular time period designated by the Independent Transmission Provider. Customers shall inform the Independent Transmission Provider of the Availability of Generators within the Independent Transmission Provider Service Area subject to a Customer's control by Energy contract, ownership or otherwise. Additionally, the Transmission Owners will provide megawatt, megavar, voltage readings, Transmission System data (facility ratings and impedance data), and maintenance schedules for all Transmission Facilities under the Independent Transmission Provider's Operational Control. For Transmission Facilities Requiring Independent Transmission Provider Notification, the Transmission Owners shall inform the Independent Transmission Provider of all changes in the status of the designated transmission facilities. Suppliers will provide data on Generator status and output including maintenance schedules, Generator scheduled return dates (inclusive of return to service from maintenance, forced outages or partial unit outages that resulted in a significant reduction in a generating unit's ability to produce Energy in any hour), and Generator machine data. These

data shall also include Generator Incremental/Decremental Bids, operating limits, response rates, megawatt, megavar, and voltage readings.

- 12.3 Access to Confidential Information:** The Independent Transmission Provider may request, and the Customer shall provide, Confidential Information consistent with the disclosure requirements set forth in the Independent Transmission Provider's Tariff. The Independent Transmission Provider shall prevent the disclosure of Confidential Information and shall not publish, disclose or otherwise divulge Confidential Information to any person or entity without the prior written consent of the party supplying such Confidential Information, except as provided for under the Independent Transmission Provider Market Power Monitoring Plan. The provisions of this Section shall not apply to any Confidential Information: (i) which was in the public domain at the time of disclosure hereunder; (ii) which thereafter passes into the public domain by acts other than the acts of the Independent Transmission Provider; (iii) that the Independent Transmission Provider is required to make publicly available by the Commission, the {state commission} or other legal process, or for reliability purposes pursuant to Good Utility Practice; or (iv) information required to be provided to the Commission, which will be protected under the Commission's rules for non-public material. A Customer may request that the Independent Transmission Provider keep confidential from another entity Confidential Information that the other entity does not require to perform its obligations and duties hereunder. The Customer must state in writing that the information is to be treated as Confidential Information and the reasons for treating it as Confidential Information, otherwise information will be treated as non-Confidential Information.
- 12.4 Use of Confidential Information:** The Independent Transmission Provider shall use Confidential Information for the exclusive purpose of performing its obligations hereunder and under any Service Agreement.
- 12.5 Disclosure of Bid Information:** Pursuant to Commission requirements, the Independent Transmission Provider shall make public Bid information from the Energy, Ancillary Services, and Transmission markets (but not the names of the Bidders making these Bids) three months after the Bids are submitted. The Independent Transmission Provider shall post the data in a way that permits third parties to track each individual Bidder's Bids over time. Prior to such disclosure, Bid information submitted to the Independent Transmission Provider by Market Participants shall be considered Confidential Information.

12.6 Survival: This section 12 will survive the termination of the Independent Transmission Provider's Tariff and any associated Service Agreement.

PART II. TRANSMISSION SERVICES

B. NETWORK ACCESS SERVICE

Preamble

The Independent Transmission Provider will provide Network Access Service pursuant to the applicable terms and conditions contained in the Tariff and Service Agreement. Network Access Service allows all Customers to access all points (i.e., all Receipt Points and all Delivery Points on the Independent Transmission Provider's system) so that every Generator can reach every Load, subject to physical feasibility. Specifically, Network Access Service offers a flexible use of the transmission grid by allowing Customers to: (1) serve Load with any Resource on the system, (2) access any Interface to import power from a neighboring system, (3) integrate, economically dispatch and regulate its current and planned Resources to serve its Load; (4) transmit power within, through, and out of the Independent Transmission Provider's system; and (5) aggregate Resources for resale and hub-to-hub transfer.

1. Nature of Network Access Service

1.1 Scope of Service: Network Access Service allows all Customers to access all points (i.e., all Receipt Point and Delivery Points) on the Independent Transmission Provider's system so that every Customer can move power from any Generator to any Load, from any Generator to any Trading Hub, from one Trading Hub to another, or from a Trading Hub to a Load. Using Network Access Service, a Customer can integrate Resources and Load, transfer power through or out of the Independent Transmission Provider's system or deliver power between specified Receipt and Delivery Points. The embedded costs of the Transmission System will be recovered through an Access Charge. Any Congestion costs and loss costs associated with a transaction will be recovered through the applicable Transmission Usage Charge in which the Customer causing the Congestion and losses bears the full cost of its Transaction. To the extent the Customer is willing to pay the applicable Transmission Usage Charge for its requested Receipt Point-to-Delivery Point combinations(s), service will be available and will be provided to the extent physically and operationally feasible. The Customer must obtain or self-supply Ancillary Services pursuant to Part II.C of the Tariff.

1.2 Independent Transmission Provider Responsibilities: The Independent Transmission Provider shall plan, construct, operate and maintain its

Transmission System in accordance with Good Utility Practice in order to provide all Customers with Network Access Service over the Independent Transmission Provider's Transmission System. The Independent Transmission Provider shall endeavor to have constructed and placed into service sufficient transmission capability to deliver all Network Access Service Customers' Resources to serve Load. The Independent Transmission Provider will offer a mechanism for participants to identify long-term planning and expansion needs and to propose solutions (transmission, generation, or demand-side).

- 1.3 Service at Points without Concurrent Congestion Revenue Rights:** Once a Customer agrees to pay the applicable Access Charge, it may use the Independent Transmission Provider's Transmission System to deliver Energy to its Network Loads from Resources when the Customer does not have Congestion Revenue Rights between the requested Receipt and Delivery Points. Such Energy shall be transmitted subject to the Customer paying the applicable Transmission Usage Charge. A Customer may revise or add Receipt Points or Delivery Points without an additional Access Charge.

2. Initiating Service

- 2.1 Condition Precedent for Receiving Service:** A request for Network Access Service may be performed under an umbrella Service Agreement pursuant to Part VII of the Tariff. A request for Network Access Service must contain a written Application to: [the Independent Transmission Provider Name and Address], submitted at least sixty (60) days in advance of the calendar month in which service is to commence. The Independent Transmission Provider will consider requests for such service on shorter notice when feasible. Requests for Network Access Service for periods of less than one year shall be subject to expedited procedures that shall be negotiated between the Parties within the time constraints provided in Section B.2.8.
- 2.2 Application Procedures:** A Customer requesting Network Access Service must submit an Application, with a deposit approximating the charge for one month of service, to the Independent Transmission Provider as far as possible in advance of the month in which service is to commence. Applications should be submitted by entering the information listed below on the Independent Transmission Provider's OASIS, which will provide a time-stamped record for the Application.

2.2.1 Applications That Do Not Require the Integration of Resources

and Load: A Completed Application shall provide all of the information included in 18 CFR § 2.20 including, but not limited to, the following:

- (i) The identity, address, telephone number and facsimile number of the party requesting service;
- (ii) A statement that the party requesting service meets, or will be upon commencement of service, will meet the eligibility requirement under Part I of this Tariff;
- (iii) The location of the specific Receipt Points and Delivery Points and the identities of the Delivering Parties and the Receiving Parties;
- (iv) The location of the generating facility(ies) supplying the capacity and Energy and the location of the Load ultimately served by the capacity and Energy transmitted. The Independent Transmission Provider shall treat this information as confidential except to the extent that disclosure of this information is required by this Tariff, by regulatory or judicial order, for reliability purposes pursuant to Good Utility Practice or pursuant to transmission information sharing agreements. The Independent Transmission Provider shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations;
- (v) A description of the supply characteristics of the capacity and Energy to be delivered; an estimate of the capacity and Energy expected to be delivered to the Receiving Party; and the transmission transfer capability requested for each Receipt Point and Delivery Point on the Independent Transmission Provider's Transmission System; Customers may combine their requests for service in order to satisfy the minimum transmission capability requirement; and
- (vi) Service Commencement Date and the term of the requested Network Access Service: The minimum term for Network Access Service is one hour.

2.2.2 Applications That Require the Integration of Resources and

Load: A Completed Application shall provide all of the information included in 18 CFR § 2.20 including, but not limited to, the following:

- (i) The identity, address, telephone number and facsimile number of the party requesting service;
- (ii) A statement that the party requesting service meets, or upon commencement of service will meet, the eligibility requirement under Part I of this Tariff;
- (iii) A description of the Load at each Delivery Point. This description must separately identify and provide the Customer's best estimate of the total Loads to be served at each transmission voltage level, and the Loads to be served from each Independent Transmission Provider substation at the same transmission voltage level. The description must include a ten (10) year forecast of service for summer and winter Load and Resource requirements beginning with the first year after the service is scheduled to commence and extending for the duration of the service request;
- (iv) The amount and location of any demand responsive Loads included in the Network Load. This shall include the summer and winter capacity requirements for each demand responsive Load, that portion of the Load subject to demand response, the conditions under which a response can be implemented and any limitations on the amount and frequency of demand response. Customer should identify the amount of demand responsive Load (if any) included in the ten (10) year Load forecast provided in response to (iii) above.
- (v) A description of Network Resources (current and term of request projection), which shall include, for each Network Resource:
 - Unit size and amount of capacity from that unit to be designated as Network Resource
 - VAR capability (both leading and lagging) of all Generators

- Operating restrictions
 - Any periods of restricted operations throughout the year
 - Maintenance schedules
 - Minimum loading level of unit
 - Normal operating level of unit
 - Any must-run unit designations required for system reliability or contract reasons
 - Approximate variable generating cost (\$/MWh) for redispatch computations
 - Arrangements governing sale and delivery of power to third parties from generating facilities located in the Independent Transmission Provider's Service Area, where only a portion of unit output is designated as a Network Resource
 - Description of purchased power designated as a Network Resource including source of supply, Control Area location, transmission arrangements and Delivery Point(s) to the Independent Transmission Provider's Transmission System;
- (vi) A description of Customer's Transmission System, if applicable:
- Load flow and stability data, such as real and reactive parts of the Load, lines, transformers, reactive devices and Load type, including normal and Emergency ratings of all transmission equipment in a Load flow format compatible with that used by the Independent Transmission Provider
 - Operating restrictions needed for reliability
 - Operating guides employed by system operators
 - Contractual restrictions or committed uses of the Customer's Transmission System, other than the Customer's Network Loads and Resources
 - Location of Network Resources described in subsection (v) above
 - Ten (10) year projection of system expansions or upgrades
 - Transmission System maps that include any proposed expansions or upgrades; and

- (vii) Service Commencement Date and the term of the requested Network Access Service: The minimum term for Network Access Service is one hour.

The Independent Transmission Provider shall acknowledge the Completed Application within ten (10) days of receipt. The acknowledgment must include a date by which a response, including a Service Agreement, will be sent to the Customer. If an Application fails to meet the requirements of this section, the Independent Transmission Provider shall notify the Customer filing the Application requesting service or Congestion Revenue Rights within fifteen (15) days of receipt and specify the reasons for such failure. Wherever possible, the Independent Transmission Provider shall attempt to remedy deficiencies in the Application through informal communications with the Customer. If such efforts are unsuccessful, the Independent Transmission Provider shall return the Application without prejudice to the Customer filing a new or revised Application that fully complies with the requirements of this section. The Customer will be assigned a new priority consistent with the date of the new or revised Application. The Independent Transmission Provider shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations.

- 2.3 Technical Arrangements to be Completed Prior to Commencement of Service:** Network Access Service shall not commence until the Independent Transmission Provider and the Customer, or a third party, have completed installation of all equipment specified under the Network Operating Agreement consistent with Good Utility Practice and any additional requirements reasonably and consistently imposed to ensure the reliable operation of the Transmission System. The Independent Transmission Provider shall exercise reasonable efforts, in coordination with the Customer, to complete such arrangements as soon as practicable taking into consideration the Service Commencement Date.
- 2.4 Customer Facilities:** To the extent Customer owns transmission facilities, the provision of Network Access Service shall be conditioned upon the Customer's constructing, maintaining and operating the facilities on its side of each Delivery Point or interconnection necessary to reliably deliver capacity and Energy from the Independent Transmission Provider's Transmission System to the Customer. The Customer shall be solely responsible for constructing or installing all facilities on the Customer's side of each such Delivery Point or interconnection.

- 2.5 Filing of Service Agreement:** The Independent Transmission Provider must file Service Agreements or related agreements with the Commission to the extent required by applicable Commission regulations.
- 2.6 Notice of Deficient Application:** If an Application fails to meet the requirements of the Tariff, the Independent Transmission Provider shall notify the entity requesting service within fifteen (15) days of receipt of the reasons for such failure. The Independent Transmission Provider shall attempt to remedy minor deficiencies in the Application through informal communications with the Customer. If such efforts are unsuccessful, the Independent Transmission Provider shall return the Application, along with any deposit, with interest. Upon receipt of a new or revised Application that fully complies with the requirements of the Tariff, the Customer shall be assigned a new priority consistent with the date of the new or revised Application.
- 2.7 Response to a Completed Application:** Following receipt of a Completed Application for Network Access Service, the Independent Transmission Provider shall make a determination of physical feasibility as required in Section B.5.2. The Independent Transmission Provider shall notify the Customer as soon as practicable, but not later than thirty (30) days after the date of receipt of a Completed Application, either (i) if it will be able to offer Network Access Service without performing a System Impact Study or (ii) if such a study is needed to evaluate the impact of the Application pursuant to Section B.5.3. Responses by the Independent Transmission Provider must be made as soon as practicable to all Completed Applications and the timing of such responses must be made on a non-discriminatory basis.
- 2.8 Execution of Service Agreement:** Whenever the Independent Transmission Provider determines that a System Impact Study is not required and that the service can be provided, it shall notify the Customer as soon as practicable but no later than thirty (30) days after receipt of the Completed Application. Where a System Impact Study is required, the provisions of Section B.2.5 will govern the execution of a Service Agreement. Failure of a Customer to execute and return the Service Agreement or request the filing of an unexecuted Service Agreement pursuant to Section B.2.9 within fifteen (15) days after it is tendered by the Independent Transmission Provider will be deemed a withdrawal and termination of the Application and any deposit submitted shall be refunded

with interest. Nothing herein limits the right of a Customer to file another Application after such withdrawal and termination.

2.9 Initiating Service in the Absence of an Executed Service Agreement: If the Independent Transmission Provider and the Customer requesting Network Access Service cannot agree on all the terms and conditions of the Service Agreement, the Independent Transmission Provider shall file with the Commission, within thirty (30) days after the date the Customer provides written notification directing the Independent Transmission Provider to file, an unexecuted Network Access Service Agreement containing terms and conditions deemed appropriate by the Independent Transmission Provider for such requested Transmission Service. The Independent Transmission Provider shall commence providing Transmission Service subject to the Customer agreeing to (i) compensate the Independent Transmission Provider at whatever rate the Commission ultimately determines to be just and reasonable, and (ii) comply with the terms and conditions of this Tariff including posting appropriate security deposits in accordance with the terms of Section B.2.2.

2.10 Scheduling of Network Access Service: Under Network Access Service, a Customer can schedule transmission service or procure Energy through the Day-Ahead and Real-Time Markets. The scheduling procedures for both options are contained in Part III of this Tariff.

3. Network Resources

To the extent a Customer desires the Independent Transmission Provider to integrate, economically dispatch, and regulate the Customer's Resources to serve the Customer's Load, the Customer must designate Resources as described below. All other Customers will identify Receipt Points and Delivery Points through the Day-Ahead and Real-Time Markets pursuant to Part III of this Tariff.

3.1 Designation of Network Resources: All Customers desiring the Independent Transmission Provider to integrate, economically dispatch, and regulate its Resources to serve its load must designate sufficient Network Resources to meet its Load on a non-interruptible basis. Network Resources shall include all generation owned, purchased or leased by the Customer designated to serve Network Load under the Tariff. Network Resources may not include Resources, or any portion thereof, that are committed for sale to non-designated third-party Load or otherwise cannot be called upon to meet the Customer's Network Load on a non-interruptible

basis. Any owned or purchased Resources that were serving the Customer's Loads under firm agreements entered into on or before the Service Commencement Date shall initially be designated as Network Resources until the Customer terminates the designation of such Resources.

- 3.2 Designation of New Network Resources:** The Customer may designate a new Resource by providing the Independent Transmission Provider with as much advance notice as practicable. A designation of a new Network Resource must be made by a request for modification of service pursuant to an Application under Section B.2.
- 3.3 Designation of Alternate Resources:** The Customer has the right to obtain alternate Resources, whether through a bilateral contract or through the Independent Transmission Provider-Administered Markets. Alternate Resources enable the Customer to substitute one Resource for another, generally on a short-term basis. An alternate Resource does not have to be committed to the Customer on a firm basis as does a Network Resource.
- 3.4 Substitution of Resources and Congestion Revenue Rights:** The Customer may replace one designated Resource with another. The Customer may request a reconfiguration of the Congestion Revenue Rights it holds for the current Resource and request Congestion Revenue Rights for the new Resource pursuant to B.6 of the Tariff.
- 3.5 Termination of Network Resources:** The Customer may terminate the designation of all or part of a generating Resource as a Network Resource at any time, but must provide notification to the Independent Transmission Provider as soon as reasonably practicable.
- 3.6 Customer Dispatch Obligation:** As a condition to receiving Network Access Service, the Customer agrees to dispatch its Network Resources as requested by the Independent Transmission Provider, consistent with Part II of this Tariff. To the extent practicable, the redispach of Resources pursuant to this section shall be on a least cost, non-discriminatory basis between all Customers.
- 3.7 Transmission Arrangements for Network Resources Not Physically Interconnected with the Independent Transmission Provider:** The Customer shall be responsible for any arrangements necessary to deliver capacity and Energy from a Network Resource not physically interconnected with the Independent Transmission Provider's Transmission

System. The Independent Transmission Provider will undertake reasonable efforts to assist the Customer in obtaining such arrangements, including without limitation, providing any information or data required by such other entity pursuant to Good Utility Practice.

3.8 Limitation on Designation of Network Resources: The Customer must demonstrate that it owns or has committed to purchase generation pursuant to an executed contract in order to designate a generating Resource as a Network Resource. Alternatively, the Customer may establish that execution of a contract is contingent upon the availability of transmission service under the Tariff.

3.9 Customer Owned Transmission Facilities: The Customer that owns existing facilities that are determined by the Order No. 888 seven factor test to be Transmission Facilities may be eligible to receive consideration either through a billing credit or some other mechanism.

4. Designation of Network Load

To the extent a Customer desires the Independent Transmission Provider to integrate, economically dispatch, and regulate the Customer's Resources to serve the Customer's Load, the Customer must designate Loads as described below.

4.1 Network Load: The Customer must designate the individual Network Loads on whose behalf the Independent Transmission Provider will provide Network Access Service. The Network Loads shall be specified in the Service Agreement and shall include actual deliveries at Interfaces.

4.2 New Network Loads Connected with the Independent Transmission Provider: The Customer shall provide the Independent Transmission Provider with as much advance notice as reasonably practicable of the designation of new Network Load that will be added to its Transmission System. A designation of new Network Load must be made through a modification of service pursuant to a new Application. The Independent Transmission Provider will use due diligence to install any transmission facilities required to interconnect a new Network Load designated by the Customer. The costs of new facilities required to interconnect a new Network Load shall be determined in accordance with the procedures provided in Section B.5.12 and shall be charged to the Customer in accordance with Part VIII of this Tariff.

- 4.3 New Interconnection Points:** To the extent the Customer desires to add a new Delivery Point or interconnection point between the Independent Transmission Provider's Transmission System and a Network Load, the Customer shall provide the Independent Transmission Provider with as much advance notice as reasonably practicable.
- 4.4 Changes in Service Requests:** Under no circumstances shall the Customer's decision to cancel or delay a requested change in Network Access Service (e.g., the addition of a new Network Resource or designation of a new Network Load) in any way relieve the Customer of its obligation to pay the costs of transmission facilities constructed by the Independent Transmission Provider and charged to the Customer as reflected in the Service Agreement. However, the Independent Transmission Provider must treat any requested change in Network Access Service in a non-discriminatory manner.
- 4.5 Annual Load and Resource Information Updates:** The Customer shall provide the Independent Transmission Provider with annual updates of Network Load and Network Resource forecasts consistent with those included in its Application for Network Access Service under the Tariff. The Customer also shall provide the Independent Transmission Provider with timely written notice of material changes in any other information provided in its Application relating to the Customer's Network Load, Network Resources, Transmission System or other aspects of its facilities or operations affecting the Independent Transmission Provider's ability to provide reliable service.

5. Service Availability

- 5.1 General Conditions:** The Independent Transmission Provider shall provide Network Access Service over, on or across its Transmission System to any Customer that has met the requirements of Section A.9.
- 5.2 Determination of Available Transfer Capability:** A description of the Independent Transmission Provider's specific methodology for assessing Available Transfer Capability posted on the Independent Transmission Provider's OASIS is contained in Attachment A of the Tariff. In the event sufficient transmission capability may not exist to accommodate a Congestion Revenue Rights request, the Independent Transmission Provider shall respond by performing a System Impact Study.

5.3 Notice of Need for System Impact Study: After receiving a request for Congestion Revenue Rights or for the reconfiguration of Congestion Revenue Rights, the Independent Transmission Provider shall conduct, to the extent necessary, a System Impact Study. A description of the Independent Transmission Provider's methodology for completing a System Impact Study is provided in Attachment B. The Independent Transmission Provider shall within thirty (30) days of receipt of a Completed Application, tender a System Impact Study Agreement pursuant to which the Customer shall agree to reimburse the Independent Transmission Provider for performing the required System Impact Study. For a service request to remain a Completed Application, the Customer shall execute the System Impact Study Agreement and return it to the Independent Transmission Provider within fifteen (15) days. If the Customer elects not to execute the System Impact Study Agreement, its Application shall be deemed withdrawn and its deposit shall be returned with interest.

5.4 System Impact Study Agreement and Cost Reimbursement:

- (i) The System Impact Study Agreement must clearly specify the Independent Transmission Provider's estimate of the actual cost and time for completion of the System Impact Study. The charge shall not exceed the actual cost of the study. In performing the System Impact Study, the Independent Transmission Provider shall rely, to the extent reasonably practicable, on existing transmission planning studies. The Customer will not be assessed a charge for such existing studies; however, the Customer will be responsible for charges associated with any modifications to existing planning studies that are reasonably necessary to evaluate the impact of the Customer's request for service on the Transmission System.
- (ii) If in response to multiple Customers requesting service in relation to the same competitive solicitation, a single System Impact Study is sufficient for the Independent Transmission Provider to accommodate the service requests, the costs of that study shall be prorated among the Customers.

5.5 System Impact Study Procedures: Upon receipt of an executed System Impact Study, the Independent Transmission Provider shall use due diligence to complete the required System Impact Study within sixty (60) days. The System Impact Study shall identify any system constraints and dispatch options, additional Direct Assignment Facilities or Network

Upgrades required to provide the requested service. In the event that the Independent Transmission Provider is unable to complete the required System Impact Study within such time period, it shall so notify the Customer and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the required studies. A copy of the completed System Impact Study and related work papers shall be made available to the Customer. The Independent Transmission Provider shall notify the Customer immediately upon completion of the System Impact Study if the Transmission System will be adequate to accommodate all or part of a request for service, all or part of a request for Congestion Revenue Rights reconfiguration, or if no costs are likely to be incurred for new transmission facilities or upgrades. In order for a request to remain a Completed Application, within fifteen (15) days of completion of the System Impact Study the Customer must execute a Service Agreement or request the filing of an unexecuted Service Agreement, or the Application shall be deemed terminated and withdrawn.

- 5.6 Facilities Study Procedures:** If a System Impact Study indicates that additions or upgrades to the Transmission System are needed to supply the Customer's service request, Congestion Revenue Rights Request, or Congestion Revenue Rights Reconfiguration request, the Independent Transmission Provider, within thirty (30) days of the completion of the System Impact Study, shall tender to the Customer a Facilities Study Agreement pursuant to which the Customer shall agree to reimburse the Independent Transmission Provider for performing the required Facilities Study. For a service request to remain a Completed Application, the Customer shall execute the Facilities Study Agreement and return it to the Independent Transmission Provider within fifteen (15) days. If the Customer elects not to execute the Facilities Study Agreement, its Application shall be deemed withdrawn and its deposit shall be returned with interest. Upon receipt of an executed Facilities Study Agreement, the Independent Transmission Provider will use due diligence to complete the required Facilities Study within sixty (60) days. If the Independent Transmission Provider is unable to complete the Facilities Study in the allotted time period, the Independent Transmission Provider shall notify the Customer and provide an estimate of the time needed to reach a final determination along with an explanation of the reasons that additional time is required to complete the study. When completed, the Facilities Study shall include a good faith estimate of (i) the cost of Direct Assignment Facilities to be charged to the Customer, (ii) the Customer's appropriate share of the cost of any required Network Upgrades, and (iii) the time

required to complete such construction and initiate the requested service. The Customer shall provide the Independent Transmission Provider with a letter of credit or other reasonable form of security acceptable to the Independent Transmission Provider equivalent to the costs of new facilities or upgrades consistent with commercial practices as established by the Uniform Commercial Code. The Customer shall have thirty (30) days to execute a Service Agreement or request the filing of an unexecuted Service Agreement and provide the required letter of credit or other form of security or the request no longer will be a Completed Application and shall be deemed terminated and withdrawn.

- 5.7 Facilities Study Modifications:** Any change in design arising from an inability to site or construct facilities as proposed will require development of a revised good faith estimate. New good faith estimates also will be required in the event of new statutory or regulatory requirements that are effective before the completion of construction or other circumstances beyond the control of the Independent Transmission Provider that significantly affect the final cost of new facilities or upgrades to be charged to the Customer pursuant to the provisions of Part II of the Tariff.
- 5.8 Due Diligence in Completing New Facilities:** The Independent Transmission Provider shall use due diligence to add necessary facilities or upgrade its Transmission System within a reasonable time. The Independent Transmission Provider will not upgrade its existing or planned Transmission System in order to provide the requested Transmission Service or Congestion Revenue Rights if doing so would impair system reliability or otherwise impair or degrade existing service or Congestion Revenue Rights.
- 5.9 Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System:** If the Independent Transmission Provider determines that it cannot accommodate a request for service or Congestion Revenue Rights because of insufficient transmission capability on its Transmission System, the Independent Transmission Provider must use due diligence to expand or modify its Transmission System to provide the requested transmission service, provided the Customer agrees to compensate the Independent Transmission Provider for such costs pursuant to the terms of Section B.5.12. The Independent Transmission Provider will conform to Good Utility Practice in determining the need for new facilities and in the design and construction of such facilities. The obligation applies only to those facilities that the

Independent Transmission Provider along with the Transmission Owner has the right to expand or modify.

- 5.10 Partial Interim Service:** If the Independent Transmission Provider determines that it will not have adequate transmission capability to satisfy the full amount of a Completed Application for service, the Independent Transmission Provider nonetheless shall be obligated to offer and provide the portion of the requested Network Access Service that can be accommodated without addition of any facilities and through redispatch. Partial service could be of an amount (MW) or duration. However, the Independent Transmission Provider shall not be obligated to provide the incremental amount of requested Transmission Service (or Congestion Revenue Rights) that requires the addition of facilities or upgrades to the Transmission System until such facilities or upgrades have been placed in service. To the extent the Customer disagrees with the Independent Transmission Provider's determination of insufficient Available Transfer Capability (or redispatch capability), the Customer may request and the Independent Transmission Provider shall provide its workpapers and analysis.
- 5.11 Expedited Procedures for New Facilities:** In lieu of the procedures set forth above, the Customer shall have the option to expedite the process by requesting the Independent Transmission Provider to tender at one time, together with the results of required studies, an "Expedited Service Agreement" pursuant to which the Customer would agree to compensate the Independent Transmission Provider for all costs incurred pursuant to the terms of the Tariff. In order to exercise this option, the Customer shall request in writing an expedited Service Agreement covering all of the above-specified items within thirty (30) days of receiving the results of the System Impact Study identifying needed facility additions or upgrades or costs incurred in providing the requested service. While the Independent Transmission Provider agrees to provide the Customer with its best estimate of the new facility costs and other charges that may be incurred, such estimate shall not be binding and the Customer must agree in writing to compensate the Independent Transmission Provider for all costs incurred pursuant to the provisions of the Tariff. The Customer shall execute and return such an Expedited Service Agreement within fifteen (15) days of its receipt or the Customer's request for service will cease to be a Completed Application and will be deemed terminated and withdrawn.

5.12 Compensation for New Facilities: Whenever a System Impact Study performed by the Independent Transmission Provider in connection with the provision of Network Access Service identifies the need for new facilities, the Customer shall be responsible for such costs to the extent consistent with Commission policy.

6. Procedures if The Independent Transmission Provider is Unable to Complete New Transmission Facilities for Transmission Service

6.1 Delays in Construction of New Facilities: If any event occurs that will materially affect the time for completion of new facilities, or the ability to complete them, the Independent Transmission Provider shall promptly notify the Customer. In such circumstances, the Independent Transmission Provider shall within thirty (30) days of notifying the Customer of such delays, convene a technical meeting with the Customer to evaluate the alternatives available to the Customer. The Independent Transmission Provider also shall make available to the Customer studies and work papers related to the delay, including all information that is in the possession of the Independent Transmission Provider that is reasonably needed by the Customer to evaluate any alternatives.

6.2 Alternatives to the Original Facility Additions: When the review process of Section B.5.5 determines that one or more alternatives exist to the originally planned construction project, the Independent Transmission Provider shall present such alternatives for consideration by the Customer. If, upon review of any alternatives, the Customer desires to maintain its Completed Application subject to construction of the alternative facilities, it may request the Independent Transmission Provider to submit a revised Service Agreement for Network Access Service and a request for associated Congestion Revenue Rights. If the alternative approach solely involves Network Access Service and the Customer is willing to pay any applicable Congestion Charges, the Independent Transmission Provider shall promptly tender a Service Agreement for Network Access Service providing for the service. In the event the Independent Transmission Provider concludes that no reasonable alternative exists and the Customer disagrees, the Customer may seek relief under the dispute resolution procedures pursuant to Section A.10 or it may refer the dispute to the Commission for resolution.

6.3 Refund Obligation for Unfinished Facility Additions: If the Independent Transmission Provider and the Customer mutually agree that no other reasonable alternatives exist and the requested service cannot be provided

out of existing capability under the conditions of Part II of the Tariff, the obligation to provide the requested Transmission Service shall terminate and any deposit made by the Customer shall be returned with interest pursuant to Commission regulations 35.19a(a)(2)(iii). However, the Customer shall be responsible for all prudently incurred costs by the Independent Transmission Provider through the time construction was suspended.

7. Provisions Relating to Transmission Construction and Services on the Systems of Other Utilities

Part VI of this Tariff details Transmission Planning and Expansion.

8. Network Access Service Customer Responsibilities

8.1 Conditions Required of Customers: Network Access Service shall be provided by the Independent Transmission Provider only if the following conditions are satisfied by the Customer:

- (i) The Customer has pending a Completed Application for service;
- (ii) The Customer has met the creditworthiness and eligibility criteria set forth in Sections A.8 and A.9;
- (iii) The Customer will have arrangements in place for any other transmission service necessary to effect the delivery from the generating source to the Independent Transmission Provider prior to the time service under Part II of the Tariff commences;
- (iv) The Customer has agreed to pay for any facilities constructed and chargeable to such Customer under Part II of the Tariff, whether or not the Customer takes service for the full term of its reservation; and
- (v) The Customer has executed a Network Access Service Agreement or has agreed to receive service pursuant to Section B.2.9.

8.2 Customer Responsibility for Third-Party Arrangements: Any scheduling arrangements that may be required by other electric systems shall be the responsibility of the Customer requesting service. The Customer shall provide, unless waived by the Independent Transmission

Provider, notification to the Independent Transmission Provider identifying such systems and authorizing them to schedule the capacity and Energy to be transmitted by the Independent Transmission Provider pursuant to Part II of the Tariff on behalf of the Receiving Party at the Point of Delivery or the Delivering Party at the Point of Receipt. However, the Independent Transmission Provider will undertake reasonable efforts to assist the Customer in making such arrangements, including without limitation, providing any information or data required by such other electric system pursuant to Good Utility Practice.

9. Load Shedding and Curtailments

- 9.1 Procedures:** Prior to the Service Commencement Date, the Independent Transmission Provider and the Customer shall establish Load Shedding and Curtailment procedures in accordance with this Tariff with the objective of responding to contingencies on the Transmission System. The Parties shall implement such programs during any period when the Independent Transmission Provider determines that a system contingency exists and such procedures are necessary to alleviate such contingency. [The Independent Transmission Provider shall notify all affected Customers and other market participants (e.g., suppliers) in a timely manner of any scheduled Curtailment.]
- 9.2 Transmission Constraints:** During any period when the Independent Transmission Provider determines that a transmission constraint exists on the Transmission System that cannot be handled through the LMP Congestion Management System, and such constraint may impair the reliability of the Independent Transmission Provider's system, the Independent Transmission Provider shall take whatever actions, consistent with Good Utility Practice, that are reasonably necessary to maintain the reliability of the Independent Transmission Provider's system. To the extent the Independent Transmission Provider determines that the reliability of the Transmission System can be maintained by redispatching resources, the Independent Transmission Provider shall initiate procedures to redispatch resources on the Independent Transmission Provider's Transmission System on a least-cost basis without regard to the ownership of such resources.
- 9.3 Curtailments of Scheduled Deliveries:** If a transmission constraint on the Independent Transmission Provider's Transmission System cannot be relieved through the implementation of least-cost redispatch procedures and

the Independent Transmission Provider determines that it is necessary to Curtail scheduled deliveries, the Independent Transmission Provider shall, on a non-discriminatory basis, Curtail the transaction(s) that effectively relieve the constraint. To the extent operationally feasible, the Independent Transmission Provider shall curtail transactions in the following order. Parties who do not have Congestion Revenue Rights in adequate amounts for their Receipt Point-Delivery Point combinations, shall be curtailed first. All other transactions that have a material impact on the transmission constraint will be curtailed on a pro rata basis. [The Independent Transmission Provider must develop procedures addressing non-discriminatory Curtailment of parallel flows involving more than one transmission system.]

- 9.4 Load Shedding:** To the extent that a system Contingency exists on the Independent Transmission Provider's Transmission System and the Independent Transmission Provider determines that it is necessary for the Independent Transmission Provider and the Customer to shed Load, the Customers shall be directed by the Independent Transmission Provider to shed Load on a non-discriminatory basis to alleviate the Emergency/reliability contingencies.
- (i) The Independent Transmission Provider will act first, whenever feasible, to direct Customers who have not met their assigned share of Resource Adequacy Requirements, pursuant to Section I of this Tariff, to shed load, before requiring other Customers to shed load, up to the amount of the lesser of: (1) the Resource deficiency; or (2) the Customers' Day-Ahead Energy market schedules. Failure to comply with the Independent Transmission Provider's direction to shed load shall subject Customers to the penalty provisions of Section I.6.3.
- 9.5 System Reliability:** Notwithstanding any other provisions of this Tariff, the Independent Transmission Provider reserves the right, consistent with Good Utility Practice and on a not unduly discriminatory basis, to Curtail Network Access Service without liability on the Independent Transmission Provider's part for the purpose of making necessary adjustments to, changes in, or repairs on its lines, substations and facilities, and in cases where the continuance of Network Access Service would endanger persons or property. In the event of any adverse condition(s) or disturbance(s) on the Independent Transmission Provider's Transmission System or on any other system(s) directly or indirectly interconnected with the Independent

Transmission Provider's Transmission System, the Independent Transmission Provider, consistent with Good Utility Practice, also may Curtail Network Access Service in order to (i) limit the extent or damage of the adverse condition(s) or disturbance(s), (ii) prevent damage to generating or transmission facilities, or (iii) expedite restoration of service. The Independent Transmission Provider will give the Customer as much advance notice as is practicable in the event of such Curtailment. [The Independent Transmission Provider shall specify the rate treatment and all related terms and conditions applicable in the event that the Customer fails to respond to established Load Shedding and Curtailment procedures. The Independent Transmission Provider can assess a penalty for failure to curtail after a reasonable period of time.]

10. Rates and Charges

For any Direct Assignment Facilities, Ancillary Services, and applicable study costs, consistent with Commission policy, along with the following:

- 10.1 Monthly Access Charge:** The Customer that is a Load-Serving Entity shall pay a monthly Access Charge, which shall be determined by multiplying its Load Ratio Share times one twelfth (1/12) of the Independent Transmission Provider's Annual Transmission Revenue Requirement specified in Part VIII. The Access Charge applies only to deliveries to load on the Independent Transmission Provider's System. The Access Charge does not apply to any deliveries to hubs, wheel throughs, or Exports to neighboring transmission systems.
- 10.2 Determination of Customer's Monthly Network Load:** The Customer's monthly Load is its hourly Load coincident with the Independent Transmission Provider's Monthly Transmission System Peak.
- 10.3 Transmission Usage Charges:** The Customer shall pay a Transmission Usage Charge for the quantity in MWh scheduled for Transmission Service. The Transmission Usage Charge will recover applicable Congestion Charges and losses, consistent with Sections F.3.3 and G.4.3, as applicable.

11. Operating Arrangements

- 11.1 Operation Under the Network Operating Agreement:** The Customer shall plan, construct, operate and maintain its facilities in accordance with Good Utility Practice and in conformance with the Network Operating Agreement.

11.2 Network Operating Agreement: The terms and conditions under which the Customer shall operate its facilities and the technical and operational matters associated with the implementation of Part II of the Tariff shall be specified in the Network Operating Agreement. The Network Operating Agreement shall provide for the Parties to (i) operate and maintain equipment necessary for integrating the Customer within the Independent Transmission Provider's Transmission System (including, but not limited to, remote terminal units, metering, communications equipment and relaying equipment), (ii) transfer data between the Independent Transmission Provider and the Customer (including, but not limited to, heat rates and operational characteristics of Resources, generation schedules for units outside the Independent Transmission Provider's Transmission System, interchange schedules, unit outputs for dispatch, voltage schedules, loss factors and other real time data), (iii) use software programs required for data links and constraint dispatching, (iv) exchange data on forecasted Loads and Resources necessary for long-term planning, and (v) address any other technical and operational considerations required for implementation of Part III of the Tariff, including scheduling protocols. The Network Operating Agreement will recognize that the Customer shall either (i) self-supply, contract for, or purchase from the Independent Transmission Provider all necessary Ancillary Services consistent with Good Utility Practice, which satisfies NERC and the [applicable regional reliability council] requirements. The Independent Transmission Provider shall not unreasonably refuse to accept contractual arrangements with another entity for Ancillary Services. The Network Operating Agreement is included under Part VII.

11.3 Network Operating Committee: A Network Operating Committee (Committee) shall be established to coordinate operating criteria for the Parties' respective responsibilities under the Network Operating Agreement. Each Customer shall be entitled to have at least one representative on the Committee. The Committee shall meet from time to time as need requires, but no less than once each calendar year.

12. Reservation Priority for Existing Firm Service Customers

12.1 Right of First Refusal: Prior to the effectiveness of a full auction mechanism for all Congestion Revenue Rights, Congestion Revenue Rights will be allocated to Customers with long-term firm contracts under which the Customer continues to pay the Access Charge. To ensure that these Customers are able to maintain that right until the time that Congestion

Revenue Rights are auctioned, existing firm service Customers (wholesale requirements and transmission-only, with a contract term of one-year or more), have the right to continue to take Network Access Service and agreeing to pay the Access Charge when the existing contract expires, rolls over or is renewed. If at the end of the contract term, the Independent Transmission Provider's Transmission System cannot accommodate all of the requests for Congestion Revenue Rights, the existing firm service Customer must agree to accept a contract term at least equal to a competing request by any new Customer and to pay the Access Charge, as approved by the Commission, for such service. This priority for existing firm service Customers is an ongoing right that may be exercised at the end of all firm contract terms of one-year or longer. This section will remain in effect until the Independent Transmission Provider places into effect an auction mechanism for allocating all Congestion Revenue Rights.

12.2 Notice of Rollover: Consistent with requests for new service described in Section B.2.1 of the Tariff, a Customer must submit its request to exercise rollover rights no later than sixty (60) days prior to the date the current service agreement expires.

C. Ancillary Services

Ancillary Services are needed with transmission service to maintain reliability within and among the Service Areas affected by the transmission service. The Independent Transmission Provider is required to provide, and the Customer is required to purchase, the following Ancillary Services (i) Scheduling, System Control and Dispatch Service, (ii) Reactive Supply and Voltage Control from Generation Sources Service; and (iii) Energy Imbalance Service.

The Independent Transmission Provider is required to offer to provide the following Ancillary Services only to the Customer serving Load within the Independent Transmission Provider's Service Area (i) Regulation and Frequency Response Service, (ii) Operating Reserve-Spinning Reserve Service, and (iii) Operating Reserve-Supplement Reserve Service. The Customer serving Load within the Independent Transmission Provider's Service Area is required to acquire these Ancillary Services, whether from the Independent Transmission Provider or a market operated by the Independent Transmission Provider, from a third party, or by self-supply. The Customer may not decline the Independent Transmission Provider's offer of Ancillary Services unless it demonstrates that it has acquired the Ancillary Services from another source. The Customer must list in its Application which Ancillary Services it will purchase from the Independent Transmission Provider.

The Independent Transmission Provider can fulfill its obligation to provide Ancillary Services by acting as the Customer's agent to secure these Ancillary Services from others or by operating a market for the services. The Customer may elect to (i) have the Independent Transmission Provider act as its agent and procure Regulation and Frequency Response Service and Operating Reserves through the markets in Part III or (ii) secure Regulation and Frequency Response Service and Operating Reserves from a third party or by self-supply when technically feasible.

1. Scheduling, System Control and Dispatch Service

This service is required to schedule the purchase, sale and movement of power through, out of, within, or into the Independent Transmission Provider's Service Area. This service can be provided only by the Independent Transmission Provider. The Customer must purchase this service from the Independent Transmission Provider. The charges for Scheduling, System Control and Dispatch Service are set forth below.

- 1.1 Billing Units and Calculation of Rates:** The Independent Transmission Provider shall charge each Customer based on the product of:
- (i) the Scheduling, System Control and Dispatch Service charge rates; and
 - (ii) the Customer's applicable billing units for the month, as follows:
[Independent Transmission Provider to propose rate methodology.]

2. Reactive Supply and Voltage Control from Generation Sources Service

In order to maintain transmission voltages on the Transmission System within acceptable limits, generation facilities under the control of the Independent Transmission Provider are operated to produce (or absorb) reactive power. Thus, Reactive Supply and Voltage Control from Generation Sources Service ("Voltage Support Service") must be provided for each Transaction on the Transmission System. The amount of Voltage Support Service that must be supplied with respect to the Customer's Transaction will be determined based on the reactive power support necessary to maintain transmission voltages within limits that are generally accepted in the region and consistently adhered to by the Independent Transmission Provider. Voltage Support Service is to be provided directly by the Independent Transmission Provider. The methodologies that the Independent Transmission Provider will use to obtain Voltage Support Service and the associated charges for such service are set forth below. [To be provided by the Independent Transmission Provider.]

3. Regulation Service

Regulation and Frequency Response Service is necessary to provide for the continuous balancing of Resources (generation and interchange) with Load in order to maintain scheduled Interconnection frequency. Regulation and Frequency Response Service is accomplished by committing on-line generation whose output is raised or lowered (predominantly through the use of automatic generating control equipment) as necessary to follow the moment-by-moment changes in Load. The obligation to maintain this balance between Resources and Load lies with the Independent Transmission Provider. Each Load-Serving Entity must either purchase this service through the Independent Transmission Provider or make alternative comparable arrangements to satisfy its Regulation and Frequency Response Service obligation.

The Independent Transmission Provider shall establish Day-Ahead and Real-Time Markets for Regulation to procure through the Day-Ahead and Real-Time Markets that portion of Regulation Requirement not met through Self-Supply. The full Regulation Requirement shall be cleared through the Day-Ahead Market. The Real-Time Market will provide an alternate supply for Regulation Service during the Operating Day where (i) Suppliers scheduled in the Day-Ahead Market are inadequate; (ii) a scheduled Supplier is unable to provide Regulation Service (e.g., the Generator tripped); (iii) the demand for Regulation Service increases beyond the scheduled supply; or (iv) other adjustments to the supply or demand of Regulation can be efficiently made. The Independent Transmission Provider shall select Suppliers in the Real-Time Market, during the Operating Day, to provide Regulation Service for each hour in which an insufficient supply of Regulation Service exists or when a supplier Bidding in the Real-Time market can provide Regulation service at a lower cost than a supplier that has been scheduled in the Day-Ahead Market.

The Market Rules for the Day-Ahead Market for Regulation are set forth in Section F.4. The Market Rules for the Real-Time Market for Regulation are set forth in Section G.4.

4. Energy Imbalance Service

Energy Imbalance Service is provided when a difference occurs between the scheduled and the actual delivery of Energy to a Load located within the Independent Transmission Provider's Service Area. This service will be provided through the Real-Time Energy Market operated by the Independent Transmission Provider. The procedures that will be used are described in Part III below.

5. Operating Reserves

The Independent Transmission Provider shall provide procedures to establish adequate Operating Reserves that comply with applicable Reliability Rules. Operating Reserves are classified as follows:

- (i) **Spinning Reserve:** Operating Reserves provided by Resources (Generation and Demand) located within the Independent Transmission Provider Service Area that are already synchronized to the Power System and can respond to instructions to change output level within ten (10) minutes;
- (ii) **Supplemental Reserve:** Operating Reserves provided by Resources (Generation and Demand) that can respond to instructions to change output or consumption level within ten (10) minutes or some other specified time period.

Operating Reserves can be ranked in terms of quality. Spinning Reserves are a higher quality reserve product than Supplemental Reserves. Supplemental Reserves that can respond to instructions on a shorter time frame (e.g., 10 minutes) than other Supplemental Reserves (e.g., 30-minutes) also have a higher quality ranking. The Independent Transmission Provider must substitute higher quality operating reserves for lower quality operating reserves when it is economical to do so.

The Independent Transmission Provider shall establish Day-Ahead and Real-Time Markets for Operating Reserves. The full requirement for Operating Reserves shall be cleared through the Day-Ahead Market. The Real-Time Markets will provide an alternate supply for Operating Reserves during the Operating Day where (i) Suppliers scheduled in the Day-Ahead Market are inadequate; (ii) a scheduled Supplier is unable to provide Operating Reserves (e.g., the Generator tripped); (iii) the demand for Operating Reserves increases beyond the scheduled supply; or (iv) other adjustments to the supply or demand of operating reserves can be efficiently made. The Independent Transmission Provider shall select Suppliers in the Real-Time Market, during the Operating Day, to provide Operating Reserves for each hour in which an insufficient supply of Operating Reserves exists or when a supplier Bidding in the Real-Time market can provide Operating Reserves at lower costs than a supplier than has been scheduled in the Day-Ahead Market.

The Market Rules for the Day-Ahead Markets for Operating Reserves are set forth in Sections F.5 and F.6. The Market Rules for the Real-Time Markets for Operating Reserves are set forth in Sections G.6 and G.7.

D. Congestion Revenue Rights

Preamble

A Congestion Revenue Right is a right held by a Customer which provides the Customer with a hedge against uncertain future Congestion Charges by paying the holder of the right a stream of specified congestion revenues. This section details the specific types of Congestion Revenue Rights, the specific properties of Congestion Revenue Rights, and how Congestion Revenue Rights are acquired.

1. Types of Congestion Revenue Rights

The Independent Transmission Provider shall make available, through the processes identified in Section D.3, Receipt Point-to-Delivery Point Congestion Revenue Right Obligation as described below. In addition, upon request of Market Participants, the Independent Transmission Provider shall make available Receipt Point-to-Delivery Point Congestion Revenue Right Options as well as Flowgate Congestion Revenue Rights, as soon as technically feasible.

1.1 Receipt Point-to-Delivery Point Congestion Revenue Rights: A Receipt Point-to-Delivery Point right is specified by a Receipt Point and a Delivery Point, the total MW that are to be injected at the Receipt Point and withdrawn at the Delivery Point, whether the right is an Obligation or an Option, and the period of time for which the right is in effect.

1.1.1 Obligation Rights: Receipt Point-to-Delivery Point Congestion Revenue Right Obligations confer to the holder (i) the right to collect revenues equal to the applicable Marginal Congestion Component of the hourly Transmission Usage Charge from the Receipt Point to the Delivery Point when the Marginal Congestion Component is positive, and (ii) the obligation to pay an amount to the Independent Transmission Provider equal to the absolute value of the applicable Marginal Congestion Component of the hourly Transmission Usage Charge from the Receipt Point to the Delivery Point when the Marginal Congestion Component is negative.

1.1.2 Option Rights: Receipt Point-to-Delivery Point Transmission Option Rights confer to the holder the right to collect revenues equal to the applicable Congestion Charge component of the hourly Transmission Usage Charge from the Receipt Point to the Delivery Point when the Marginal Congestion Component is positive, but do not obligate the holder to pay the absolute value of the applicable

Marginal Congestion Component of the hourly Transmission Usage Charge when the Marginal Congestion Component is negative.

1.1.3 Types of Receipt Points and Delivery Points: The Receipt Points and Delivery Points specified in the Receipt Point-to-Delivery Point Congestion Revenue Right can be a Generator bus, a load bus, an Interface between the Independent Transmission Provider's Service Area and an adjacent Service Area, or a pre-defined set of buses (which can be either Zones or Hubs).

1.2 Flowgate Congestion Revenue Rights

1.2.1 Definition of Flowgates and Flowgate Rights: A Flowgate is a transmission facility (such as a transmission line or a transformer or some other component of the electrical network) or group of facilities (e.g., an Interface) that constrains the power transfer capability of the network. A Flowgate Right is specified by a portion of the total MW capability over a particular transmission Flowgate in a specified direction. Flowgate Rights entitle the holder to collect Congestion revenues (as determined consistent with Section F.3.5.2) associated with the specified MW flow over the identified Flowgate in the specified direction in the Day-Ahead Market.

2. Term of Congestion Revenue Rights

During the first two years of operation of the Independent Transmission Provider's Bid-based markets, the Independent Transmission Provider shall offer Congestion Revenue Rights for sale through the auction procedures in Section D.7 with terms of 1 year, 6 months, and 1 month. Beginning in the third year of operation of the Independent Transmission Provider's Bid-based markets, the Independent Transmission Provider shall offer Congestion Revenue Rights with terms of 10 years, 5 years, 1 year, 6 months, and 1 month. Upon request of Market Participants, the Independent Transmission Provider may also offer Congestion Revenue Rights for other terms. These term limitations will not apply to Congestion Revenue Rights acquired through the initial allocation procedures for implementation of Standard Market Design.

3. Scheduling Priority for Holders of Congestion Revenue Rights in the Event of Curtailment

In any hour in which the Independent Transmission Provider is unable to accept all requested schedules for Transmission Service at the applicable Day-Ahead Transmission Usage Charges, holders of Receipt Point-to-Delivery Point Congestion Revenue Rights shall have scheduling priority from their designated Receipt Points to their designated Delivery Points over Customers that do not hold Congestion Revenue Rights. [The Independent Transmission Provider shall develop a method for determining how to implement such priority, which shall be inserted here.]

4. Existing Transmission Contracts

Transmission Service pursuant to each Existing Transmission Contract shall be provided by the Independent Transmission Provider for the account of the Existing Transmission Contract Transmission Owner, acting as agent for the Existing Transmission Contract Customer. The Independent Transmission Provider shall assess to the Existing Transmission Contract Transmission Owner all charges and payments associated with providing Transmission Service pursuant to this Tariff. Consistent with the provisions of this Tariff, the Transmission Owner may acquire Congestion Revenue Rights to hedge against the Congestion costs associated with Transmission Service provided pursuant to its Existing Transmission Contracts.

4.1 Conversion of Existing Transmission Contracts: Upon the mutual agreement of the parties to any Existing Transmission Contract, the Existing Transmission Contract Customer may terminate its Existing Transmission Contract in exchange for receiving Congestion Revenue Rights previously held by the Transmission Owner to support the Existing Transmission Contract described in Section D.3 with the same MW level of service and with the same Receipt Points and Delivery Points and termination date as specified in the Existing Transmission Contract.

5. Allocation of Congestion Revenue Rights.

5.1 Allocation of Congestion Revenue Rights: The aggregate set of Congestion Revenue Rights allocated to Customers shall not exceed an amount that is Simultaneously Feasible, as determined pursuant to Section D.5.8, in light of the total transmission capability in the Independent Transmission Provider's Service Area under normal operating conditions. In determining whether a set of Congestion Revenue Rights is Simultaneously Feasible, the Total Transfer Capability of the transmission system shall not be reduced by the transfer capability needed to support existing Customers.

5.2 Requirement to Conduct Periodic Auctions for Congestion Revenue Rights. The Independent Transmission Provider shall conduct periodic auctions over its OASIS, consistent with Section D.5, that will provide Bid-based markets to buy and sell Congestion Revenue Rights for a variety of terms. Each auction shall provide for the opportunity to buy and sell Receipt Point-to-Delivery Point Congestion Revenue Right Obligations, as described in Section D.1. Upon the request of Market Participants, auctions shall provide for the opportunity to buy and sell Receipt Point-to-Delivery Point Transmission Option Rights and Flowgate Rights, as soon as it is technically feasible to do so.

The periodic Congestion Revenue Rights auctions will also provide for the sale of Congestion Revenue Rights associated with transmission capability that becomes available after the initial allocation of Congestion Revenue Rights, for example, due to the expiration of initially allocated Congestion Revenue Rights.

[The Independent Transmission Provider shall file procedures which may have either an allocation of Congestion Revenue Rights or an allocation of auction revenues from the sale of Congestion Revenue Rights.]

6. Resale of Congestion Revenue Rights

All holders of Congestion Revenue Rights may resell their Congestion Revenue Rights outside the auction held pursuant to Section D.3.2. However, the Independent Transmission Provider shall make all Settlements with Primary Holders. Buyers of resold Congestion Revenue Rights that elect to become Primary Holders must meet the eligibility criteria in Section A.9 of this Tariff.

Sellers and potential buyers shall communicate all offers to sell and buy Congestion Revenue Rights, solely over the Independent Transmission Provider's OASIS.

7. Auctions for Congestion Revenue Rights

The Independent Transmission Provider shall conduct periodic auctions to allow Market Participants to buy and sell Congestion Revenue Rights.

7.1 General Description of the Auction Process: In each auction, Market Participants will have the opportunity to submit Bids to buy and sell Congestion Revenue Rights for a specified term. In each auction, the

Independent Transmission Provider shall consider all Bids and shall select a combination of Bids that (i) is Simultaneously Feasible in light of the Transmission Capability that is expected to be available over the term of the transactions and (ii) maximizes the combined net economic value (as expressed in the Bids) of the selected Bids. In order to maximize the net economic value of the selected Bids, the auction shall allow for the reconfiguration of Congestion Revenue Rights. That is, the Congestion Revenue Rights that are offered for sale may be converted into Congestion Revenue Rights of a different type or with different Receipt and Delivery Points.

7.2 Frequency of Congestion Revenue Rights Auction: The Independent Transmission Provider shall conduct an Auction for Congestion Revenue Rights no less frequently that once in every calendar month.

7.3 Responsibilities of the Independent Transmission Provider Prior to Each Auction

7.3.1 Establish Auction Rules: The Independent Transmission Provider shall use the auction rules and procedures consistent with this Tariff. [Independent Transmission Provider may file to add additional auction rules.]

7.3.2 Evaluate Creditworthiness: The Independent Transmission Provider shall evaluate each Bidder's ability to pay for Congestion Revenue Rights, consistent with the creditworthiness provisions of Section A.8. As a result of this evaluation, the Independent Transmission Provider shall state a limit before the auction on the value of the Congestion Revenue Rights that the entity may be awarded in the auction, and collect signed statements from each entity Bidding into the auction committing that entity to pay for any Congestion Revenue Rights that it is awarded in the auction. Bidders will not be permitted to submit Bids that exceed this allowable limit.

7.3.3 Information to be Made Available to Bidders: To aid Market Participants in their participation in the auction, the Independent Transmission Provider shall make the following information available before each auction:

- (i) for each Generator bus, Load bus, external bus and Load Zone for each of the previous 5 years, if available, (a) the average Marginal Congestion Component of the LMP, relative to the Reference Bus, and (b) the average Marginal Losses Component of the LMP, relative to the Reference Bus;
- (ii) for each of the previous two 6-month periods, (a) historical flow histograms for each of the closed Interfaces, and (b) historically, the number of hours that the most limiting facilities were physically constrained;
- (iii) (a) Power Flow data to be used as the starting point for the auction, including all assumptions, (b) assumptions made by the Independent Transmission Provider relating to transmission maintenance outage schedules, (c) all limits associated with transmission facilities, contingencies, thermal, voltage and stability to be monitored as Constraints in the Optimum Power Flow determination, and (d) the Independent Transmission Provider summer and winter operating study results (non-simultaneous Interface Transfer Capabilities).

7.3.4 Other Responsibilities: The Independent Transmission Provider will establish an auditable information system to facilitate analysis and acceptance or rejection of Bids, to provide a record of all Bids, and to provide all necessary assistance in the resolution of disputes that arise from questions regarding the acceptance, rejection, award and recording of Bids. The Independent Transmission Provider will establish a system to communicate auction-related information to all auction participants.

The Independent Transmission Provider will receive Bids to buy Congestion Revenue Rights from any entity that meets the eligibility criteria established in this Tariff and will implement the auction Bidding rules previously established by the Independent Transmission Provider.

The Independent Transmission Provider will properly utilize an Optimal Power Flow program to determine the set of winning Bids for each auction and calculate the Market Clearing Price of all Congestion Revenue Rights at the conclusion of the auction, in the manner described in this Tariff.

7.4 Responsibilities of each Buying Bidder

7.4.1 Creditworthiness Information: Each Bidder must submit such information to the Independent Transmission Provider regarding the Bidder's creditworthiness as the Independent Transmission Provider may require consistent with Section A.8, along with a statement signed by the Bidder, representing that the Bidder is financially able and willing to pay for the Congestion Revenue Rights for which it is Bidding. The aggregate value of the Bids submitted by any Bidder into the auction shall not exceed that Bidder's ability to pay or the maximum value of Bids that Bidder is permitted to place, as determined by the Independent Transmission Provider (based on an analysis of that Bidder's creditworthiness).

Each Bidder must pay the Market Clearing Price for each Congestion Revenue Right it is awarded in the auction.

7.5 Responsibilities of each Selling Bidder

7.5.1 Bids to Sell Congestion Revenue Rights: Each Market Participant desiring to sell Congestion Revenue Rights Shall include the following information in its Bid:

- (i) The type of Congestion Revenue Right (i.e., Receipt Point-to-Delivery Point Congestion Revenue Right Obligation, Receipt Point-to-Delivery Point Transmission Option Right, or Flowgate Congestion Revenue Right).
- (ii) The Receipt and Delivery Points, if a Receipt Point-to-Delivery Point Right is offered.
- (iii) The location and direction of the Flowgate, if a Flowgate Right is offered.
- (iv) The MWs
- (v) The minimum acceptable price, if any.
- (vi) The term.

Each seller that offers Congestion Revenue Rights for sale that it has been awarded must provide verification of the award to the Independent Transmission Provider when the Bid is submitted.

- 7.6 Selection of Winning Bids and Determination of the Market Clearing Price:** The Independent Transmission Provider shall determine the winning set of Bids in each auction as the set of Bids that maximizes the value (as expressed in the Bids) of the Congestion Revenue Rights, subject to the constraint that the selected set of Bids must be simultaneously feasible consistent with Section D.5.8.

The Market Clearing Price for each Congestion Revenue Right shall equal the change in the net economic value of all other Bidders that would result from awarding an additional 1 MW of that Congestion Revenue Right to a Market Participant.

- 7.7 Auction Settlement:** The Independent Transmission Provider will determine prices in the auction for feasible Congestion Revenue Rights, consistent with Section 6.6. Each Bidder awarded Congestion Revenue Rights in the auction shall pay the applicable Market Clearing Price for those Congestion Revenue Rights that is awarded in the auction. Similarly, each Congestion Revenue Right holder selling Congestion Revenue Rights through the Auction shall be paid the applicable Market Clearing Price for those Congestion Revenue Rights that are sold in the auction.

- 7.8 Simultaneous Feasibility:** The set of winning Bids selected in each auction shall be simultaneously feasible based on the Transfer Capability available for purchase within the Independent Transmission Provider's Service Area under normal operating conditions. A set of Bids shall be deemed simultaneously feasible if both of the following Conditions, A and B, are met:

Condition A: Each set of injections and withdrawals associated with (i) winning, as well as outstanding previously-awarded, Receipt Point-to-Delivery Point Congestion Revenue Right Obligations along with (ii) any combination of winning, as well as previously awarded, Receipt Point-to-Delivery Point Congestion Revenue Right Option Rights, would not exceed any thermal, voltage, or stability limits within the Independent Transmission Provider's Service Area under normal operating conditions or for monitored contingencies.

Condition B: For each Flowgate in each direction, the power flow on the Flowgate in the specified direction resulting from the set of injections and withdrawals identified in Condition A, when added to the total Flowgate Rights awarded on the Flowgate in the specified direction, would not exceed the capability of the Flowgate available in the Auction.

The Power Flow simulations shall take into consideration the effects of parallel flows on the Transfer Capability of the Independent Transmission Provider's transmission system when determining which sets of injections and withdrawals are simultaneously feasible.

When performing the above Power Flows, injections for Receipt Point-to Delivery Point Congestion Revenue Rights that specify a Zone or a Hub as the injection location will be modeled as a set of injections at each bus in the injection Zone or Hub equal to the product of the number of Receipt Point-to-Delivery Point Congestion Revenue Rights and the percentage weights for each bus in the Zone or Hub.

When performing the above Power Flows, withdrawals for Receipt Point-to Delivery Point Congestion Revenue Rights that specify a Zone or Hub as the withdrawal location will be modeled as a set of withdrawals at each bus in the withdrawal Hub equal to the product of the number of Receipt Point-to Delivery Point Congestion Revenue Rights and the percentage weights for each bus in the Zone.

- 7.9 Responsibilities of the Independent Transmission Provider upon Completion of the Auction:** The Independent Transmission Provider shall not reveal the Bid Prices submitted by any Bidder in the Auction until three months following the date of the auction, except as permitted by Section A.12. When these Bid Prices are posted, the names of the Bidders shall not be publicly revealed, but the data shall be posted in a way that permits third parties to track each individual Bidder's Bids over time.

Upon completion of the auction, the Independent Transmission Provider will collect payment for all Congestion Revenue Rights awarded in the auction. The Independent Transmission Provider will disburse the revenues collected from the sale of Congestion Revenue Rights to the Primary Holders upon completion of the Auction process. Each holder of a Congestion Revenue Right that offers that Congestion Revenue Right for

sale in the auction shall be paid the Market Clearing Price for each Congestion Revenue Right sold by that holder. All remaining Auction revenues from the auction shall be allocated among those who pay the Access Charge. [The Independent Transmission Provider will file procedures explaining how these revenues will be allocated.

8. Exchanging Congestion Revenue Rights

The Independent Transmission Provider shall allow a Customer to exchange its Receipt Point-to-Delivery Point Congestion Revenue Right Obligation for a different Receipt Point-to-Delivery Point Congestion Revenue Right Obligation with different Receipt and/or Delivery Points as long as the exchange meets the condition specified in Section D.6.1 is met. In addition, as soon as it is technically feasible, the Independent Transmission Provider shall allow a Customer to acquire Receipt Point-to-Delivery Point Transmission Option Rights and Flowgate Rights in exchange for other Congestion Revenue Rights that the Customer may hold, as long as the exchange meets the condition specified in Section D.6.1. The MW levels of the original Congestion Revenue Rights and the new Congestion Revenue Rights in the exchange need not be the same, as long as the exchange meets the condition specified in Section D.6.1.

8.1 Condition for Exchanging Congestion Revenue Rights: In order for the Independent Transmission Provider to approve a request to exchange Congestion Revenue Rights, pursuant to Section D.6, the new Congestion Revenue Right (after being exchanged for the original Congestion Revenue Right), in combination with all other outstanding Congestion Revenue Rights held by others, must be Simultaneously Feasible as defined in Section D.5.8 in light of the total Transmission Capability in the Independent Transmission Provider's Service Area under normal operating conditions.

9. Congestion Revenue Rights Associated with Transmission Expansions

The Independent Transmission Provider shall award to all Market Participants that fund additions to the transmission system Congestion Revenue Rights to equal the capability created by the expansion. The Congestion Revenue Rights awarded in combination with all other awarded Congestion Revenue Rights, must be Simultaneously Feasible as described in Section D.5.8 in light of the Total Transfer Capability available under normal operating conditions. Such Market Participants shall be allowed to choose any set of Receipt Point-to-Delivery Point Obligation Rights that meet the requirements for Simultaneously Feasibility. Such Market Participants shall also be allowed to choose any set of Receipt Point-to-Delivery Point Option Rights and Flowgate Rights that meet

the requirements for Simultaneous Feasibility, as soon as it is it is feasible to issue such rights. Such Market Participants may elect to receive no Congestion Revenue Rights if, but only if, all outstanding Congestion Revenue Rights are Simultaneously Feasible in light of the Total Transfer Capability available after the additions under normal operating conditions. [The Independent Transmission Provider file a Commission-approved, non-discriminatory methodology for allocating Congestion Revenue Rights among multiple Market Participants that fund any single transmission capability addition.]

Part III. Day-Ahead and Real-Time Market Services

E. General Responsibilities and Requirements

Preamble

The Independent Transmission Provider will operate Day-Ahead and Real-Time Markets for Energy and certain Ancillary Services in conjunction with Day-Ahead and Real-Time markets for transmission services. These markets will allocate transmission Transfer Capability and Generation Capacity among competing uses in different markets through Locational Marginal Pricing (LMP). The markets will be operated jointly to ensure that the prices for the products and services are internally consistent. The procedures for operating these markets are detailed below.

1. Day-Ahead and Real-Time Market Services

This Part III contains the procedures for Bidding and Scheduling of Energy and Bid-Based Ancillary Services, Bilateral Transaction Schedules and Self-Schedules in the Day-Ahead Market. Part III also contains the time requirements, notice provisions and sequence followed in administering Day-Ahead financial Settlement. These scheduling requirements support the operations of the Day-Ahead Markets for Energy, Regulation and Frequency Response, and Operating Reserves, the determination of the Day-Ahead Transmission Usage Charge, and the Day-Ahead financial Settlement of Congestion Revenue Rights.

Part III also contains the procedures for Scheduling and Bidding of Energy and Bid-Based Ancillary Services, and modification of, or submission of new, Bilateral Schedules and Self-Schedules, that will be used following the close of the Day-Ahead Market. These procedures include the time requirements, notice provisions and sequence followed in administering Real-Time Financial Settlement. These Bidding and scheduling requirements support the operations of the Real-Time Markets for Energy, Regulation and Frequency Response, Operating Reserves, and the determination of the Real-Time Transmission Usage Charge.

2. Independent Transmission Provider Authority

The Independent Transmission Provider shall provide all Market Services for Energy, Ancillary Services, and Transmission Service in accordance with the terms of the Tariff and related agreements.

The Independent Transmission Provider shall be the sole point of Application for all Market Services for Energy, Ancillary Services, and Transmission Service provided in the Independent Transmission Provider's Service Area. Each Market Participant that sells or purchases Energy, including demand side Resources, provides Ancillary Services, or Schedules Transmission Services subject to Transmission Usage Charges in the Independent Transmission Provider Administered Markets, utilizes Market Services and must take service as a Customer under the Tariff.

The Independent Transmission Provider has the right to schedule and dispatch Scheduled Resources and to direct that schedules be changed in an Emergency.

Following the start of the markets, the Independent Transmission Provider shall have the right to file changes to these market rules with the Commission to improve the competitiveness and efficiency of the markets.

3. Informational and Reporting Requirements

The Independent Transmission Provider shall operate and maintain an OASIS that, among other things, will facilitate the posting of Bids to supply Energy, Ancillary Services and Demand Reductions by Suppliers for use by the Independent Transmission Provider and the posting of LMP, clearing prices for Bid-based Ancillary Services, and schedules for accepted Bids for Energy, Ancillary Services and Demand Reductions. The OASIS will be used to post schedules for Bilateral Transactions. The OASIS also will provide historical data regarding market clearing prices for each market in addition to Transmission Usage Charges.

4. Communication Requirements for Market Services

Customers may utilize a variety of communications facilities to access the Independent Transmission Provider's OASIS, including but not limited to, conventional Internet service providers, wide area networks, and dedicated communications circuits. Customers shall arrange for and maintain all communications facilities for the purpose of communication of commercial data to the Independent Transmission Provider. Each Customer shall be the Customer of record for the telecommunications facilities and services it uses and shall assume all duties and responsibilities associated with the procurement, installation and maintenance of the subject equipment and software.

F. Day-Ahead Scheduling and Markets

Preamble

The Independent Transmission Provider will operate a Day-Ahead Market in order to develop a joint Day-Ahead Schedule for Transmission Service, Energy, and Ancillary Services. The Day-Ahead Schedule will be developed so as to maximize the combined economic value of Transmission Service, Energy, and Ancillary Services, based on the Bids submitted.

1. Day-Ahead Scheduling Procedures

1.1 Day-Ahead Trading Deadline: Market Participants may submit Bids for purchase and sale of Energy, Ancillary Services and Transmission, Bilateral Transaction Schedules, Self-Schedules, and Ancillary Services Self-Supply Schedules no later than [to be supplied by Independent Transmission Provider] for use in establishing the Day-Ahead Schedule.

1.2 Rules for Self Schedules

1.2.1 Supplier-Committed Self Schedules

- (i) Suppliers of Generation Resources for Energy may Self-Schedule these Resources in the Day-Ahead Markets.
- (ii) Self-Schedules by Suppliers of Energy are required only to submit a MW quantity and a location.

1.2.2 Independent Transmission Provider-Committed Self Schedules

- (i) Upon request of a Supplier, the Independent Transmission Provider shall develop a schedule for Generation or Demand Resources in which the Schedule optimizes the revenues over the Operating Day for the Resource. These are referred to in this Tariff as Independent Transmission Provider- Committed Self Schedules. This option will typically be used by Energy-Limited Resources, however this option is available to all Generation or Demand Resources.

- (ii) Independent Transmission Provider-Committed Self-Schedules are required only to submit a MW quantity and a location.

1.2.3 Self Supply of Ancillary Services

- (i) Suppliers of Resources for Regulation and Operating Reserves may Self-Supply these Resources in the Day-Ahead Markets.
- (ii) The specific rules for Self-Supply of Regulation and Operating Reserves are in Sections F.4-F.6.

1.3 Rules for Bilateral Transactions Schedules

1.3.1 Internal Transactions

- (i) All Internal Transactions must specify a Receipt Point, a Delivery Point, a MW quantity injected at the Receipt Point and a MW quantity withdrawn at the Delivery Point..
- (ii) Internal Transactions may also, voluntarily, submit a price Bid (\$/MW) over some or all of the MW range. This makes the transaction under the control of the Independent Transmission Provider.

1.3.2 External Transactions

- (i) All External Transactions must specify a Receipt Point, a Delivery Point, a MW quantity injected at the Receipt Point and a MW quantity withdrawn at the Delivery Point. Either the Receipt Point or the Delivery Point must be a point at the boundary of the Independent Transmission Provider's Service Area. If the Receipt Point is a boundary point, then the External Transaction is an Import. If the Delivery Point is a boundary point, then the External Transaction is an Export. All External Transactions must specify a minimum run time.
- (ii) The Independent Transmission Provider shall offer Market Participants with External Transactions two options for Day-Ahead scheduling. (1) External Transactions can be

scheduled without a Price Bid. The Independent Transmission Provider shall take all appropriate steps to accommodate such transactions, such as reservation of ramping capacity. (2) External Transactions can be scheduled in the Day-Ahead Market with a Price Bid (\$/MW) over some or all of the MW quantity being scheduled. Transactions with a Bid will only enter the Day-Ahead Schedule if the price is at or below the LMP at the transaction sink node.

(iii) External Transactions will be scheduled on a hourly basis.

1.4 Rules for Bidding: The Independent Transmission Provider shall evaluate all eligible Bids for Energy Supply and Demand, Regulation and Frequency Response, Operating Reserves and Day-Ahead Transmission Service. The requirements for Bid eligibility and the Bid Specifications are in Sections F.2.3, F.3.1, F.4.4, F.5.4 and F.6.4.

1.5 Bid-Based Security Constrained Unit Commitment and Determination of the Day-Ahead Schedule: The Independent Transmission Provider will develop a Security Constrained Unit Commitment schedule over the Operating Day using a computer algorithm that accepts all Self-Schedules and simultaneously maximizes the total value of the Bids, including Virtual Bids, submitted to (i) supply to (incorporating the costs of Start-up, No-load and Incremental Energy) and purchase from the Day-Ahead Market for Energy; (ii) provide sufficient Ancillary Services to support Energy purchased from the Day-Ahead Market; and (iii) receive Transmission Service to support Bilateral Transaction schedules and Self-Schedules submitted Day-Ahead. The Independent Transmission Provider may substitute higher quality Ancillary Services (i.e., shorter response time) for lower quality Ancillary Services when doing so would result in an overall least Bid cost solution.

In developing the Day-Ahead Schedule, the Independent Transmission Provider shall select Suppliers for Energy, Regulation and Frequency Response, and Operating Reserves for each hour of the upcoming day through its Day-Ahead Security-Constrained Unit Commitment, using Bids and/or schedules provided by the Suppliers. The Day-Ahead schedule will include commitment of sufficient Generators and price-sensitive Demand Bids to provide for the safe and reliable operation of the power system operated by the Independent Transmission Provider. The schedule shall honor all operating constraints included in the scheduled

Bids. The Day-Ahead schedule shall list the twenty-four (24) hourly injections and withdrawals for: (a) each Customer whose Bid the Independent Transmission Provider accepts for the following Operating Day; and (b) Self-Schedules of Energy, Ancillary Services, and Transmission Service.

- 1.6 Determination of the Day-Ahead Prices:** The Independent Transmission Provider shall calculate the Day-Ahead Energy LMPs and Flowgate LMPs based on a dispatch of committed Generation Resources to meet the Load that has Bid in and been scheduled Day-Ahead. The Day-Ahead Energy LMPs are calculated, according to the Independent Transmission Provider decision, for each Generator bus, load bus, and sets of buses that comprise Zones or Hubs. The Transmission Usage Charge for Bilateral Transactions that are scheduled Day-Ahead is the difference between the Energy LMP for the Delivery Point and the Energy LMP at the Receipt Point. The methodology for calculating the different types of LMPs is described in Sections F.2.4 and 3.3.

The Day-Ahead prices for Ancillary Services will be determined according to procedures described in Sections F.4.5, 5.5, 6.5 and 6.6.

- 1.7 Load Forecasts:** All Load-Serving Entities shall provide their Day-Ahead Load forecasts to the Independent Transmission Provider. The Independent Transmission Provider shall develop an advisory forecast based on these forecasts and its own analysis of next day Load and shall post this forecast.
- 1.8 Reliability-Based Security Constrained Unit Commitment:** In cases in which the sum of all Bilateral Schedules and all Day-Ahead Market purchases to serve Load within the Independent Transmission Provider's Service Area in the Day-Ahead schedule is less than the Independent Transmission Provider's Day-Ahead forecast of Load, the Independent Transmission Provider will commit Resources in addition to the reserves it normally maintains to enable it to respond to contingencies. These additionally-committed Resources are called Replacement Reserves. This commitment of Replacement Reserves will be the result of a Bid-Based Reliability-Based Security Constrained Unit Commitment conducted following the Day-Ahead Security Constrained Unit Commitment. The purpose of this additional commitment of Resources is to ensure that sufficient capacity is available to the Independent Transmission Provider in Real-Time to enable it to meet its Load forecast (including associated Ancillary Services).

In considering which additional Resources to schedule to meet the Independent Transmission Provider's Load forecast, the Independent Transmission Provider will evaluate whether unscheduled Imports can provide additional power at a price within any Bid Price caps set by the Independent Transmission Provider.

The Independent Transmission Provider will develop the Reliability-Based Security Constrained Unit Commitment schedule over the Operating Day using a computer algorithm that minimizes the total cost of committing the additional Generation and Demand Resources that provide Replacement Reserves based solely on the Start-up and No-load Bids of the additionally committed Resources. The Independent Transmission Provider shall use Bids submitted into the Day-Ahead Market. If such Bids are not sufficient to meet the forecast load, the Independent Transmission Provider may solicit additional Bids; these additional Bids will be considered eligible for the Real-Time Market in addition to the Reliability-Based Security Constrained Unit Commitment. Resources committed in the Reliability-Based Security Constrained Unit Commitment are obligated to Start-up and operate at their No-load level.

- 1.9 Reliability Forecast:** In the Security Constrained Unit Commitment program, system operation shall be optimized based on Bids over the Operating Day. However, to preserve system reliability, the Independent Transmission Provider may take steps to ensure that there will be sufficient Resources available to meet forecasted Load and reserve requirements over the day beginning with the next Operating Day, typically completing a one week look ahead.
- 1.10 Posting the Day-Ahead Schedule:** By [a pre-defined deadline to be supplied by Independent Transmission Provider] on the day prior to the Operating Day, the Independent Transmission Provider shall close the Day-Ahead scheduling process and post on its OASIS the Day-Ahead schedule for Energy, Regulation and Frequency Response, and Operating Reserves for each entity that submits a Bid or Self-Schedule. All schedules shall be considered proprietary, with the posting only visible to the appropriate scheduling Customer and Transmission Owners subject to the applicable Code of Conduct. The Independent Transmission Provider will post on the OASIS the aggregate Resources (Day-Ahead Energy, Regulation and Frequency Response and Operating Reserves schedules) and Load (Day-Ahead scheduled and forecast) for each Load bus or Zone, and the Day-

Ahead LMP prices (including the Marginal Congestion cost Component and the Marginal Losses component) for each Generation Bus, Load Bus or Load Zone and Hub in each hour of the upcoming Operating Day.

The Independent Transmission Provider shall conduct the Day-Ahead Settlement based upon the Day-Ahead Prices determined in accordance with this Section.

1.11 Day Ahead Bid Revenue Sufficiency Guarantee: The Independent Transmission Provider shall ensure the minimum recovery of each Resource's Bid prices for Resources scheduled through the Day-Ahead Market or in subsequent commitments for reliability. This is called the Bid Revenue Sufficiency Guarantee.

- (i) The Independent Transmission Provider shall determine, on a daily basis, if any Resource committed by the Independent Transmission Provider in the Day-Ahead Market will not recover Start-Up, No Load, and Energy Bid Price through revenues in the Day-Ahead Energy and Ancillary Services markets.
- (ii) If the Start-Up and No Load Bids plus the net Energy and Ancillary Services Bid Price over the twenty-four (24) hour day of any Supply Resource exceeds the sum of its Day-Ahead LMP revenue and Ancillary Service revenue over the twenty-four (24) hour day, then that Supplier's Day-Ahead LMP revenue and Ancillary Service revenue shall be augmented by an additional payment, the Supply Bid Revenue Sufficiency Guarantee Payment, in the amount of the shortfall. This payment shall be supported through revenue collected from the Supply Bid Revenue Sufficiency Guarantee Charge.
- (iii) If the total Day-Ahead Energy charges to any Demand Resource over the twenty-four (24) hour day exceeds its maximum willingness to pay, as reflected by the difference of its selected Day-Ahead Energy Bids and Start-up Cost Bid, the Demand Resource shall be augmented by a payment, the Demand Bid Revenue Sufficiency Guarantee Payment, in the amount of the overcharge. This payment is supported through revenues collected from the Demand Bid Revenue Sufficiency Guarantee Charge.

2. Day-Ahead Market for Energy

- 2.1 General:** The Day-Ahead Market for Energy establishes clearing prices and settlement rules for Suppliers of Energy that have offered eligible Generation Capacity to the market and for Purchasers of Energy that have chosen not to Self-Supply or procure through bilateral contracts.
- 2.2 Independent Transmission Provider Obligations:** The Independent Transmission Provider has the obligation to provide services (i) to (v) for the Day-Ahead Market for Energy. The rules governing these services are contained in this section:
- (i) Establish and post on its OASIS rules that are consistent with this Tariff for eligibility to supply Energy in the Day-Ahead Market.
 - (ii) Establish and post on its OASIS the Bid data requirements and rules and provide the market functions that are consistent with this Tariff required for determination of hourly Day-Ahead LMPs for Energy and selection of Day-Ahead Energy Market Suppliers and Purchasers.
 - (iii) Establish and post on its OASIS the rules that are consistent with this Tariff for determination of any additional payments necessary to support efficient operations of the Day-Ahead Market for Energy and/or the efficient operation of other Day-Ahead Markets.
 - (iv) Provide the Settlement functions associated with purchase and sale of Energy in the Day-Ahead Market.
 - (v) Post the Day-Ahead LMPs for Energy.
- 2.3 Purchaser Rules and Obligations:** Purchasers of Energy in the Day-Ahead Market shall provide the Bid information specified in Sections 2.3.1 to 2.3.3.
- 2.3.1 Specification of Bids:** Purchasers of Day-Ahead Energy must provide the following Bid information. Purchasers must supply all information that is identified as a required Bid component. Purchasers may, but are not required to, submit information that is identified as an optional Bid component.
- (i) MW desired to be purchased, with a default value of 0 MW. This is a required Bid component.

- (ii) Location (transmission zone, aggregate, or single bus) that the purchaser desires to purchase the designated MWs of power. This is a required Bid component.
- (iii) Maximum price (\$/MW) at which the purchaser desires to purchase the designated MW of power. (A purchaser may indicate its desire to purchase the designated MWs of power regardless of price, if the purchaser has demonstrated to the Independent Transmission Provider in advance that it is financially capable of paying the highest possible price for the designated MWs.) This is a required Bid component.
- (iv) Start-up Cost (\$). This Bid component is an additional payment needed by the Purchaser of Energy to curtail its load. This is an optional Bid component.
- (v) Minimum Curtailment Time (hours). This Bid component is up to a maximum of 24 hours. This is an optional Bid component. If a Minimum Curtailment Time is not indicated, then the default time will be one hour.
- (vi) Maximum Curtailment Time (hours). This Bid component is up to a maximum of 24 hours. This is an optional Bid component. If a Maximum Curtailment Time is not indicated, then the default time will be 24 hours.
- (vii) Minimum Purchase Time (at least one hour). This is an optional Bid component.
- (viii) Maximum Purchase Time (hours). This is an optional Bid component.
- (ix) Hours that the purchaser desires to purchase the designated MWs of power. This is a required Bid component.

2.3.2 Specification of Virtual Bids: Purchasers of Day-Ahead Virtual Energy must provide Bid components 2.3.1 (i) to (iii). In addition, the Bid shall identify that the Energy purchase is Virtual Energy if the purchase is not backed by actual load.

2.3.3 Period of Bids: The Demand Bids shall be hourly Bids for each hour of the Operating Day in which the price (\$) and quantity (MW) components can vary hour by hour.

2.4 Supplier Rules and Obligations

2.4.1 Eligibility to Supply: Suppliers of Day-Ahead Energy shall provide the Bid information specified in Section 2.4.2 . Suppliers of Day-Ahead Virtual Energy shall provide the Bid information specified in 2.4.3- 2.4.4 .

2.4.2 Specification of Bids. Suppliers are required to include the following price, quantity and data components in their Generation Bid. Suppliers must supply all information that is identified as a required Bid component. Suppliers may, but are not required to, submit information that is identified as an optional Bid component. The Bid Data requirements are additional data on Generator characteristics needed by the Independent Transmission Provider for market operations and reliability purposes.

Bid Prices and Quantities

- (i) Start-Up (\$). This is an optional Bid component (Market Participants can opt to exclude Start-up Costs in their Energy Bid by setting this cost to \$0). Limits on the frequency with which Start-up Bid Costs can be changed must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.
- (ii) Minimum Generation (No-load) (\$/hour). This is an optional Bid component (Market Participants can opt to exclude No-load Costs in their Energy Bid by setting this cost to \$0/hour). Limits on the frequency with which Minimum Generation Bid Costs can be changed must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.
- (iii) Incremental Energy (\$/MWh). Market Participants must provide prices for the full MW range of their Operable Capacity, from the Hourly Economic Minimum Level to the Hourly Economic Maximum Level. This is a required Bid

component. [Independent Transmission Provider may add requirements regarding the number of steps or pieces in the Bid function.] The Incremental Energy Bid may be negative, indicating the price that the Supplier is willing to pay for the Generator not to be dispatched below its Hourly Economic Minimum Level. The upper limit on the Bid price of Incremental Energy over the full MW range of the Operable Capacity must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation. Any other limits on the Bid price of Incremental Energy must also be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.

- (iv) Emergency Incremental Energy (\$/MWh). Market Participants must provide a price for the Emergency MW range of their Operable Capacity, from the Hourly Economic Maximum Level to the Hourly Emergency Maximum Level. This is a required Bid component. The upper limit on the Bid price of Emergency Incremental Energy must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation. Pricing rules for Emergency uses of Generation Resources are in Section G, 3.7(iii).

Bid Data Requirements

- (v) Normal Response Rate (MW/min). The expected response rate for Security Constrained Dispatch. This is a required Bid component.
- (vi) Regulation Response Rate (MW/min). The response rate for units providing regulation. This is a required Bid component for Resources offering Regulation service.
- (vii) Hourly Economic Minimum Level (MW). This is a required Bid component. Limits on the frequency with which the Hourly Economic Minimum Level can be changed must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.
- (viii) Hourly Economic Maximum Level (MW). This is a required Bid component.

- (ix) Hourly Emergency Minimum Level (MW). This is the Minimum Level for a Generator in the event of an Emergency. This is a required Bid component.
- (x) Hourly Emergency Maximum Level (MW). This is the Maximum Level for a Generator in the event of an Emergency. This is a required Bid component.
- (xi) Start-up Time (hours). The number of hours required to start the Generator. This is a required Bid component.
- (xii) Minimum Run Time (hours). This Bid component is up to a maximum of 24 hours. This is a required Bid component. Limits on the Minimum Run Time of particular Generators must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.
- (xiii) Maximum Run Time (hours). This is an optional Bid component.
- (xiv) Minimum Down Time (hours). This is an optional Bid component.
- (xv) Maximum Start-up Limit or Maximum Shut Down Limit in 24 Hours (integer number). This is an optional Bid component.
- (xvi) Location.

2.4.3 Bids to Supply Virtual Incremental Energy

- (i) A Virtual Incremental Energy Bid (\$/MWh) is an Incremental Energy Bid that specifies that the Bid is a Virtual Transaction, i.e., it is not backed by a physical supply Resource. Virtual Incremental Energy Bids must include (1) a price, (2) a MW quantity, and (3) a location. The upper limit on the Bid price of Virtual Incremental Energy must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.

2.4.4 Bids to Supply Decremental Energy

- (i) A Decremental Energy Bid (\$/MWh) is a Bid to reduce the output of a Generator. Decremental Energy Bids must include (1) a price, (2) a MW quantity, and (3) a location. The upper limit on the Bid price of Decremental Energy must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.
- (ii) A Virtual Decremental Energy Bid (\$/MWh) is a Decremental Energy Bid that specifies that the Bid is a Virtual transaction. The upper limit on the Bid price of Virtual Decremental Energy must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation.
- (iii) A Decremental Emergency Energy Bid (\$/MWh) is a Decremental Energy Bid to reduce the output of a Generator below its Hourly Economic Minimum Level down to its Hourly Emergency Minimum Level. The upper limit on the Bid price of Decremental Emergency Energy must be consistent with the requirements of Part IV, Market Power Monitoring and Mitigation. Pricing rules for Emergency uses of Generation Resources are in Section G, 3.7(iii).

2.4.5 Period of Bids to Supply Energy: A Customer may submit Bids to Supply Incremental Energy or Decremental Energy pursuant to Sections F.2.4.2 - 2.4.4 that can vary by price (\$) and quantity (MW) in each Hour of the Day-Ahead Market.

2.5 Calculation of Day-Ahead Locational Marginal Prices for Energy

The Independent Transmission Provider shall calculate the price of Energy at the Load buses and Generation buses in the Independent Transmission Provider Service Area and at the Interface buses between the Independent Transmission Provider Service Area and adjacent Service Areas on the basis of Energy LMPs. LMPs can be set by Bids to sell or purchase Energy, including External Transaction Imports with Bids, and by transmission Bids. If requested by Market Participants the Independent Transmission Provider will establish Hubs and Zones based on a pre-defined set of buses. The Independent Transmission Provider will calculate load-weighted average Energy LMPs for this pre-defined set of buses, defined as Hub Prices or Zone Prices (or Zonal-LMPs). The Energy LMPs, Hub Prices and Zone Prices shall include separate components for the marginal costs of

Congestion and the marginal costs of losses. Energy LMPs determined in accordance with this Section shall be calculated and posted on a Day-Ahead basis for each hour of the Day-Ahead Energy Market by [time to be provided by Independent Transmission Provider].

2.5.1 Energy LMP Calculation: The Independent Transmission Provider will calculate for each bus on its system in each hour the Energy LMP, equal to the marginal cost of making an additional increment of Energy available at the bus in the hour, based on the Bids of sellers and buyers selected in the Day-Ahead Security Constrained unit Commitment for Energy supply and purchase. The Independent Transmission Provider shall designate one bus as the Reference Bus, r , for all other buses in the system. The System Marginal Price (SMP _{r}), is the cost of making an additional increment of Energy available to the Reference Bus, based on Bids selected in the Day-Ahead Security Constrained Unit Commitment for Energy supply and Purchase. For each bus other than the Reference Bus, the Independent Transmission Provider shall determine separate components of the Energy LMP for the marginal costs of Congestion and losses relative to the Reference Bus, consistent with the following equation:

$$\text{Energy LMP}_i = \text{SMP}_r + \text{MCC}_i + \text{MLC}_i,$$

where SMP _{r} is the system marginal price in each hour at the Reference Bus, r , in the system, MCC _{i} is the LMP component representing the marginal cost of Congestion at bus i relative to the Reference Bus, and MLC _{i} is the LMP component representing the marginal cost of losses at bus i relative to the Reference Bus.

(i) **Calculation of Marginal Congestion Component:** The Independent Transmission Provider will calculate the marginal costs of Congestion at each bus as a component of the bus-level LMP. The Marginal Congestion Component (MCC) component of the Energy LMP at bus i is calculated using the equation:

$$\text{MCC}_i = - \left(\sum_{k=1}^K \text{GSF}_{ik} \text{FMP}_k \right),$$

where: K is the number of thermal or Interface Transmission Constraints; GSF_{ik} is Shift Factor for the Generator at bus i on Flowgate k which limits flows across that Constraint when an increment of power is injected i and an equivalent amount of power is withdrawn at the Reference Bus, and FMP_k is the Flowgate LMP on Flowgate k and is equivalent to the reduction in system cost expressed in \$/MWh that results from an increase of 1 MW of the capacity on Flowgate k .

- (ii) **Calculation of Marginal Losses Component:** The Independent Transmission Provider will calculate the Marginal Losses Component (MLC) at each Load bus i . The MLC of the LMP at any bus i within the Independent Transmission Provider Service Area is calculated using the equation:

$$MLC_i = (DF_i - 1)SMP_r,$$

where DF_i = delivery factor for bus i to the system Reference Bus, and $DF_i = (1 - \partial L / \partial G_i)$, where: L is system losses, G_i is generation injection at bus i , $\partial L / \partial G_i$ is the partial derivative of system losses with respect to generation injections at bus i , that is, the incremental change in system losses associated with an incremental change in the generation injections at bus i holding constant other injections and withdrawals at all buses other than the Reference Bus and bus i .

- 2.5.2 Hub Price Calculation:** If requested by Market Participants, the Independent Transmission Provider shall calculate a Hub Price based on the Energy LMPs for a set of buses that comprise the Hub. These Hub Prices are the weighted average of the Energy LMPs at the buses that comprise the Hub. The weights will be pre-determined by the Independent Transmission Provider and remain fixed. [The Independent Transmission Provider may add procedures for determining the buses that comprise the Hub and procedures for changing the weights over time.] The Price for Hub j can be written as:

$$\text{Hub Price}_j = \sum_{i=1}^n (W_{Hi} \times LMP_i),$$

where n is the number of buses in Hub j and W_{Hi} is the weighting factor for bus i in Hub j . The sum of the weighting factors shall add up to 1.

2.5.3 Zone Price Calculation

- (i) If requested by Market Participants, the Independent Transmission Provider shall calculate a Zone Price based on the Energy LMPs for a set of buses that comprise the Zone. These Zone Prices are the weighted average of the Energy LMPs at the set of buses that comprise the Zone. The Zone bus weights will equal the fractional share of each load bus in the total load in the Zone in the Hour. [The Independent Transmission Provider may add procedures for determining the buses that comprise the Zone, and assigning weights to those buses, in response to changes in retail load.]

$$\text{Zone Price}_j = \sum_{i=1}^n (W_{Zi} \times \text{LMP}_i),$$

where n is the number of Load buses in Zone j and W_{Zi} is the load weighting factor for bus i in Zone j . The sum of the weighting factors adds up to 1.

- (ii) If the Zone price is used for Settlement purposes, it is subject to the following rules. (1) Each Zone shall include only the buses of Market Participants who agree to be in the Zone (and thus, who agree that their settlements will be calculated based on the zonal price). Alternatively, any one zone shall include only the buses of a single Market Participant. (2) A Market Participant who wants to be billed at a Zonal Price must include in its Zone all of the buses where Energy deliveries will be billed at the Zonal Price. A Market Participant shall not be allowed to settle Energy purchases at a bus or aggregation of buses if that bus or buses are not included in the Zone.

2.6 Calculation of Additional Payments and Charges

- 2.6.1 Bid Revenue Sufficiency Guarantee:** The Independent Transmission Provider shall calculate, for each Resource scheduled

for Energy in the Day-Ahead Market, the amount of the Bid Revenue Sufficiency Guarantee payment, pursuant to Section F.1.11.

2.6.2 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other payments or charges associated with the efficient and reliable operations of the Day-Ahead Market for Energy.]

2.7 Market Rules for Shortages or Emergencies

- (i) [The Independent Transmission Provider may include in this section market rules, including specification of quantities of Energy purchased, calculation of market prices, and determination of out-of-market payments in the event of a shortfall in Energy due to a shortage of available capacity. The market rules shall be in accord with regional or local reliability authority rules and procedures and NERC guidelines.]
- (ii) [The Independent Transmission Provider may include in this section procedures for soliciting additional Bids for Energy in the event that Bids and self-scheduled provision of Energy submitted in the Day-Ahead Markets fall short of the Bid-in Load.]

2.8 Settlement

2.8.1 Payments by Purchasers

- (i) Each purchaser of Day-Ahead Energy shall be charged for all of its Load scheduled to be served from the Independent Transmission Provider's Day-Ahead Energy Market at the Day-Ahead LMPs applicable to each relevant Load bus and hour.
- (ii) If a Market Buyer elects to calculate and settle Energy purchases at Zonal-LMPs, and the Zonal price meets the conditions for settlement specified in Section 2.4(c)(ii), then the market buyer shall be charged for all of its load scheduled to be served from the Day-Ahead Energy Market at the Day-

Ahead Zonal-LMPs applicable to each relevant Load Zone and time period.

- (iii) On any day when a Market Participant is scheduled to purchase any Energy in the Day-Ahead Market for Energy and/or does not Self-Supply a sufficient amount of its forecasted obligation (based on the Day-Ahead Schedule) for Regulation and Operating Reserves, the Market Participant shall be charged a Day-Ahead Bid Revenue Sufficiency Guarantee Charge. The Market Participant's Day-Ahead Supply Bid Revenue Sufficiency Guarantee Charge on any given day shall equal the product of (i) the Market Participant's total load (in MWh) scheduled in the Day-Ahead Market (which shall equal the sum of the Market Participant's total purchases of Energy in the Day-Ahead Market for Energy plus the Market Participant's total load scheduled to be met from Bilateral Transactions) and (ii) the per unit Day-Ahead Supply Bid Revenue Sufficiency Guarantee Charge.

The per unit Day-Ahead Supply Bid Revenue Sufficiency Guarantee Charge for any given day shall equal (i) the aggregate Bid Revenue Sufficiency Guarantee payments payable to Resources in the Day-Ahead Market for that day, divided by (ii) the sum of the total loads (in MWh) of all Market Participants that are to be charged Day-Ahead Supply Bid Revenue Sufficiency Charges for that day.

2.8.2 Payments to Suppliers

- (i) Suppliers of Day-Ahead Energy shall be paid for all Energy scheduled to be delivered in the Day-Ahead Energy Market at the Day-Ahead LMPs applicable to each relevant generation bus.
- (ii) The Independent Transmission Provider shall pay Suppliers any additional payments necessary to provide Day-Ahead Energy in accord with efficient market operations, as specified in Section 2.5

2.8.3 Payments by Suppliers

- (i) Market Participant's Day-Ahead Demand Bid Revenue Sufficiency Guarantee Charge on any given day shall equal the product of (i) the Market Participant's total quantity (in MWh) scheduled in the Day-Ahead Market (which shall equal the sum of the Market Participant's total sales of Energy in the Day-Ahead Market for Energy plus the Market Participant's total supply scheduled to be met from Bilateral Transactions) and (ii) the per unit Day-Ahead Demand Bid Revenue Sufficiency Guarantee Charge.

The per unit Day-Ahead Demand Bid Revenue Sufficiency Guarantee Charge for any given day shall equal (i) the aggregate Demand Bid Revenue Sufficiency Guarantee payments payable to Resources in the Day-Ahead Market for that day, divided by (ii) the sum of the total supply (in MWh) of all Market Participants that are to be charged Day-Ahead Demand Bid Revenue Sufficiency Guarantee Charges for that day.

3. Day-Ahead Scheduling of Transmission and Settlement Functions for Congestion Revenue Rights

3.1 General: Day-Ahead scheduling of Transmission Service allows Market Participants to obtain Transmission Service to support Bilateral Transactions. This section establishes (1) rules for Bidding and/or scheduling Transmission Service, (2) determining prices (*i.e.*, Transmission Usage Charges, Transmission Usage Charges) for Transmission Service, and (3) settling with Market Participants that are scheduled for Transmission Service in the Day-Ahead Market. The Day-Ahead Energy LMPs shall be used to provide (1) the prices for sales and purchases of Energy and (2) Transmission Usage Charges (Transmission Usage Charges) for Transmission Service to support Bilateral Transactions. Because Transmission Usage Charges are based on the differences between Energy LMPs at the point of injection and point of withdrawal associated with an internal or external Bilateral Transaction, in their schedules requesting Transmission Service, Market Participants have the right to express willingness to pay for the Transmission Usage Charges—or equivalently, for the differences in the Energy LMPs.

In addition, the Day-Ahead Energy LMPs and Flowgate LMPs are used for Settlement of Congestion Revenue Rights. Holders of Receipt Point-to-Delivery Point Congestion Revenue Rights that seek to settle them against Real-Time Energy LMPs can do so by scheduling transactions in the Day-Ahead Energy Market.

3.2 Day-Ahead Transmission Requests

3.2.1 Information Provided by the Customer: Each Customer seeking to be scheduled for Transmission Service in the Day-Ahead Market shall be required to provide the Independent Transmission Provider the information in (i) through (iii) below. In addition, the Customer shall be required to provide the information either in (iv) or (vi), or both. The Customer shall provide this information separately for each transaction involving a different Receipt and/or Delivery Point. The Customer shall have the option of providing the information in (v).

- (i) MW to be transmitted;
- (ii) The Point of Receipt and the Point of Delivery;

- (iii) The hours when the power is to be transmitted;
- (iv) The maximum Transmission Usage Charge (\$ per MW) that the Customer is willing to pay to receive the Transmission Service. The Customer may indicate that it desires the indicated Transmission Service regardless of the Transmission Usage Charge, if the Customer has demonstrated to the Independent Transmission Provider that it is capable of paying the highest possible Transmission Usage Charge. The Customer may separately indicate the maximum Charge for Marginal Costs of Congestion and the maximum charge for Marginal Losses that it is willing to pay.
- (v) The minimum number of consecutive hours that the Customer desires to receive the Transmission Service.
- (vi) The maximum total Transmission Usage Charge (in \$ per MW) that the Customer is willing to pay to receive Transmission Service over the total number of scheduled hours.
- (vii) Whether the Customer desires to provide additional Energy at the receipt point, in an amount that reflects the Marginal Losses associated with the Transmission Service (which the Independent Transmission Provider shall determine at the close of the Day-Ahead Market) in lieu of paying the charge for Marginal Losses.

3.3 Calculation of Day-Ahead Transmission Usage Charges: The Independent Transmission Provider shall charge a Transmission Usage Charge to all Bilateral Transactions whose transmission service was scheduled in the Day-Ahead Market. This charge is the product of (a) the amount of Energy scheduled to be withdrawn by that Customer in each hour in MWh; and (b) the Day-Ahead LMP at the Point of Delivery (which could be a Load Zone in which Energy is scheduled to be withdrawn or the external bus where Energy is scheduled to be withdrawn if Energy is scheduled to be withdrawn at a location outside the Independent Transmission Provider Service Area), minus the Day-Ahead LMP at the Point of Receipt, in \$/MWh. The Independent Transmission Provider shall divide each Transmission Usage Charge into separate components for Marginal Costs of Congestion and Marginal Costs of Losses.

3.3.1 Marginal Congestion Component: The Marginal Congestion Component of the Transmission Usage Charge shall be calculated as the Marginal Congestion Component of the Day-Ahead LMP at the Delivery Point minus the Marginal Congestion Component of the Day-Ahead LMP at the Receipt Point, as described in Section F.2.5(i).

3.3.2 Marginal Losses Component: The Marginal Losses Component of the Transmission Usage Charge shall be calculated as the Marginal Losses Component of the Day-Ahead LMP at the Delivery Point minus the Marginal Losses Component of the Day-Ahead LMP at the Receipt Point, as described in Section F.2.5(ii).

3.4 Flowgate LMP Calculation: The Independent Transmission Provider will, in addition to the calculation of the Energy LMPs, calculate Flowgate Locational Marginal Prices (FMPs) on the set of transmission constraints. The calculation for the Flowgate LMP (FMP) for each Transmission Constraint is defined in Section F.2.5.1(i). Independent Transmission Providers that offer Flowgate Rights must also calculate the Day-Ahead Flowgate LMPs (FMPs) on the Transmission Elements designated as Flowgates, based on a weighted average of the Transmission LMPs on the Transmission Elements that comprise the Flowgate:

$$\text{Marginal Price on Flowgate } f = \sum_{k=1}^m (W_k \times \text{FMP}_k),$$

where: f is the index of Flowgates; k is a Transmission Element in the set of Flowgates, K ; m is the subset of the Transmission Elements that comprise Flowgate f ; and W_k are the weights attached to each of the m Transmission Elements that comprise Flowgate f . The sum of the weighting factors adds up to 1. For Flowgates comprised of one Transmission Element, the W_k for that element is equal to 1. The Independent Transmission Provider shall determine the W_k for Transmission elements defined as Flowgates.

3.5 Settlement of Congestion Revenue Rights

3.5.1 Settlement of Receipt Point-to-Delivery Point Congestion

Revenue Rights: For each hour in the Day-Ahead Market, the Independent Transmission Provider shall determine the Marginal Congestion Component of each Transmission Usage Charge associated with Transmission Service from a designated Receipt Point to a designated Delivery Point specified in each Receipt Point-to-Delivery Point Congestion Revenue Right (including both Obligation and Option Rights), consistent with Section F.3.3.1. In each instance when the applicable Marginal Congestion Component is positive, the Independent Transmission Provider shall pay to the Primary Holder of the Congestion Revenue Right an amount equal to the applicable hourly Marginal Congestion Component multiplied by the specified MWs. In each instance when the applicable Marginal Congestion Component is negative, the Independent Transmission Provider shall charge to each Primary Holder of an Obligation Right (but not the Primary Holder of an Option Right) an amount equal to the absolute value of the applicable Marginal Congestion Component multiplied by the specified MWs.

3.5.2 Settlement of Flowgate Rights: For each hour in the Day-Ahead Market, the Independent Transmission Provider shall determine, consistent with the provisions in Section F.3.4, the Flowgate LMP in each direction associated with each Flowgate on the transmission system operated by the Independent Transmission Provider.

- (i) **Holders of Flowgate Rights.** For each hour of the Day-Ahead Market, the Independent Transmission Provider shall pay each Primary Holder of a Flowgate Right an amount equal to the applicable hourly Flowgate LMP multiplied by the MWs specified in the Primary Holder's Flowgate Right.

3.6 Disposition of Congestion Revenue Surplus or Deficit

3.6.1 Hourly Congestion Charge Collection: The Hourly Congestion Charge Collection is defined here as the sum of the Hourly Energy Congestion Charge Collection plus the Hourly Transmission Congestion Charge Collection. The Hourly Energy Congestion Charge Collection is defined for any hour of the Day-Ahead Market as (i) the net amounts charged to purchasers of Energy in the

Independent Transmission Provider's Day-Ahead Market associated with the Marginal Congestion Component of the hourly LMPs at the purchasers' buses, less (ii) the net amounts paid to sellers of Energy in the Independent Transmission Provider's Day-Ahead Market associated with the Marginal Congestion Component of the hourly LMPs at the sellers' buses. The Hourly Transmission Congestion Charge Collection is defined for any hour of the Day-Ahead Market as the net amounts charged to Customers for Transmission Service scheduled in the Day-Ahead Market associated with the Marginal Congestion Component of the applicable hourly Transmission Usage Charges.

3.6.2 Hourly Net Congestion Revenue Owed to Congestion Revenue Rights Holders: The Hourly Net Congestion Revenue owed to Congestion Revenue Rights Holders for any hour in the Day-Ahead Market is defined here as the net hourly amounts payable to Primary Congestion Revenue Rights Holders pursuant to Sections F.3.5.1 and F.3.5.2.

3.6.3 Determination and Disposition of Congestion Revenue Surplus or Deficit: For each hour of the Day-Ahead Market, the Independent Transmission Provider shall calculate the Hourly Congestion Charge Collection and the Hourly Net Congestion Revenue Owed to Congestion Revenue Rights Holders. For each hour of the Day-Ahead Market where the Hourly Congestion Charge Collection exceeds the Hourly Net Congestion Revenue Owed to Congestion Revenue Rights Holders, the Independent Transmission Provider shall allocate the revenue surplus to the Transmission Owners. For each hour of the Day-Ahead Market where the Hourly Congestion Charge Collection is less than the Hourly Net Congestion Revenue Owed to Congestion Revenue Rights Holders, the Independent Transmission Provider shall charge the revenue deficit to the Transmission Owners.

3.7 Disposition of Marginal Loss Revenue Surplus

3.7.1 Hourly Marginal Loss Charge Collection: The Hourly Marginal Loss Charge Collection is defined here as the sum of the Hourly Energy Marginal Loss Charge Collection plus the Hourly Transmission Marginal Loss Charge Collection. The Hourly Energy Marginal Loss Charge Collection is defined for any hour of the Day-

Ahead Market as (i) the net amounts charged to purchasers of Energy in the Independent Transmission Provider's Day-Ahead Market associated with the Marginal Losses Component of the hourly LMPs at the purchasers' buses, less (ii) the net amounts paid to sellers of Energy in the Independent Transmission Provider's Day-Ahead Market associated with the Marginal Losses Component of the hourly LMPs at the sellers' buses. The Hourly Transmission Marginal Loss Charge Collection is defined for any hour of the Day-Ahead Market as the net amounts charged to Customers for Transmission Service scheduled in the Day-Ahead Market associated with the Marginal Cost Component of the applicable hourly Transmission Usage Charges.

3.7.2 Determination and Disposition of Marginal Loss Revenue

Surplus: For each hour of the Day-Ahead Market, the Independent Transmission Provider shall calculate the Hourly Marginal Loss Charge Collection and the Hourly Net Energy Revenue Owed to Generators for losses associated with all Transactions. For each hour of the Day-Ahead Market where the Hourly Marginal Loss Charge Collection exceeds the Hourly Net Energy Revenue Owed to Generators for Losses associated with all Transactions, the Independent Transmission Provider shall allocate the revenue surplus to reduction in the charge for Network Access Service. [The Independent Transmission Provider shall determine the exact allocation to each Customer and will file procedures for determining the allocation of the revenue surplus to each Customer.]

4. Day-Ahead Market for Regulation and Frequency Response

- 4.1 General:** The Day-Ahead Market for Regulation establishes clearing prices and settlement rules for Suppliers that have offered eligible Regulation capacity to the market. The Transmission Provider shall procure Regulation through this market on behalf of Load-Serving Entities that have chosen not to Self-supply or purchase through bilateral contracts. Both Generation and Load may Bid to provide Regulation in the Day-Ahead Market if they meet the criteria for eligibility.
- 4.2 Independent Transmission Provider Obligations:** The Independent Transmission Provider has the obligation to provide services (i) to (vii) for the Day-Ahead Market for Regulation. The rules governing these services are contained in this section:

- (i) Establish and post on its OASIS Regulation criteria and requirements in accord with regional or local reliability authority rules and NERC guidelines.
- (ii) Establish and post on its OASIS a Total Regulation Requirement for the Independent Transmission Provider's Service Area for each hour of the Operating Day. This hourly requirement enters the Day-Ahead Security Constrained Unit Commitment. The Total Regulation Requirement may be subdivided into locational Regulation Requirements; that is, those assigned to specific locations (or Zones) within the Service Area.
- (iii) Allocate the obligation for meeting the Total Regulation Requirement among Load-Serving Entities. The obligation of each Load-Serving Entity in any hour shall be equal to the product of (1) the Load-Serving Entity's Real-Time load in the hour as a percentage of the total Real-Time load in the Independent Transmission Provider's Service Area in the hour and (2) the total Day-Ahead Total Regulation Requirement for the hour. The Load-Serving entity's forecasted Regulation obligation for purposes of Section F.2.8.1(iii) shall be equal to the product of (1) the Load-Serving Entity's Day-Ahead scheduled load in an hour and (2) the total Day-Ahead Regulation requirement in the hour.
- (iv) Establish and post on its OASIS rules for eligibility to supply Regulation in the Day-Ahead Market that are consistent with this Tariff, including minimum technical requirements and performance standards for a Generator or Load to provide Regulation in response to signals sent by the Independent Transmission Provider.
- (v) Establish and post on its OASIS the Bid data requirements and rules for self-scheduling and Bidding, and provide the market functions required for determination of hourly Day-Ahead Spinning Regulation Market Clearing Prices and selection of Day-Ahead Regulation Market Suppliers. Establish and post on its OASIS how these pricing and selection rules are modified to account for locational Regulation requirements. Establish how these pricing and selection rules are modified in the event of shortages in Bid-in Regulation capacity. [The Independent Transmission Provider shall include procedures for self-supply.]

- (vi) Establish and post on its OASIS the rules for determination of any additional payments necessary to support efficient operations of the Day-Ahead Regulation Market and the efficient joint operation of the Day-Ahead Market for Regulation and other Day-Ahead Markets.
- (vi) Provide the Settlement functions associated with purchase and sale of Regulation in the Day-Ahead Market.
- (vii) Post the Day-Ahead Regulation Market Clearing Prices.

4.3 Purchaser Rules and Obligations: The Purchaser of Regulation Service has the obligations and rights set forth in (i) through (iv):

- (i) Each Load-Serving Entity is required to fulfill its Operating Day Regulation obligation on the basis of either or both Self-Supply or procurement from the Day-Ahead and Real-Time markets for Regulation. The Transmission Provider shall procure Regulation Reserve on behalf of Load-Serving Entities and determine the final cost of each MW purchased.
- (ii) A Load-Serving entity may meet its Regulation obligation through Self-Supply by offering into the Day-Ahead Market for Regulation its own Resources capable of supplying Regulation or Resources for which it has made contractual arrangements with third parties able to provide Regulation on a comparable basis. Such self-supplied Resources must be placed under the Independent Transmission Provider's control, and must meet the Independent Transmission Provider's rules for eligibility to supply Regulation (see Section 5.2 and 5.4.1). These self-supplied Resources are scheduled in the Day-Ahead Market for Regulation at a Supply Bid Price of \$0/MWh. Also, a Load-Serving Entity shall be paid the applicable Day-Ahead Market Clearing Price for any Regulation self-supplied in excess of its obligation.
- (iii) A Load-Serving Entity that has not fulfilled all of its Regulation obligation through Self-Supply is required to allow the Independent Transmission Provider to procure sufficient Regulation that it has not self-supplied through the Day-Ahead, and if necessary, the Real-Time Regulation Market to fulfill the obligation that is not self-supplied.

4.4 Supplier Rules and Obligations

4.4.1 Eligibility to Supply: To be eligible to supply Regulation in the Day-Ahead Market for Regulation, a Supplier or a Generator contracted by a Supplier must meet criteria (i) to (v), as follow.

- (i) Suppliers of Regulation may use only Generators and/or Load that are electrically within the Independent Transmission Provider's Service Area.
- (ii) Suppliers of Regulation may use only Generators and/or Load that are able to respond to AGC Base Point Signals sent by the Independent Transmission Provider pursuant to the Independent Transmission Provider procedures.
- (iii) Suppliers of Regulation may use only Generators and/or Load that meet Independent Transmission Provider standards for Generator or Load performance.
- (iv) Suppliers of Regulation shall not use, contract to provide, or otherwise commit the capability that is designated to provide Regulation to provide Energy or Spinning Reserve to any party other than the Independent Transmission Provider.
- (v) Suppliers of Regulation shall provide the Bid information specified in Section F.4.4.2.

4.4.2 Specification of Bids: Suppliers of Regulation must provide the Bid information in (i) to (vii), as follows.

- (i) Availability Bid price (\$/MWh).
- (ii) Regulation Capability (MW) of the Generator supplying Regulation.
- (iii) Response Rate (MW/Minute) of the Generator supplying Regulation.
- (iv) Upper and Lower Regulation Limits (MW).
- (v) Hours of availability to provide Regulation.

- (vi) Any additional physical data required by the Independent Transmission Provider
- (vii) Location of Resources

4.5 Calculation of Market Clearing Price: The Independent Transmission Provider shall calculate a Market Clearing Price for the Day Ahead Market for Regulation, using the following methodology.

The Independent Transmission Provider shall establish a Supplier Regulation Price for each Supplier based on the sum of the Supplier's Availability Bid and its Day-Ahead Unit-Specific Opportunity Cost (as defined below). The hourly Day-Ahead Regulation Market Clearing Price shall be the higher of (i) the highest Supplier Regulation Price needed to meet the Independent Transmission Provider's Regulation Requirement for each hour of the Next Day, or (ii) the highest Market Clearing Price in the hour for Operating Reserves.

The Unit-Specific Opportunity Costs of a Resource Bidding to sell Regulation each hour shall be equal to the product of:

- (i) the deviation of the Regulation set point of the Generator that is required in order to provide Regulation from the Resource's expected output level if it had been scheduled or dispatched in economic merit order to provide Energy, times
- (ii) the greater of (a) the \$/MWh difference between the expected Energy LMP at the generation bus for the Resource and the Bid price for Energy from the Resource (at the megawatt level of the Regulation set point for the Resource) in the Real-Time Energy Market and (b) zero.

4.6 Calculation of Additional Payments and Charges

4.6.1 Bid Revenue Sufficiency Guarantee: The Independent Transmission Provider shall calculate for each Resource scheduled for Regulation in the Day-Ahead Market the amount of the Bid Revenue Sufficiency Guarantee payment, pursuant to Section F.1.11.

4.6.2 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other

payments or charges associated with the efficient and reliable operations of the Day-Ahead Market for Regulation.]

4.7 Market Rules for Shortages

- (i) [The Independent Transmission Provider may include in this section market rules, including calculation of market prices and determination of out of market payments, in the event of a shortfall in Regulation in the Day-Ahead Market due to a shortage of available capacity. The market rules shall be in accord with regional or local reliability authority rules and procedures and NERC guidelines.]
- (ii) [The Independent Transmission Provider may include in this section procedures for soliciting additional Bids for Regulation in the event that Bids and self-supplied provision of Regulation submitted in the Day-Ahead Markets fall short of the Regulation Requirement for the Operating Day.]

4.8 Settlement: The Independent Transmission Provider will provide timely settlement of sales of Regulation in the Day-Ahead Market for Regulation pursuant to Section 4.8.1.

4.8.1 Payments to Suppliers

- (i) The Independent Transmission Provider shall pay each Supplier, the hourly Day-Ahead Market Clearing Price for Regulation times the Quantity (MW) of the Supplier's Regulation scheduled (i.e., selected) in the hour.

5. Day-Ahead Market for Operating Reserve - Spinning Reserve

5.1 General: The Independent Transmission Provider shall establish bid-based markets for the types of Operating Reserve - Spinning Reserves (e.g., 10-minute, 30-minute) necessary to meet local reliability authority rules or NERC guidelines. Day-Ahead Markets for Spinning Reserve shall be used to provide clearing prices and settlement rules for Suppliers of Spinning Reserve that have offered eligible Spinning Reserve capacity to the market. The Transmission Provider shall procure Spinning Reserves in this market on behalf of Purchasers of Spinning Reserve that have chosen not to self-supply or procure through bilateral contracts. Both Generation and Load

may Bid to provide Spinning Reserve in the Day-Ahead Market if they meet criteria for eligibility.

5.2 Independent Transmission Provider Obligations: The Independent Transmission Provider has the obligation to provide services (i) to (vii) for the Day-Ahead Market for Spinning Reserve. The rules governing these services are contained in this section:

- (i) Establish and post on its OASIS Spinning Reserve criteria and requirements in accord with regional or local reliability authority rules and NERC guidelines.
- (ii) Establish and post on its OASIS a Total Spinning Reserve Requirement for the Independent Transmission Provider's Service Area for each hour of the Operating Day. This hourly requirement enters the Day-Ahead Security Constrained Unit Commitment. The Total Spinning Reserve Requirement may be sub-divided into locational Spinning Reserve Requirements; that is, assigned to specific locations (or Zones) within the Service Area.
- (iii) Allocate the obligation for meeting the Total Spinning Reserve Requirement among Load-Serving Entities. The obligation of each Load-Serving Entity in any hour shall be equal to the product of (1) the Load-Serving Entity's Real-Time load in the hour as a percentage of the total Real-Time load in the Independent Transmission Provider's Service Area in the hour and (2) the total Day-Ahead Total Spinning Reserve Requirement for the hour. The Load-Serving Entity's forecasted Spinning Requirement obligation for purposes of Section F.2.8.1(iii) shall be equal to the and (1) the Load-Serving Entity's Day-Ahead scheduled load in an hour multiplied by (2) the total Day-Ahead Spinning Reserve requirement in the hour.
- (iv) Establish and post on its OASIS rules for eligibility to supply Spinning Reserve in the Day-Ahead Market that are consistent with this Tariff, including minimum technical requirements and performance standards for a Generator or Load to provide Spinning Reserve.
- (v) Establish and post on its OASIS the Bid data requirements and rules for self-scheduling and Bidding that are consistent with this Tariff,

and provide the market functions required for determination of hourly Day-Ahead Spinning Reserve Market Clearing Prices and selection of Day-Ahead Spinning Reserve Market Suppliers. Establish how these pricing and selection rules are modified to account for locational Spinning Reserve requirements. Establish how these pricing and selection rules are modified in the event of shortages in Bid-in Spinning Reserve capacity.

- (vi) Establish and post on its OASIS the rules for determination of any additional payments necessary to support efficient operations of the Day-Ahead Market for Spinning Reserve and the efficient joint operation of the Day-Ahead Market for Spinning Reserve and other Day-Ahead Markets.
- (vii) Provide the Settlement functions associated with sale of Spinning Reserve in the Day-Ahead Market.
- (vii) Post the Day-Ahead Market Clearing Prices for Spinning Reserve.

5.3 Purchaser Rules and Obligations

- (i) Each Load-Serving Entity is required to fulfill its Operating Day Spinning Reserve obligation on the basis of either or both self-supply or procurement from the Day-Ahead and Real-Time markets for Spinning Reserve. The Independent Transmission Provider shall procure Spinning Reserve on behalf of Load-Serving Entities and determine the final cost of each MW purchased.
- (ii) A Load-Serving Entity may meet its Spinning Reserve obligation through Self-Supply by offering its own Resources capable of supplying Spinning Reserves or Resources for which it has made contractual arrangements with third parties able to provide Spinning Reserves on a comparable basis. Such self-supplied Resources must be placed under the Independent Transmission Provider's control, and must meet the Independent Transmission Provider's rules for eligibility (see Section 5.2 and 5.4.1). These self-supplied Resources are scheduled in the Day-Ahead Spinning Reserves Market. A Load-Serving Entity shall be paid the applicable Day-Ahead Market clearing price for any Spinning Reserve self-supplied in excess of its obligation.

- (iii) A Load-Serving Entity that has not fulfilled all of its Spinning Reserve obligation through Self-Supply is required to allow the Independent Transmission Provider to procure sufficient Spinning Reserve that it has not Self-Supplied through the Day-Ahead and, if necessary, Real-Time Spinning Reserve market to fulfill the obligation that is not Self-Supplied.

5.4 Supplier Rules and Obligations

5.4.1 Eligibility to Supply: To be eligible to supply Spinning Reserve in the Day-Ahead Market for Spinning Reserve, a Supplier or a Generator contracted by a Supplier must meet criteria (i) to (iv), as follow.

- (i) Suppliers of Spinning Reserve may use only Generators and/or Load that are electrically within the Independent Transmission Provider's Service Area.
- (ii) Suppliers of Spinning Reserve may use only Generators and/or Load that meet Independent Transmission Provider standards for Generator performance; similarly, Demand Resources must meet Independent Transmission Provider standards for response capability.
- (iii) Suppliers of Spinning Reserve shall not use, contract to provide, or otherwise commit the capability that is designated to provide Spinning Reserve to provide Energy, Regulation or Supplemental Reserve to any party other than the Independent Transmission Provider.
- (iv) Suppliers of Spinning Reserve shall provide the Bid information specified in Section 5.4.2.

5.4.2 Specification of Bids: Suppliers of Spinning Reserve must provide the Bid information in (i) to (vi), as follows.

- (i) Availability Bid price (\$/MWh).
- (ii) Response Rate (MW/Minute) of the Generator supplying Spinning Reserve.

- (iii) Hours of availability to provide Spinning Reserve.
- (iv) Any additional physical data required by the Independent Transmission Provider.
- (v) Location of Resource.

5.5 Calculation of Market Clearing Price

5.5.1 Methodology for Calculation of Clearing Price: The Independent Transmission Provider shall calculate a Market Clearing Price for the Day Ahead Market for Spinning Reserve, using the following methodology.

The Independent Transmission Provider shall establish a Supplier Spinning Reserve Price for each Supplier based on the sum of the Supplier's Availability Bid and its Day-Ahead Unit-Specific Opportunity Cost (as defined below). The hourly Day-Ahead Spinning Reserve Market Clearing Price shall be the higher of (i) the highest Supplier Spinning Reserve Price needed to meet the Independent Transmission Provider's Spinning Reserve Requirement for each hour of the Next Day, or (ii) the highest Market Clearing Price in the hour for Supplemental Reserves.

The Unit-Specific Opportunity Costs of a Resource Bidding to sell Spinning Reserve each hour shall be equal to the product of:

- (i) the deviation of the set point (MWh) of the Generator that is required in order to provide Spinning Reserve from the Resource's output level if it had been scheduled or dispatched in economic merit order to provide Energy, times
- (ii) the greater of (a) the \$/MWh difference between the Energy LMP at the generation bus for the Resource and the Bid price for Energy from the Resource (at the megawatt level of the Spinning Reserve set point for the Resource) in the Day-Ahead Energy Market and (b) zero.

5.5.2 Calculation of Zonal or Locational Prices: Separate Day-Ahead Spinning Reserve Market Clearing Prices will be calculated for Spinning Reserve located in each distinct Reserve Location for which there is a separate Spinning Reserve requirement. When there are no binding transmission constraints between Reserve Locations,

the Day-Ahead Ancillary Price for Spinning Reserve shall be the same in each of the locations.

5.5.3 Transmission for Operating Reserves: A Supplier located outside of a particular Reserve Location may provide Spinning Reserves if the necessary transmission arrangements to deliver Energy from the Supplier's capacity to the Reserve Location are made. The cost of any transmission service would have to be included in evaluating the total cost of Operating Reserves.

5.6 Calculation of Additional Payments and Charges

5.6.1 Bid Revenue Sufficiency Guarantee: The Independent Transmission Provider shall calculate, for each Resource scheduled for Spinning Reserve in the Day-Ahead Market the amount of the Bid Revenue Sufficiency Guarantee payment, pursuant to Section F.1.11.

5.6.2 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other payments or charges associated with the efficient and reliable operations of the Day-Ahead Markets for Spinning Reserves.]

5.7 Market Rules for Shortages

- (i) [The Independent Transmission Provider may include in this section market rules, including specification of quantities, calculation of market prices, and determination of out of market payments in the event of a shortfall in the required system requirements for Spinning Reserves due to a shortage of available capacity. The market rules shall be in accord with regional or local reliability authority rules and procedures and NERC guidelines.]
- (ii) [The Independent Transmission Provider may include in this section procedures for soliciting additional Bids for Spinning Reserves in the event that Bids and self-supplied provision of Spinning Reserves submitted in the Day-Ahead Markets fall short of the required system requirements for Spinning Reserves.]

5.8 Settlement: The Independent Transmission Provider will provide timely settlement of purchases and sales of Spinning Reserve in the Day-Ahead Market for Spinning Reserve pursuant to Sections 5.8.1.

5.8.1 Payments to Suppliers

- (i) The Independent Transmission Provider shall pay each Supplier the hourly Day-Ahead Spinning Reserve Market Clearing Price times the quantity (MW) of the Supplier's Spinning Reserve capability provided in the hour.

6. Day-Ahead Markets for Operating Reserve-Supplemental Reserve

6.1 General: The Independent Transmission Provider shall establish the types of Supplemental Reserves (e.g., 10-minute, 30-minute, 60-minute) necessary to meet local reliability authority rules and NERC guidelines. Day-Ahead Markets for Supplemental Reserves establish clearing prices and settlement rules for Suppliers of Supplemental that have offered eligible Supplemental Reserve capacity to the market. The Transmission Provider shall procure Supplemental Reserves in this market on behalf of Purchasers of Supplemental Reserves that have chosen not to Self-supply or procure through bilateral contracts. Both Generation and Load may Bid to provide Supplemental Reserves in the Day-Ahead Market if they meet criteria for eligibility.

6.2 Independent Transmission Provider Obligations: The Independent Transmission Provider has the obligation to provide services (i) to (viii) for the Day-Ahead Markets for Supplemental Reserves. The rules governing these services are contained in this section:

- (i) Establish and post on its OASIS Supplemental Reserve criteria and requirements in accord with regional or local reliability authority rules and NERC guidelines.
- (ii) Establish and post on its OASIS Total Supplemental Reserves Requirements for the Independent Transmission Provider's Service Area for each Hour of the Operating Day. This hourly requirement enters the Day-Ahead Security Constrained Unit Commitment. The Total Supplemental Reserve Requirements may be subdivided into locational Supplemental Reserve Requirements; that is, assigned to specific locations (or zones) within the Service Area.

- (iii) Allocate the obligation for meeting the Total Supplemental Reserve Requirement among Load-Serving Entities. The obligation of each Load-Serving Entity in any hour shall be equal to the product of (1) the Load-Serving Entity's Real-Time load in the hour as a percentage of the total Real-Time load in the Independent Transmission Provider's Service Area in the hour and (2) the Total Day-Ahead Total Supplemental Reserve Requirement for the hour. The Load-Serving Entity's forecasted Supplemental Reserve obligation for purposes of Section F.2.8.1 (iii) shall be equal to the product of (1) the Load-Serving Entity's Day-Ahead scheduled load in the hour as a percent of the total Day-Ahead load in the Independent Transmission Provider's Service Area in the hour and (2) the Total Day-Ahead Supplemental Reserve Requirement in the hour.
- (iv) Establish and post on its OASIS rules for eligibility to supply Supplemental Reserves in the Day-Ahead Market that are consistent with this Tariff, including minimum technical requirements and performance standards for a Generator and/or Load to provide Supplemental Reserves
- (v) Establish and post on its OASIS the Bid data requirements and rules for self-scheduling and Bidding that are consistent with this Tariff, and provide the market functions required for determination of hourly Day-Ahead Supplemental Reserves Market Clearing Prices and selection of Day-Ahead Supplemental Reserves Market Suppliers. Establish how these pricing and selection rules are modified to account for locational Supplemental Reserves requirements. Establish how these pricing and selection rules are modified in the event of a shortage of Bid-in Supplemental Reserve capacity.
- (vi) Provide the Settlement functions associated with purchase and sale of Supplemental Reserves in the Day-Ahead Market.
- (vii) Post the Day-Ahead Supplemental Reserves Market Clearing Prices.

6.3 Purchaser Rules and Obligations:

- (i) Each Load-Serving Entity is required to fulfill its Operating Day Supplemental Reserves obligation on the basis of either or both Self-

Supply or procurement from the Day-Ahead and Real-Time markets for Supplemental Reserves. The Independent Transmission Provider shall procure Supplemental Reserve on behalf of Load-Serving Entities and determine the final cost of each MW purchased.

- (ii) A Load-Serving Entity may meet its Supplemental Reserve obligation through Self-Supply by offering into the Day-Ahead Market for Supplemental Reserves its own Resources capable of supplying Supplemental Reserves or Resources for which it has made contractual arrangements with third parties able to provide Supplemental Reserves on a comparable basis. Such self-supplied Resources must be placed under the Independent Transmission Provider's control, and must meet the Independent Transmission Provider's rules for eligibility (see Sections 6.2 and 6.4.1). These self-supplied Resources are scheduled in the Day-Ahead Reserves Market. A Load-Serving Entity shall be paid the applicable Day-Ahead Market clearing price for any Supplemental Reserve self-supplied in excess of its obligation.
- (iii) A Load-Serving Entity that has not fulfilled all of its Supplemental Reserves obligation through self-supply is required to allow the Independent Transmission Provider to procure sufficient Supplemental Reserves that it has not Self-Supplied through the Day-Ahead and, if necessary, Real-Time Supplemental Reserves market to fulfill the obligation that is not Self-Supplied.

6.4 Supplier Rules and Obligations

6.4.1 Eligibility to Supply: To be eligible to supply Supplemental Reserves in the Day-Ahead Markets for Supplemental Reserve, a Supplier or a Generator contracted by a Supplier must meet criteria (i) to (iv), as follow.

- (i) Subject to Independent Transmission Provider requirements, Suppliers of Supplemental Reserves may use Generators and/or Load that are electrically within or outside the Independent Transmission Provider's Service Area.
- (ii) Suppliers of Supplemental Reserves may use only Generators and/or Load that meet Independent Transmission Provider standards for Generator performance.

- (iii) Suppliers of Supplemental Reserves shall not use, contract to provide, or otherwise commit the capability that is designated to provide Supplemental Reserves to provide Energy, Regulation and Frequency Response, or Spinning Reserve to any party other than the Independent Transmission Provider.
- (iv) Suppliers of Supplemental Reserves shall provide the Bid information specified in Section 4.2.

6.4.2 Specification of Bids: Suppliers of Supplemental Reserves must provide the Bid information in (i) to (iv), as follows.

- (i) Availability Bid price (\$/MWh).
- (ii) Response Rate (MW/Minute) of the Resource supplying Supplemental Reserve.
- (iii) Hours of availability to provide Supplemental Reserve.
- (iv) Any additional physical data required by the Independent Transmission Provider.
- (v) Location of Resource.

6.5 Calculation of Market Clearing Prices for Supplemental Reserves

6.5.1 Methodology for Calculation of Prices: The Independent Transmission Provider shall calculate a Market Clearing Price for each Day-Ahead Market for Supplemental Reserves, using the following methodology.

The Independent Transmission Provider shall establish a Supplier Estimated Supplemental Reserve Price for each Supplier based on the sum of the Supplier's Availability Bid and its Day-Ahead Unit-Specific Opportunity Cost (as defined below). The hourly Day-Ahead Supplemental Reserve Market Clearing Price shall be the higher of (i) the highest Supplier Supplemental Reserve Price needed to meet the Independent Transmission Provider's Supplemental Reserve Requirement for each hour of the Next Day, or (ii) the Market Clearing Price in the hour for a lower quality Supplemental Reserve.

The Unit-Specific Opportunity Costs of a Resource Bidding to sell Supplemental Reserves each hour shall be equal to the product of:

- (i) the deviation of the set point (MWh) of the Generator that is expected to be required in order to provide Supplemental Reserve from the Resource's output level if it had been scheduled or dispatched in economic merit order to provide Energy, times
- (ii) the absolute value of the difference between the Energy LMP at the generation bus for the Resource and the Bid price for Energy from the Resource (at the megawatt level of the Supplemental Reserve set point for the Resource) in the Day-Ahead Energy Market.

6.5.2 Calculation of Zonal or Locational Prices: Separate Day-Ahead Supplemental Reserve Market Clearing Prices will be calculated for Supplemental Reserve located in each distinct Reserve Location for which there is a separate Supplemental Reserve requirement. When there are no binding transmission constraints between Reserve Locations, the Day-Ahead Ancillary Price for Supplemental Reserve shall be the same in each of the locations.

6.5.3 Transmission for Operating Reserves: A Supplier located outside of a particular Reserve Location may provide 10-Minute Supplemental Reserve if the necessary arrangements Energy from the Supplier's capacity to the Reserve Location are made. The cost of any transmission service would have to be included in evaluating the total cost of Operating Reserves.

6.6 Calculation of Additional Payments and Charges

6.6.1 Bid Revenue Sufficiency Guarantee: The Independent Transmission Provider shall calculate, for each Resource scheduled for Supplemental Reserves in the Day-Ahead Market the amount of the Bid Revenue Sufficiency Guarantee payment, pursuant to Section F.1.11.

6.6.2 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other

payments or charges associated with the efficient and reliable operations of the Day-Ahead Markets for Supplemental Reserves.]

6.7 Market Rules for Shortages

- (i) [The Independent Transmission Provider may include in this section market rules, including specification of quantities of Supplemental Reserve purchased, calculation of market prices, and determination of out-of-market payments in the event of a shortfall in the required system requirements for Supplemental Reserves due to a shortage of available capacity. The market rules shall be in accord with regional or local reliability authority rules and procedures and NERC guidelines.]
- (ii) [The Independent Transmission Provider may include in this section procedures for soliciting additional Bids for Supplemental Reserves in the event that Bids and self-supplied provision of Supplemental Reserves submitted in the Day-Ahead Markets fall short of the required system requirements for Supplemental Reserves.]

6.8 Settlement: The Independent Transmission Provider will provide timely settlement of sales of Supplemental Reserves in the Day-Ahead Markets for Supplemental Reserves pursuant to Sections 6.8.1.

6.8.1 Payments to Suppliers

- (i) The Independent Transmission Provider shall pay each Supplier the hourly Day-Ahead Supplemental Reserve Market Clearing Price times the quantity (MW) of the Supplier's Supplemental Reserve capability provided in the hour.

G. Post-Day-Ahead Scheduling and Real-Time Markets

Preamble

The Independent Transmission Provider will operate a Real-Time Market in order to develop a post Day-Ahead Schedule and Real Time Dispatch Schedule for Transmission Service, Energy, and Ancillary Services. The Real-Time Schedule will be developed so as to maximize the combined economic value of transmission service, Energy, and Ancillary Services, based on the Bids submitted.

1. Post-Day-Ahead Bidding and Scheduling Procedures

1.1 General: The Independent Transmission Provider shall establish procedures for modification of the Day-Ahead Schedule and development of the Real-Time Schedule and dispatch that incorporate components (i) to (vi), as follow.

- (i) The Independent Transmission Provider will allow Market Participants that have had selected in the Day-Ahead Schedule (1) a Quantity of Energy, whether a purchase or sale, Regulation or Operating Reserve, (2) a Bilateral Transaction, or (3) a Self-Schedule or Self-Supply, to change the Quantities in the Schedule at any time following the close of the Day-Ahead Market but before the [Scheduling Deadline to be provided by the Independent Transmission Provider] prior to each Dispatch Hour in the Operating Day.
- (ii) The Independent Transmission Provider will allow Suppliers or Purchasers of Energy and Suppliers of Regulation or Operating Reserves that have capacity not selected in the Day-Ahead Schedule to submit new Bids, including Prices (\$/MW) and Quantities (MW), into the Real-Time Market. [Independent Transmission Provider will provide schedule.]
- (iii) The Independent Transmission Provider will allow Market Participants to submit new Bilateral Transactions and Self-Schedules at any time following the close of the Day-Ahead Market but before the [Scheduling Deadline to be provided by the Independent Transmission Provider] prior to each Dispatch Hour in the Operating Day.
- (iv) The Independent Transmission Provider will post on its OASIS the Deadlines for Scheduling Revised or New Quantities and for submission of Price Bids into the Real-Time Market, consistent with the Tariff.
- (v) The Independent Transmission Provider shall establish scheduling procedures for External Transactions during each Hour and Quarter-Hour of the Operating Day, consistent with the requirements established by the Commission.
- (vi) A Supplier or Purchaser in the Real-Time Market, as well as a Bilateral Schedule or Self-Schedule that submits a Price Bid, that follows Independent Transmission Provider Dispatch Instructions that deviate from the previously selected schedules submitted by the Supplier or Purchaser in

the Day-Ahead Market, shall be provided with a Bid Revenue Sufficiency Guarantee, pursuant to Section G.2.3.

1.2 Rules for Self Schedules

1.2.1 Supplier-Committed Self Schedules

- (i) Suppliers that wish to increase the amount of Energy scheduled above the amounts scheduled in the Day-Ahead Market, regardless of the applicable Real-Time Energy LMP, may so inform the Independent Transmission Provider [before the scheduling deadline provided by the Independent Transmission Provider] prior to each Dispatch Hour in the Operating Day.
- (ii) Such Suppliers of Energy are required to submit a MW quantity and a location.

1.3 Rules for Bilateral Transactions

1.3.1 Internal Transactions

- (i) All Internal Transactions submitted or modified after the Day-Ahead Schedule must specify a Receipt Point, a Delivery Point, a MW quantity injected at the Receipt Point and a MW quantity withdrawn at the Delivery Point..
- (ii) Internal Transactions may voluntarily submit a Price Bid (\$/MW) over some or all of the MW range which indicates the Customer's willingness to reduce or eliminate the Transaction in the next Security Constrained Dispatch time period at the Independent Transmission Provider's instruction when the applicable Real-Time Transmission Usage Charge reaches or exceeds the price Bid.
- (iii) Internal Transactions may voluntarily submit a Decremental Energy Bid (in \$/MW) over some or all of the MW range, which indicates the Customer's willingness to reduce the amount of Energy supplied at the Receipt Point at the Independent Transmission Provider's instruction (while retaining the amount of Energy withdrawn at the Delivery

Point) when the Real-Time Energy LMP at the Receipt Point falls below the Decremental Energy Bid.

1.3.2 External Transactions

- (i) All External Transactions submitted or modified after the Day-Ahead Schedule must specify a Receipt Point, a Delivery Point, a MW quantity injected at the Receipt Point and a MW quantity withdrawn at the Delivery Point. Either the Receipt Point or the Delivery Point must be a point at the boundary of the Independent Transmission Provider Service Area. All External Transactions must specify a minimum run time.
- (ii) The Independent Transmission Provider shall offer Market Participants with External Transactions submitted after the Day-Ahead Schedule or modifying the Day-Ahead Schedule two options for scheduling. (1) External Transactions can be scheduled without a Price Bid. (2) External Transactions can be scheduled with a Price Bid (\$/MW) over some or all of the MW quantity being scheduled.
- (iii) External Transactions that are Exports may voluntarily submit a Decremental Energy Bid (in \$/MW) over some or all of the MW range, which indicates the Customer's willingness to reduce the amount of Energy supplied at the Receipt Point at the Independent Transmission Provider's instruction (while retaining the amount of Energy withdrawn at the Delivery Point) when the Real-Time Energy LMP at the Receipt Point falls below the Decremental Energy Bid. External Transactions that are imports may voluntarily submit an Incremental Energy Bid (in \$/MW) over some or all of the MW range, which indicates the Customer's willingness to reduce the amount of Energy withdrawn at the Delivery Point at the Independent Transmission Provider's instruction (while retaining the amount of Energy injected at the Receipt Point) when the Real-Time Energy LMP at the Delivery Point rises above the Incremental Energy Bid.
- (iv) The Independent Transmission Provider will adjust External Transactions schedules on quarter hour notice.

- (v) The Independent Transmission Provider shall accept Short Notice External Transactions (SNETs) following the Real-Time Trading Deadline up to some later SNET Deadline set by the Independent Transmission Provider. SNETs are not eligible to set Real-Time LMPs. SNETs have the lowest priority in the event of Curtailment of Customers.

1.4 Rules for Bidding: The Independent Transmission Provider shall evaluate accept all eligible Bids for Energy Supply and Demand, Regulation, and Operating Reserves. The requirements for Bid eligibility and the Bid Specifications are in Sections G 3.4, G.5.4 and G.7.4.

2. Security Constrained Intra-Day Unit Commitment and Dispatch

2.1 Intra-Day Security Constrained Unit Commitment: The Independent Transmission Provider may undertake a periodic intra-day Security-Constrained Unit Commitment for Resources with Start-up and No-load costs not committed in the Day-Ahead Schedule.

2.2 Security Constrained Dispatch: The Independent Transmission Provider shall run a Security Constrained Dispatch every five minutes to minimize the total Bid Production Costs of meeting the system Load and maintaining scheduled interchanges with adjacent Service Areas over the next Security Constrained Dispatch Interval. Bid Production Costs, for this purpose, will be calculated using selected Day-Ahead and Real-Time Bids for Energy and Ancillary Services submitted into the Real-Time Market. The Independent Transmission Provider shall dispatch the Power System consistent with the Bids that are submitted by Suppliers and accepted by the Independent Transmission Provider, while satisfying the actual system Load.

2.3 Intra-Day Bid Revenue Sufficiency Guarantee: The Independent Transmission Provider shall ensure the minimum recovery of each Reserve's Bid prices for Resources scheduled after the close of the Day-Ahead Market, committed on an intra-day basis, or dispatched through the Real-Time Market.

- (i) The Independent Transmission Provider shall determine, on a daily basis, if any Resource committed by the Independent Transmission Provider in the Real-Time Market will not recover its Start-Up, No Load and Energy Bid Price through revenues in the Real-Time Energy and Ancillary Services markets.

- (ii) If the Start-Up and No Load Bids plus the net Energy and Ancillary Services Bid Price over the twenty-four (24) hour day of any Supply Resource scheduled, committed, or dispatched by the Independent Transmission Provider exceeds its Real-Time LMP revenue and Ancillary Service Revenue over the twenty-four (24) hour day, then that Supplier's Real-Time LMP revenue, the Real-Time Supply Bid Revenue Sufficiency Guarantee payment, shall be augmented by an additional payment in the amount of the shortfall. Resources not scheduled, committed, or dispatched by the Independent Transmission Provider, but which continue to operate shall not receive such a payment. This payment shall be supported through revenue collected from the Supply Bid Revenue Sufficiency Guarantee Charge.
- (iii) If the total Real-Time Energy charges to any Demand Resource over the twenty-four (24) hour day exceeds its maximum willingness to pay, as reflected by the difference of its Real-Time Energy Bids and Start-up Cost Bid, the Demand Resource shall be augmented by a payment, the Demand Bid Revenue Sufficiency Guarantee Payment, in the amount of the overcharge. This payment is supported through revenues collected from the Demand Bid Revenue Sufficiency Guarantee Charge.

3. Real-Time Market for Energy

3.1 General: The Real-Time Market for Energy establishes clearing prices and settlement rules for Suppliers of Energy that have offered eligible Energy capacity to the market and for Purchasers of Energy that have chosen not to self-supply or procure through bilateral contracts.

3.2 Independent Transmission Provider Obligations: The Independent Transmission Provider has the obligations to provide services (i) to (v) for the Real-Time Market for Energy. The rules governing these services are contained in this section.

- (i) Establish and post on its OASIS rules that are consistent with this Tariff for eligibility to supply Energy in the Real-Time Market.
- (ii) Establish and post on its OASIS the Bid data requirements and rules that are consistent with this Tariff and provide the market functions required for determination of hourly Real-Time Energy Market

Clearing Prices and selection of Real-Time Energy Market Suppliers.

- (iii) Establish and post on its OASIS the rules that are consistent with this Tariff for determination of any Additional Payments necessary to support efficient operations of the Real-Time Energy Market and/or the efficient operation of other Real-Time Markets.
- (iv) Provide the Settlement functions associated with purchase and sale of Energy in the Real-Time Market.
- (v) Post the Real-Time LMPs for Energy.

3.3 Purchaser Rules and Obligations

3.3.1 Specification of Bids. Bids to Purchase Energy in the Real-Time Market for Energy shall have the same price, quantity and data requirements as Bids to Purchase Energy in the Day-Ahead Market for Energy, as set forth in Section F.2.3.1. Virtual Demand Bids are not permitted in the Real-Time Market.

3.4 Supplier Rules and Obligations

3.4.1 Eligibility to Supply

- (i) Suppliers of Real-Time Energy may not re-submit capacity selected for Energy in the Day-Ahead Market. Suppliers of Real-Time Energy may lower the Bid Price of capacity not selected for Energy in the Day-Ahead Market.
- (ii) Suppliers of Real-Time Energy shall provide the Bid information specified in Section F.2.4.2.

3.4.2 Specification of Bids: Bids to Supply Energy in the Real-Time Energy Market, including Incremental and Decremental Energy, have the same price, quantity and data requirements as Bids to Supply Energy in the Day-Ahead Market for Energy, as set forth in Sections F.2.3 (b)-(d). Virtual Supply Bids are not permitted in the Real-Time Market.

3.4.3 Period of Bids to Supply Energy: Bids to Supply Incremental Energy or Decremental Energy pursuant to Sections F.3.4.1 - 3.4.2 can vary by price (\$) and quantity (MW) in each Hour of the Real-Time Market.

3.5 Calculation of Real-Time Locational Marginal Prices for Energy

- (i) Immediately in advance of each Security Constrained Dispatch Interval, the Independent Transmission Provider shall post the Real-Time Energy LMPs for each bus on its system that it estimates will clear the market and match Generation with Load during the upcoming Security Constrained Dispatch Interval, based on the Real-Time Bids submitted. These estimated Energy LMPs shall be called Ex Ante LMPs. The pricing calculations for each of these LMPs should be the same as those for the Day-Ahead Market, as set forth in Section F.2.4, with the modifications contained in this Section G.3.5.
- (ii) Power system operations in the Real-Time Market, including, but not limited to, the determination of the least costly means of serving Load, depend upon the availability of a complete and consistent representation of Generator outputs, Loads, and power flows on the network. In calculating LMPs, the Independent Transmission Provider shall obtain a complete and consistent description of conditions on the electric network by using the most recent power flow solution produced by the Independent Transmission Provider's dispatch software and/or software that measures actual system conditions in Real-Time, such as a State Estimator.

3.5.1 Ex Post Energy LMP Calculation: At the close of each Security Constrained Dispatch Interval, the Independent Transmission Provider shall calculate Energy LMPs for each bus on its system that shall be used for settlement of the Real-Time Market. These LMPs shall be called Ex Post Energy LMPs. The Ex Post Energy LMP for a Security Constrained Dispatch Interval at a given bus shall be equal to the lower of (a) the Ex Ante Energy LMP for that bus; and (b) the marginal cost of making available to the bus the Energy actually produced during the Security Constrained Dispatch Interval by suppliers that submitted Real-Time Energy Bids.

3.5.2 Determination of Energy LMPs by Fixed Block Resources: In calculating LMPs in the Day-Ahead Market, the Bid of any Fixed Block Unit (*i.e.*, a unit whose output cannot be adjusted in increments as small as 1 MW) will not be considered in calculating the Day-Ahead LMP at any bus. In calculating LMPs in the Real-Time Market, the price Bid of a Fixed Block Unit may set LMP, but only when some portion of its Energy is necessary to meet Load, displace higher cost Energy, or satisfy Operating Reserves Requirements. The marginal cost of a Fixed Block Unit that forces more economic units to be backed down will not set Real-Time LMP unless needed to meet Load, displace higher price Energy or meet Reserves requirements. The marginal cost of a Fixed Block Unit will not set Real-Time LMP at any other time, including those times when it is scheduled solely to meet its minimum runtime requirements or because of inflexibilities in its operation.

3.5.3 Five Minute Real-Time LMPs: During the Operating Day, the LMP calculation shall be performed every [five minutes, or some other minute by minute interval determined by the system technology and software], using the Independent Transmission Provider's LMP methodology, producing a set of Real-Time Prices based on system conditions during the preceding interval.

3.6 Calculation of Additional Payments and Charges

3.6.1 Bid Revenue Sufficiency Guarantee: The Independent Transmission Provider shall calculate, for each Resource scheduled, committed or dispatched for Energy in the Real-Time Market, the amount of the Bid Revenue Sufficiency Guarantee payment, pursuant to Section G.2.3.

3.6.2 Undergeneration by Suppliers

- (i) [The Independent Transmission Provider may file to establish pricing rules, including market-based penalties, for Suppliers of Energy that persistently provide less Energy in Real-Time than instructed. One market-based penalty is to require the Supplier to buy Regulation at the Real-Time Market Clearing Price for Regulation in a quantity equivalent to the Energy not provided.]

- (ii) [Exemptions: If the Independent Transmission Provider proposes penalties, suppliers, such as intermittants, that have constraints on following Dispatch Instructions or other operating limitations should be exempt from these penalties.]
- (iii) Replacement Reserve Penalty [The Transmission Provider may file to establish market-based penalties for Suppliers of Regulation that provide less Regulation in Real-Time than instructed.]

3.6.3 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other payments or charges associated with the efficient and reliable operations of the Real-Time Markets for Energy.]

3.7 Market Rules for Shortages or Emergencies

- (i) [The Independent Transmission Provider may include in this section market rules, including calculation of market prices and determination of out-of-market payments, in the event of a shortfall in Energy in the Real-Time Market due to a shortage of available capacity or an Emergency. The market rules shall be in accord with regional or local reliability authority rules and procedures and NERC guidelines.]
- (ii) After the Day-Ahead Schedule is published, and up to a pre-specified period prior to each Dispatch Hour, the Independent Transmission Provider may, after giving notice to affected Resources, in order to prevent or address an Emergency, raise their Bid-in upper operating limits to their maximum and make the additional capacity available to the Scheduling for the Real-Time Market.
- (iii) In the event of Emergency, Incremental Energy purchased above a Generator's Hourly Economic Maximum Level and up to the Generator's Hourly Emergency Maximum Level will be settled at the Real-Time LMPs. Decremental Energy purchased below the Hourly Economic Minimum Level and up to the Hourly Emergency Minimum Level will be settled at the higher of (1) the Bid Price for the Decremental Emergency Energy and (2) Real-Time LMPs.

3.8 Settlement: The Independent Transmission Provider will provide timely settlement of purchases and sales of Energy in the Real-Time Market for Energy pursuant to Sections G.3.7.1 and G.3.7.2.

3.8.1 Settlement when Actual Energy Injections are Less than Scheduled Energy Injections: When the actual Energy injections from a Supplier over a Security Constrained Dispatch Interval are less than its Energy scheduled in the Day-Ahead Market to be injected over that SCE interval, the Supplier shall pay for the difference in a charge equal to the product of: (a) the Real-Time Energy LMP calculated for that Security Constrained Dispatch Interval at the applicable Supplier's bus; and (b) the difference between the scheduled Energy injections and the actual Energy injections at that bus.

3.8.2 Settlement when Actual Energy Injections are Greater than Scheduled Energy Injections: When the actual Energy injections from a Supplier over a Security Constrained Dispatch Interval are greater than the Energy scheduled in the Day-Ahead Market to be injected over that Security Constrained Dispatch Interval, the Supplier shall be paid for the difference in a payment equal to the product of: (a) the Real-Time Energy LMP calculated for that Security Constrained Dispatch Interval at the applicable Supplier's bus; and (b) the difference between the actual Energy injections and the scheduled Energy injections at that bus.

3.8.3 Settlement when Actual Energy Withdrawals are Less than Scheduled Energy Withdrawals: When a Customer's actual Energy withdrawals over a Security Constrained Dispatch Interval are less than its Energy withdrawals scheduled in the Day-Ahead Market over that Security Constrained Dispatch Interval, the Customer shall be paid the product of: (a) the Real-Time Energy LMP calculated for that Security Constrained Dispatch Interval at the applicable Customer's bus (or at the Customer's zone, if the Customer elects to calculate and settle Energy purchases at Zonal-LMPs and meets the conditions specified in Section F.2.4(c)(ii)); and (b) the difference between the scheduled Energy withdrawals and the actual Energy withdrawals at that bus.

3.8.4 Settlement when Actual Energy Withdrawals are Greater than Scheduled Energy Withdrawals: When a Customer's actual

Energy withdrawals over a Security Constrained Dispatch Interval are greater than its Energy withdrawals scheduled in the Day-Ahead Market over that Security Constrained Dispatch Interval, the Customer shall pay for the difference in a charge equal to the product of: (a) the Real-Time Energy LMP calculated for that Security Constrained Dispatch Interval at the applicable Customer's bus (or at the Customer's zone, if the Customer elects to calculate and settle Energy purchases at Zonal-LMPs and meets the conditions specified in Section F.2.4(c)(ii)); and (b) the difference between the actual Energy withdrawals and the scheduled Energy withdrawals at that bus.

4. Real-Time Scheduling for Transmission

4.1 General: As in the Day-Ahead Market, Real-Time Energy LMPs serve dual functions, providing (1) the prices for sales and purchases of Energy and (2) market-based prices for Congestion Management, including Congestion Charges to Bilateral Transactions, and Marginal Losses.

4.2 Transmission Bids: Customers may submit Bilateral Transaction Schedules that indicate whether or not they are willing to pay the Marginal Congestion Charge component of the Transmission Usage Charge. If the Bid indicates that the Customer is not willing to pay Congestion Charges, then the Bilateral Transaction will be scheduled only if there is no Marginal Congestion Charge in the Real-Time Market. If the Bid indicates that the Customer is willing to pay Congestion Charges, then the Bilateral Transaction will be scheduled regardless of the Marginal Congestion Charge in the Real-Time Market.

4.3 Real-Time Transmission Usage Charges

The Independent Transmission Provider shall charge a Transmission Usage Charge to all Bilateral Transactions whose transmission service was scheduled after the determination of the Day-Ahead schedule, or who schedule additional transmission service after the determination of the Day-Ahead schedule. This charge is the product of (a) the amount of Energy scheduled (as of pre-determined trading deadline) to be withdrawn by that Customer in each hour, minus the amount of Energy scheduled Day-Ahead to be withdrawn by that Customer in that hour, in MWh; and (b) the Real-Time LMP at the Point of Delivery (which could be a Load Zone in which Energy is scheduled to be withdrawn or the external bus where Energy is

scheduled to be withdrawn if Energy is scheduled to be withdrawn at a location outside the Independent Transmission Provider Service Area), minus the Real-Time LMP at the Point of Receipt, in \$/MWh. The Independent Transmission Provider shall divide each Transmission Usage Charge into separate components for Marginal Costs of Congestion and Marginal Costs of Losses.

4.3.1 Marginal Congestion Component: The Marginal Congestion Component of the Transmission Usage Charge shall be calculated as the Marginal Congestion Component of the Real-Time LMP at the Delivery Point minus the Marginal Congestion Component of the Real-Time LMP at the Receipt Point, as described in Section F.2.5(i).

4.3.2 Marginal Losses Component: The Marginal Losses Component of the Transmission Usage Charge shall be calculated as the Marginal Losses Component of the Real-Time LMP at the Delivery Point minus the Marginal Losses Component of the Real-Time LMP at the Receipt Point, as described in Section F.2.5(ii).

- 4.4 Calculation of Flowgate LMPs:** The Independent Transmission Provider shall calculate and post Ex-Post Flowgate LMPs for the Real-Time Market.
- 4.5 Marginal Loss Charge Collection:** The Real-Time Marginal Loss Charge Collection for any SCD interval is defined here as the sum of the Real-Time Energy Marginal Loss Charge Collection plus the Real-Time Transmission Marginal Loss Charge Collection for that SCD interval. The Real-Time Energy Marginal Loss Charge Collection is defined for any SCD interval of the Real-Time Market as (i) the sum of the net amounts associated with the Marginal Loss Component of the applicable Real-Time Energy LMP charged to: (a) each Supplier whose actual Energy injections over the SCD interval are less than its Energy scheduled in the Day-Ahead Market to be injected over that SCD interval and (b) each Purchaser whose actual Energy withdrawals over the SCD interval exceed its Energy scheduled in the Day-Ahead Market to be withdrawn over that SCD interval; less: (ii) the sum of the net amounts associated with the Marginal Loss Component of the applicable Real-Time Energy LMP paid to (c) each Supplier whose actual Energy injections over the SCD interval exceed its Energy scheduled in the Day-Ahead Market to be injected over that SCD interval and (d) each Purchaser whose actual Energy withdrawals over the SCD interval are less than its Energy scheduled in the Day-Ahead Market to be withdrawn over

that SCD interval. The Real-Time Transmission Marginal Loss Charge Collection for any SCD interval is defined for any SCD interval of the Real-Time Market as the net amounts charged to Customers for Transmission Service scheduled in the Real-Time Market for the SCD interval associated with the Marginal Cost Component of the applicable hourly Transmission Usage Charges; less the net amounts associated with the Marginal Cost Component of the applicable hourly Transmission Usage Charges paid to Customers for Transmission Service scheduled in the Day-Ahead Market for reductions in Transmission Service in the Real-Time Market during the SCD interval.

4.5.1 Determination and Disposition of Marginal Loss Revenue

Surplus: For each SCD interval of the Real-Time Market, the Independent Transmission Provider shall calculate the Marginal Loss Charge Collection and the Net Energy Revenue Owed to Generators for Losses associated with all Transactions. For each SCD interval of the Real-Time Market where the Marginal Loss Charge Collection exceeds the Net Energy Revenue Owed to Generators for Losses associated with all Transactions, the Independent Transmission Provider shall allocate the revenue surplus to reduction in the charge for Network Access Service. [The Independent Transmission Provider shall determine the exact allocation to each Customer and will file procedures for determining the allocation of the revenue surplus to each Customer.]

- 4.6 Disposition of Other Real-Time Revenue Surplus or Deficit:** The Independent Transmission Provider shall calculate, for each Operating Day, the interval of the Real-Time Market, and the net revenue surplus or deficit from the operation of the Real-Time Market (defined as the difference between the revenues collected from all sources and all payment made to all sources, excluding the surplus for losses calculated pursuant to Section G.4.5). The Independent Transmission Provider shall allocate the revenue surplus or deficit for the Operating Day to the Transmission Owners. [The Independent Transmission Provider shall file procedures for determining the allocation of the surplus or deficit to Transmission Owners.]

5. Real-Time Market for Regulation

- 5.1 General:** The Transmission Provider may require additional Regulation capability in response to system conditions in the Operating Day. The Real-Time Market for Regulation establishes clearing prices and settlement

rules for eligible Suppliers of Regulation that have offered Regulation capacity following the close of the Day-Ahead Market. The Transmission Provider shall procure Regulation in this market on behalf of Purchasers who choose not to Self-supply or purchase through bilateral contracts. Both Generation and Load may provide Regulation in the Real-Time Market if they meet criteria for eligibility.

5.2 Independent Transmission Provider Obligations: The Independent Transmission Provider has the obligation to provide services (i) to (viii) for the Real-Time Market for Regulation. The rules governing these services are contained in this section:

- (i) Establish and post on its OASIS criteria and requirements in accord with local reliability authority rules and NERC guidelines such that there is sufficient provision of Regulation in the Real-Time Dispatch.
- (ii) Establish and post on its OASIS rules for eligibility to supply Regulation in the Real-Time Market.
- (iii) Provide Base Point Signals to Generators providing Regulation to direct the Generator's output.
- (iv) Establish and post on its OASIS the Bid data requirements and rules and provide the market functions required for determination of hourly Real-Time Regulation Market Clearing Prices and selection of Real-Time Regulation Market Suppliers. Establish how the pricing rules and selection procedures will be modified in the event of a shortage of Regulation capacity during the Operating Day.
- (v) Monitor the Suppliers' performance to ensure that they provide Regulation Service as required.
- (vi) Establish and post on its OASIS the rules for determination of any Additional Payments necessary to support efficient operations of the Real-Time Regulation Market and/or the efficient operation of other Real-Time Markets.
- (vii) Provide the Settlement functions associated with purchase and sale of Regulation in the Real-Time Market.
- (viii) Post the Real-Time Regulation Market Clearing Prices.

5.3 Purchaser Rules and Obligations

- (i) Market Participants with a Regulation Requirement may fulfill their requirement by (1) self-scheduling an eligible Generator or Demand-Side Resource, (2) a bilateral contract with an eligible Supplier, or (3) purchasing from the Regulation Market.
- (ii) Self-suppliers and purchasers of Regulation through Bilateral Contract must provide data on location and physical capabilities of the Generator or Supplier providing Regulation (see Section 4.2).

5.4 Supplier Rules and Obligations

5.4.1 Eligibility to Supply

- (i) Suppliers of Regulation may only use Generators and/or Load that are electrically within the Independent Transmission Provider's Service Area.
- (ii) Suppliers of Regulation may only use Generators and/or Load that are able to respond to AGC Base Point Signals sent by the Independent Transmission Provider pursuant to the Independent Transmission Provider Procedures.
- (iii) Suppliers of Regulation may only use Generators and/or Load that meet Independent Transmission Provider standards for Generator performance.
- (iv) Suppliers of Regulation shall not use, contract to provide, or otherwise commit the capability that is designated to provide Regulation to provide Energy or Spinning Reserve to any party other than the Independent Transmission Provider.
- (v) Suppliers of Regulation shall provide the Bid information specified in Section 4.2.
- (vi) Suppliers of Real-Time Regulation may not re-submit capacity selected for Energy in the Day-Ahead Market. Suppliers of Real-Time Regulation may lower the Bid Price of capacity selected for Energy in the Day-Ahead Market.

5.4.2 Specification of Bids

Suppliers of Regulation must provide the following Bid information:

- (i) Availability Bid price (\$/MWh).
- (ii) Regulation Capability (MW) of the Generator supplying Regulation.
- (iii) Response Rate (MW/Minute) of the Generator supplying Regulation.
- (iv) Upper and Lower Regulation Limits (MW).
- (v) Hours of availability to provide Regulation.
- (vi) Any additional physical data required by the Independent Transmission Provider.

5.4.3 Bidding and Scheduling Process

- (i) Bids rejected by the Independent Transmission Provider in the Day-Ahead Market may be modified and resubmitted into the Real-Time Market by the Supplier to the Independent Transmission Provider. [The Independent Transmission Provider Tariff will provide Procedures].
- (ii) Bids in the Day-Ahead Market that are not accepted by the Independent Transmission Provider shall be automatically considered for the Real-Time Market, unless withdrawn by the Supplier.
- (iii) If a Supplier reduces its available MW subsequent to being scheduled to provide Regulation or Operating Reserves (either Day-Ahead or in a Supplemental Commitment), and if it, as a result, can no longer provide both the amount of Energy it was scheduled to provide Day-Ahead and the amount of Regulation and Operating Reserves it was scheduled to provide, the Independent Transmission Provider will first reduce the amount of Operating Reserves it is scheduled to provide, and then will reduce the amount of

Regulation it is scheduled to provide, until the total amount of Energy, Regulation and Operating Reserves it is scheduled to provide is equal to its available MW (or until it is no longer scheduled to provide Regulation or Operating Reserves).

5.5 Calculation of Market Clearing Price: The Independent Transmission Provider shall calculate a Market Clearing Price for the Real-Time Market for Regulation, using the following methodology.

The Independent Transmission Provider shall establish a Supplier Regulation Price for each Supplier based on the sum of the Supplier's Availability Bid and its Real-Time Unit-Specific Opportunity Cost (as defined below). The Real-Time Regulation Market Clearing Price shall be the higher of (i) the highest Supplier Regulation Price needed to meet the Independent Transmission Provider's Regulation Requirement for each Dispatch Interval, or (ii) the highest Market Clearing Price in Dispatch Interval for Spinning Reserves or Supplemental Reserves.

The Unit-Specific Opportunity Costs of a Resource for bidding to sell Regulation shall be equal to the product of:

- (i) the deviation of the Regulation set point of the Generator that is required to provide Regulation from the Resource's output level if it had been scheduled or dispatched in economic merit order to provide Energy, times
- (ii) the greater of (a) the \$/MWh difference between the Real-Time Energy LMP at the generation bus for the Resource and the Real-Time Bid price for Energy from the Resource (at the megawatt level of the Regulation set point for the Resource) in the Real-Time Energy Market or (b) zero.

5.6 Calculation of Additional Payments and Charges

5.6.1 Bid Revenue Sufficiency Guarantee: Resources scheduled for Regulation in the Real-Time Market are eligible for the Bid Revenue Sufficiency Guarantee, pursuant to Section G.2.3.

5.6.2 Failure to Provide Regulation in Real-Time: The Independent Transmission Provider shall, if a Resource providing Regulation Service trips off line, immediately attempt to re-establish a supply

for the remainder of that Resource's commitment. Any additional cost incurred by the Independent Transmission Provider as a result of covering the defaulting Resource's remaining commitment shall be reimbursed to the Independent Transmission Provider by the defaulting Supplier. If the Availability payment for the replacement Regulation Service decreases, the Independent Transmission Provider shall not pay the defaulting Supplier the difference in cost.

5.6.3 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other payments or charges associated with the efficient and reliable operations of the Real-Time Markets for Regulation.]

5.7 Market Rules for Shortages or Emergencies

(i) [The Independent Transmission Provider may include in this section market rules, including specification of quantities and calculation of prices, in the event of a shortfall in the required system requirements for Regulation in the Real-Time Market. The market rules shall be in accord with regional or local reliability authority rules and procedures and NERC guidelines.]

5.8 Settlement: The Independent Transmission Provider will provide timely settlement of purchases and sales of Regulation in the Real-Time Market for Regulation pursuant to Sections 5.8.1 and 5.8.2.

5.8.1 Payments by Purchasers

(i) The Independent Transmission Provider shall calculate the total obligation for Regulation for each Load-Serving Entity for each hour of the Operating Day. The total hourly obligation for each Load-Serving Entity in an Operating Day shall equal the product of (a) the total Regulation requirement for the Independent Transmission Provider's Service Area for the hour of the Operating Day and (b) the ratio of (1) the Load-Serving Entity's total actual Load in the hour to (2) the total actual Load in the Independent Transmission Provider's Service Area in the hour of the of the Operating Day. The net obligation for Regulation of a Load-Serving Entity in an hour of the Operating Day shall be equal to the greater of (a) the Load-Serving Entity's total obligation minus the amount of

Regulation that it has Self-Supplied in the Day-Ahead Market or (b) zero.

- (ii) For each hour of the Operating Day, each Load-Serving Entity shall be charged an amount equal to the product of (1) the aggregate net amount paid by the Independent Transmission Provider in the Day-Ahead and Real-Time Markets to procure Regulation for the hour, and (2) the ratio of (a) the Load-Serving Entity's net obligation for Regulation in the hour to (b) the sum of the net obligations for Regulation of all Load-Serving Entities in the Independent Transmission Provider's Service Area in the hour.

5.8.2 Payments to Suppliers

- (i) The Independent Transmission Provider shall pay Suppliers the Real-Time Regulation Market Clearing Price times the quantity (MW) of Regulation capability.
- (ii) The Independent Transmission Provider shall pay Suppliers any Additional Payments necessary to provide Real-Time Regulation in accord with efficient market operations.

5.9 Monitoring Suppliers and Generators

- (i) The Independent Transmission Provider may establish:
 - (1) Resource performance measurement criteria;
 - (2) Procedures to disqualify Suppliers using Resources that consistently fail to meet such criteria; and
 - (3) Procedures to re-qualify disqualified Suppliers, which may include a requirement to first demonstrate acceptable performance for a time.
- (ii) The Independent Transmission Provider shall establish and implement a Performance Tracking System to monitor the performance of Resources that provide Regulation Service.

- (iii) Payments by the Independent Transmission Provider to each Supplier of Regulation Service may be based on the Resource's performance with respect to the performance indices. Suppliers that fail to perform at a level consistent with these indices may forfeit all or a substantial portion of their Availability payments, which would otherwise be payable for the subject hour. Suppliers that consistently fail to perform adequately may be disqualified by the Independent Transmission Provider, pursuant to Independent Transmission Provider Procedures. [The Independent Transmission Provider would include such procedures in this section.]

6. Real-Time Market for Operating Reserve - Spinning Reserve

6.1 General: The Transmission Provider may require additional Spinning Reserves capability in response to system conditions in the Operating Day. The Real-Time Market for Spinning Reserve establishes clearing prices and settlement rules for eligible Suppliers of Spinning Reserve that have offered Spinning Reserve capacity to the market. The Transmission Provider shall procure Regulation in this market on behalf of Purchasers who choose not to Self-supply or purchase through Bilateral Contracts. Both Generation and Load may Bid to provide Spinning Reserve in the Real-Time Market if they meet criteria for eligibility.

6.2 Independent Transmission Provider Obligations: The Independent Transmission Provider has the obligation to provide services (i) to (viii) for the Real-Time Market for Spinning Reserve. The rules governing these services are contained in this section:

- (i) Establish and post on its OASIS Spinning Reserve criteria and requirements in accord with local reliability authority rules and NERC guidelines.
- (ii) Establish and post on its OASIS rules for eligibility to supply Spinning Reserve in the Real-Time Market.
- (iii) Establish and post on its OASIS minimum technical requirements and performance standards for a Generator and/or Load to provide Spinning Reserve.
- (iv) Establish and post on its OASIS the Bid data requirements and rules and provide the market functions required for determination of

hourly Real-Time Spinning Reserve Market Clearing Prices and selection of Real-Time Spinning Reserve Market Suppliers. It shall make this selection with the objective of minimizing the cost of meeting Load and providing all necessary Ancillary Services in that hour. Establish how the pricing rules and selection procedures will be modified in the event of a shortage of Spinning Reserve capacity during the Operating Day.

- (v) Establish and post on its OASIS the rules for determination of any Additional Payments necessary to support efficient operations of the Real-Time Spinning Reserve Market and/or the efficient operation of other Real-Time Markets.
- (vi) Provide the Settlement functions associated with purchase and sale of Spinning Reserve in the Real-Time Market.
- (vii) Post the Real-Time Spinning Reserve Market Clearing Prices.

6.3 Purchaser Rules and Obligations

6.3.1 Market Participants with a Spinning Reserve Requirement may fulfill their requirement by

- (i) (1) self-supplying an eligible Generator or Demand-Side Resource; (2) a bilateral contract with an eligible Supplier; or (3) purchasing from the Spinning Reserve Market.
- (ii) Self-suppliers and purchasers of Spinning Reserve through Bilateral Contract must provide data on location and physical capabilities of the Generator or Supplier providing Spinning Reserve (see Section 4.2)

6.4 Supplier Rules and Obligations: Suppliers whose Generators or demand side Resources have not been scheduled to provide Spinning Reserve and which still have Capacity that is synchronized with the grid and has not been committed for use in any other way may submit Bids to provide Spinning Reserve to the Independent Transmission Provider.

6.4.1 Eligibility to Supply

- (i) Suppliers of Spinning Reserve may only use Generators and/or Load that are electrically within the Independent Transmission Provider's Service Area.
- (ii) Suppliers of Spinning Reserve may only use Generators and/or Load that meet Independent Transmission Provider standards for Generator performance.
- (iii) Suppliers may not contract to provide, or otherwise commit any Capacity from a Generator that has been scheduled to operate or to provide Operating Reserves, in either the Day-Ahead commitment or any supplemental commitment conducted by the Independent Transmission Provider.
- (iv) Suppliers of Spinning Reserve shall not use, contract to provide, or otherwise commit the capability that is designated to provide Spinning Reserve to provide Energy, Regulation or Supplemental Reserve to any party other than the Independent Transmission Provider. Suppliers may enter into alternate sales arrangements utilizing any capacity that has not been scheduled to operate or to provide Operating Reserves.
- (v) Suppliers of Spinning Reserve shall provide the Bid information specified in Section 4.2.
- (vi) Suppliers may not increase the Energy Bids made for the portions of those Generators that have been scheduled Day-Ahead to provide Spinning Reserve.
- (vii) Suppliers selected for Spinning Reserve in the Day-Ahead Market may not re-submit that capacity at a higher price into the Real-Time Market for Spinning Reserve. They may lower the Bid Price of the capacity not selected Day-Ahead to ensure selection in the Real-Time Market.

6.4.2 Specification of Bids: Suppliers of Spinning Reserve must provide the following Bid information:

- (i) Response Rate (MW/Minute) of the Generator supplying Spinning Reserve.

- (ii) Hours of availability to provide Spinning Reserve.
- (iii) Any additional physical data required by the Independent Transmission Provider.

6.5 Calculation of Market Clearing Price

6.5.1 Methodology for Calculation of Prices: The Independent Transmission Provider shall calculate a Market Clearing Price for the Real-Time Market for Spinning Reserve, using the following methodology.

The Independent Transmission Provider shall establish a Supplier Spinning Reserve Price for each Supplier based on its Real-Time Unit-Specific Opportunity Cost (as defined below). The Real-Time Spinning Reserve Market Clearing Price shall be the higher of (i) the highest Supplier Spinning Reserve Price for each Dispatch Interval needed to meet the Independent Transmission Provider's Spinning Reserve Requirement, or (ii) the highest Market Clearing Price in the Dispatch Interval for Supplemental Reserves.

The Unit-Specific Opportunity Costs of a Resource Bidding to sell Spinning Reserve shall be equal to the product of:

- (i) the deviation of the set point (MWh) of the Generator that is required to provide Spinning Reserve from the Resource's output level if it had been scheduled or dispatched in economic merit order to provide Energy, times
- (ii) the greater of (a) the \$/MWh difference between the Real-Time Energy LMP at the generation bus for the Resource and the Bid price for Energy from the Resource (at the megawatt level of the Spinning Reserve set point for the Resource) in the Real-Time Energy Market or (b) zero.

6.5.2 Calculation of Zonal or Locational Prices: Separate Real-Time Spinning Reserve Market Clearing Prices will be calculated for Spinning Reserve located in each distinct Reserve Location for which there is a separate Spinning Reserve requirement. When there are no binding transmission constraints between Reserve Locations,

the Real-Time Spinning Reserve Market Clearing Price shall be the same in each of the locations.

6.5.3 Transmission for Operating Reserves. A Supplier located outside of a particular Reserve Location may provide Spinning Reserves if the necessary transmission arrangements to deliver Energy from the Supplier's capacity to the Reserve Location are made. The cost of any transmission service would have to be included in evaluating the total cost of Operating Reserves.

Suppliers scheduled for Spinning Reserve shall not receive Opportunity Cost payments for capacity that was not available to be scheduled to generate Energy.

6.6 Calculation of Additional Payments and Charges

6.6.1 Bid Revenue Sufficiency Guarantee: Resources scheduled for Spinning Reserve in the Real-Time Market are eligible for the Bid Revenue Sufficiency Guarantee, pursuant to Section G.2.3.

6.6.2 Failure to Perform in Real-Time: When reserve is activated, the Independent Transmission Provider shall measure actual performance against expected performance and may charge financial penalties to Suppliers of Spinning Reserve which fail to perform in accordance with their accepted Bids. [The Independent Transmission Provider may file penalties.]

6.6.3 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other payments or charges associated with the efficient and reliable operations of the Real-Time Markets for Spinning Reserves.]

6.7 Market Rules for Shortages or Emergencies

(i) [The Independent Transmission Provider may include in this section market rules, including specification of quantities, calculation of market clearing prices, and determination of out of market payments in the event of a shortfall in the required system requirements for Spinning Reserves due to a shortage of available capacity or an Emergency.]

- (ii) In the event of a shortfall of total capacity available for Operating Reserves in the Real-Time Market, the Independent Transmission Provider shall first reduce the amount of Supplemental Reserve that is procured, followed by the amount of Supplemental Reserve, followed by the amount of Spinning Reserve.

6.8 Settlement: The Independent Transmission Provider will provide timely settlement of purchases of Spinning Reserves and sales of Spinning Reserve in the Real-Time Market for Spinning Reserve pursuant to Sections 6.8 .1 and 6.8.2.

6.8.1 Payments by Purchasers

- (i) The Independent Transmission Provider shall calculate the total obligation for Spinning Reserve for each Load-Serving Entity for each hour of the Operating Day. The hourly total obligation of each Load-Serving Entity in an Operating Day shall equal the product of (a) the total Spinning Reserve Requirement for the Independent Transmission Provider's Service Area for the hour of the Operating Day and (b) the ratio of (1) the Load-Serving Entity's total actual Load in the hour to (2) the total actual Load in the Independent Transmission Provider's Service Area in the hour of the Operating Day. The net obligation for Spinning Reserve of a Load-Serving Entity in an hour of the Operating Day shall be equal to the greater of the Load-Serving Entity's total obligation minus the amount of Spinning Reserve that is Self-Supplied in the Day-Ahead Market or (b) zero.
- (ii) For each hour of the Operating Day, each Load-Serving Entity shall be charged an amount equal to the product of (1) the aggregate net amount paid by the Independent Transmission Provider in the Day-Ahead and Real-Time Markets to procure Spinning Reserve for the hour and (2) the ratio of the Load-Serving Entity's net obligation for Spinning Reserve in the hour to the sum of the net obligations for Spinning Reserve of all Load-Serving Entities in the Independent Transmission Provider's Service Area in the hour.

6.8.2 Payments to Suppliers

- (i) The Independent Transmission Provider shall pay each Supplier selected to provide more Spinning Reserve in an hour than it was scheduled Day-Ahead the Real-Time Spinning Reserve Market Clearing Price at its location, multiplied by the amount (MW) of Spinning Reserve that Supplier provided that was in excess of the amount scheduled to be provided Day- Ahead, if any.

6.8.3 Payments by Suppliers

- (i) The Supplier shall pay the Independent Transmission Provider for any Spinning Reserve that it was scheduled Day-Ahead to provide in an hour but did not provide. The payment will be the Real-Time Spinning Reserve Market Clearing Price at its location, multiplied by the amount (MW) of scheduled Spinning Reserve that Supplier did not provide.
- (ii) The Supplier shall pay the Independent Transmission Provider any Additional Payments associated with failure to perform according to its Real-Time schedule, pursuant to Section 6.6.

6.9 Failure to Provide Operating Reserves: If a Supplier reduces its available capacity subsequent to being scheduled to provide Regulation Service or Operating Reserves (either Day-Ahead or in a commitment of Replacement Reserves), and if the Independent Transmission Provider must, as a result, reduce the amount of Operating Reserves that Supplier is scheduled to provide in accordance with this Tariff, the Independent Transmission Provider will first reduce the lowest quality Supplemental Reserve that Generator is scheduled to provide.

If it is still necessary to reduce the amount of Operating Reserves that Supplier is scheduled to provide, the Independent Transmission Provider will reduce the amount, in order of quality, of the higher quality Supplemental Reserves that Generator is scheduled to provide.

Finally, if it is still necessary to reduce the amount of Operating Reserves that Supplier is scheduled to provide, the Independent Transmission Provider will reduce the amount of Spinning Reserve that Generator is scheduled to provide.

If a Supplier scheduled Day-Ahead to provide Operating Reserves trips off-line and consequently is unable to provide Spinning Reserve, or if the amount of Operating Reserves a Supplier is scheduled to provide is decreased due to a reduction in that Supplier's capacity, it shall be charged the Real-Time Operating Reserve price at its location in each hour for the relevant category of Operating Reserves applied to the reduction in the amount of Operating Reserves it was scheduled Day-Ahead to provide at that location.

If the Independent Transmission Provider calls for a Supplier of any category of Operating Reserves (other than a Supplier that has previously tripped off-line) to generate Energy with part or all of the capacity that the Independent Transmission Provider has scheduled to provide any category of Operating Reserves, and that Supplier fails to provide the amount of Energy requested by the Independent Transmission Provider within the time applicable for the scheduled Operating Reserves, the Independent Transmission Provider shall:

- (i) not pay the non-performing Supplier for any shortfall in the amount of Energy provided;
- (ii) charge the Supplier for any shortfall in the amount of Energy provided, at the Real-Time LMP for Energy at that Supplier's location;
- (iii) charge the Supplier a regulation penalty; and
- (iv) reduce any Availability payments for the scheduled Operating Reserves, and any Opportunity Cost payments, if applicable, that the Supplier would otherwise have received for the 24-hour billing period in which that Supplier failed to perform as scheduled. The Availability payments and the Opportunity Cost payments, if applicable, that the Supplier would have received will be calculated by multiplying the average ratio of the amount of Energy supplied to the amount of Energy scheduled, during any activation of that Supplier during that 24-hour billing period by the applicable Availability payments and Opportunity Cost payments, if applicable, that the Supplier would otherwise have received.

If a Generator providing Operating Reserves has repeatedly failed to provide Energy when called upon by the Independent Transmission

Provider, the Independent Transmission Provider may preclude that Generator from providing Operating Reserves in the future. If a specific Generator has been precluded from supplying Operating Reserves, the Independent Transmission Provider shall require that Generator to pass a re-qualification test before accepting any additional Bids to supply Operating Reserves from that Generator.

7. Real-Time Markets for Operating Reserves - Supplemental Reserves

7.1 General: The Transmission Provider may require additional Supplemental Reserves capability in response to system conditions in the Operating Day. The Real-Time Markets for Supplemental Reserves establish clearing prices and settlement rules for eligible Suppliers of Supplemental Reserve that have offered Supplemental Reserve capacity to the market. The Transmission Provider shall procure Supplemental Reserves for Purchasers that have chosen not to Self-supply or purchase through Bilateral Contracts. Both Generation and Load may Bid to provide Supplemental Reserves in the Real-Time Market if they meet criteria for eligibility.

7.2 Independent Transmission Provider Obligations: The Independent Transmission Provider has the obligation to provide services (i) to (vii) for the Real-Time Markets for Supplemental Reserves. The rules governing these services are contained in this section:

- (i) Establish and post on its OASIS Supplemental Reserves criteria and requirements in accord with local reliability authority rules and NERC guidelines.
- (ii) Establish and post on its OASIS rules for eligibility to supply Supplemental Reserves in the Real-Time Market.
- (iii) Establish and post on its OASIS minimum technical requirements and performance standards for a Generator to provide Supplemental Reserves.
- (iv) Establish and post on its OASIS the Bid data requirements and rules and provide the market functions required for determination of hourly Real-Time Supplemental Reserves Market Clearing Prices and selection of Real-Time Supplemental Reserves Market Suppliers. Establish how the pricing rules and selection procedures

will be modified in the event of a shortage of Supplemental Reserves capacity during the Operating Day.

- (v) Establish and post on its OASIS the rules for determination of any Additional Payments necessary to support efficient operations of the Real-Time Supplemental Reserves and/or the efficient operation of other Real-Time Markets.
- (vi) Provide the Settlement functions associated with purchase and sale of Supplemental Reserves in the Real-Time Market.
- (vii) Post the Real-Time Supplemental Reserves Market Clearing Prices.

7.3 Purchaser Rules and Obligations

- (i) Market Participants with Supplemental Reserves requirements may fulfill their requirement by (1) self-supplying an eligible Generator or Demand-Side Resource, (2) a bilateral contract with an eligible Supplier, or (3) purchasing from the Supplemental Reserves Market.
- (2) Self-suppliers and purchasers of Supplemental Reserves through Bilateral Contracts must provide data on location and physical capabilities of the Generator or Supplier providing Supplemental Reserve (see Section 4.2).

7.4 Supplier Rules and Obligations:

- (i) During the day, Suppliers that have not been scheduled to provide Supplemental Reserves and which still have capacity that has not been committed for use in any other way may submit Bids to provide Supplemental Reserves to the Independent Transmission Provider.
- (ii) The Real-Time Bids may differ from Bids that were made by those Suppliers in the Day-Ahead commitment subject to possible Bid restrictions imposed to mitigate market power.
- (iii) Suppliers Bidding to supply Supplemental Reserves that have not already been scheduled to provide Supplemental Reserves may change their Real-Time Bids from one hour to the next subject to possible Bid restrictions imposed to mitigate market power.

- (iv) The Independent Transmission Provider shall notify each Supplier of Supplemental Reserves that has been scheduled in the Real-Time dispatch of the amount of Supplemental Reserves it must provide. Any Supplier whose Bid to provide Supplemental Reserves is accepted by the Independent Transmission Provider in the Real-Time dispatch must make its Generators or demand side Resources available for dispatch by the Independent Transmission Provider. Suppliers of Supplemental Reserves shall respond to direction by the Independent Transmission Provider to activate.

7.4.1 Eligibility to Supply

- (i) Subject to Independent Transmission Provider requirements, Suppliers of Supplemental Reserves may use Generators and/or Load that are electrically within or outside the Independent Transmission Provider's Service Area.
- (ii) Suppliers of Supplemental Reserve may only use Generators and/or Load that meet Independent Transmission Provider standards for Generator performance.
- (iii) Suppliers of Supplemental Reserves shall not use, contract to provide, or otherwise commit the capability that is designated to provide Supplemental Reserves to provide Energy, Regulation or Spinning Reserve to any party other than the Independent Transmission Provider.
- (iv) Suppliers of Supplemental Reserves shall provide the Bid information specified in Section 4.2.
- (v) Suppliers may not use, contract to provide or otherwise commit any capacity on any Resource that has been scheduled to provide Supplemental Reserves in the Day- Ahead commitment or in the Real-Time dispatch.

7.4.2 Specification of Bids: Suppliers of Supplemental Reserves must provide the following Bid information:

- (i) Response Rate (MW/Minute) of the Generator supplying Supplemental Reserve.

- (ii) Hours of availability to provide Supplemental Reserve.
- (iii) Any additional physical data required by the Independent Transmission Provider.

7.5 Calculation of Market Clearing Price for Supplemental Reserve

7.5.1 Methodology for Calculation of Prices: The Independent Transmission Provider shall calculate a Market Clearing Price for each Real-Time Market for Supplemental Reserves, using the following methodology.

The Independent Transmission Provider shall establish a Supplier Supplemental Reserve Price for each Supplier based on Unit-Specific Opportunity Cost (as defined below). The Real-Time Supplemental Reserve Market Clearing Price shall be the higher of (i) the highest Supplier Supplemental Reserve Price needed to meet the Independent Transmission Provider's Supplemental Reserve Requirement for each Dispatch Interval, or (ii) the Market Clearing Price in any Dispatch Interval for any lower quality Supplemental Reserve.

The Unit-Specific Opportunity Costs of a Resource Bidding to sell Supplemental Reserve in each Dispatch Interval shall be equal to the product of:

- (i) the deviation of the set point (MWh) of the Generator that is required in order to provide Supplemental Reserve from the Resource's output level if it had been scheduled or dispatched in economic merit order to provide Energy, times
- (ii) the absolute value of the difference between the Real-Time Energy LMP at the generation bus for the Resource and the Bid price for Energy from the Resource (at the megawatt level of the Supplemental Reserve set point for the Resource) in the Real-Time Energy Market.

7.5.2 Calculation of Zonal or Locational Prices. Separate Real-Time Supplemental Reserve Market Clearing Prices will be calculated for Supplemental Reserve located in each distinct Reserve Location for which there is a separate Supplemental Reserve requirement. When

there are no binding transmission constraints between Reserve Locations, the Real-Time Ancillary Price for Supplemental Reserve shall be the same in each of the locations.

7.5.3 Transmission for Operating Reserves. A Supplier located outside of a particular Reserve Location may provide Supplemental Reserve if the necessary transmission arrangements to deliver Energy from the Supplier's capacity to the Reserve Location are made. The cost of any transmission service would have to be included in evaluating the total cost of Operating Reserves.

7.6 Calculation of Additional Payments and Charges

7.6.1 Bid Revenue Sufficiency Guarantee: Resources scheduled for Supplemental Reserves in the Real-Time Market are eligible for the Bid Revenue Sufficiency Guarantee, pursuant to Section G.2.3.

7.6.2 Failure to Perform in Real-Time: When reserve is activated, the Independent Transmission Provider shall measure actual performance against expected performance and shall charge financial penalties as detailed in Section 6.9, to Suppliers of Reserves which fail to perform in accordance with their accepted Bids. [The Independent Transmission Provider may file penalties.]

7.6.3 Exceptions: Notwithstanding anything to the contrary in this Rate Schedule, no payments shall be made to any Supplier providing Operating Reserves for reserves provided by that Supplier in excess of the amount of Operating Reserves scheduled by the Independent Transmission Provider either Day-Ahead or in any subsequent schedule.

The market clearing price paid to Suppliers of any category of Operating Reserve shall not be determined by any Bid to supply Operating Reserve that has not been accepted by the Independent Transmission Provider.

7.6.5 Other Payments and Charges: [The Independent Transmission Provider may include in this section market rules for any other payments or charges associated with the efficient and reliable operations of the Real-Time Markets for Supplemental Reserves.]

7.7 Market Rules for Shortages or Emergencies:

- (i) [The Independent Transmission Provider may include in this section market rules, including specification of quantities, calculation of market clearing prices, and determination of out of market payments in the event of a shortfall in the required system requirements for Supplemental Reserves due to a shortage of available capacity or an Emergency.]
- (ii) In the event of a shortfall of total capacity available for Supplemental Reserves in the Real-Time Market, the Independent Transmission Provider shall first reduce the amount of any lower quality Supplemental Reserve that is procured, in order of quality, followed by the amount of higher quality Supplemental Reserves.

7.8 Settlement: The Independent Transmission Provider will provide timely settlement of purchases of Supplemental Reserves and sales of Supplemental Reserves in the Real-Time Market pursuant to Sections 7.8.1 and 7.8.2.

7.8.1 Payments by Purchasers

- (i) The Independent Transmission Provider shall calculate the total obligation for Supplemental Reserve for each Load-Serving Entity for each hour of the Operating Day. The hourly total obligation of each Load-Serving Entity in an Operating Day shall equal the product of (a) the total Supplemental Reserve Requirement for the Independent Transmission Provider's Service Area for the hour of the Operating Day and (b) the ratio of (1) the Load-Serving Entity's total actual Load in the hour to (2) the total actual Load in the Independent Transmission Provider's Service Area in the hour of the Operating Day. The net obligation for Supplemental Reserve of a Load-Serving Entity in an hour of the Operating Day shall be equal to the greater of the Load-Serving Entity's total obligation minus the amount of Supplemental Reserve that is Self-Supplied in the Real-Time Market or (b) zero.
- (ii) For each hour of the Operating Day, each Load-Serving Entity shall be charged an amount equal to the product of (1)

the aggregate net amount paid by the Independent Transmission Provider in the Real-Time Markets to procure Supplemental Reserve for the hour and (2) the ratio of the Load-Serving Entity's net obligation for Spinning Reserve in the hour to the sum of the net obligations for Supplemental Reserve of all Load-Serving Entities in the Independent Transmission Provider's Service Area in the hour.

7.8.2 Payments to Suppliers

- (i) The Independent Transmission Provider shall pay each Supplier selected to provide more Supplemental Reserve in an hour than it was scheduled Day-Ahead the Real-Time Supplemental Reserve Market Clearing Price at its location, multiplied by the amount (MW) of Supplemental Reserve that Supplier provided that was in excess of the amount scheduled to be provided Day-Ahead, if any.

7.8.3 Payments by Suppliers

- (i) The Supplier shall pay the Independent Transmission Provider for any Supplemental Reserves that it was scheduled Day-Ahead to provide in an hour but did not provide. The payment will be the Real-Time Supplemental Reserve Market Clearing Price at its location, multiplied by the amount (MW) of Day-Ahead scheduled Supplemental Reserve that the Supplier did not provide.
- (ii) The Supplier shall pay the Independent Transmission Provider any Additional Payments associated with failure to perform according to its Real-Time schedule, pursuant to Section 7.6.3.

8. Other Real-Time Payments and Charges

8.1 Bid Revenue Sufficiency Guarantee Payments for Replacement Reserves

8.1.1 Payments to Suppliers. The Independent Transmission Provider shall determine, on a daily basis, if any Resource that it has committed to provide Replacement Reserves for the operating day pursuant to Section F.1.8 has not recovered its Start-up, No-load, and Energy Bid Prices through revenues in the Real-Time Energy and Ancillary Services Markets. If the Start-up, No-load, and Energy Bids over the twenty-four (24) hour Operating Day of any such Resource exceed its combined Revenue from the Real-Time Markets for Energy and Ancillary Services, then that Resource's revenue shall be augmented by an additional payment, called the Real-Time Bid Revenue Sufficiency Guarantee payment, in the amount of the revenue shortfall.

8.1.2 Charges to Customers. A purchase of Real-Time Energy is deemed to be made by any Customer whose actual Energy injections in any hour of the Operating Day is less than its injections scheduled for that hour in the Day-Ahead Market, and by any Customer whose actual Energy withdrawals in any hour in the Operating Day exceed its withdrawals scheduled for that hour in the Day-Ahead Market. All uninstructed purchases of Real-Time Energy, i.e., Real-Time Energy purchased by a Customer without being instructed to do so

by the Independent Transmission Provider, shall be subject to a Replacement Reserves charge. The Independent Transmission Provider shall calculate Replacement Reserves charges for the Operating Day as follows. The Independent Transmission Provider shall calculate the sum of all uninstructed purchases of Real-Time Energy over the Operating Day and shall compare that sum to the aggregate MWhs of Replacement Reserves that it committed over the Operating Day pursuant to Section F.1.8.

- (i) If the sum of all uninstructed purchases of Real-Time Energy greater than or equal to the aggregate MWhs of Replacement Reserves committed over the Operating Day, then the Replacement Reserve charge for each Customer i shall be calculated as:

$$\text{Replacement Reserve charge for Customer } i = (P/U) \times u_i$$

where:

P is the sum of the aggregate payments made pursuant to Section G.8.1.1 for the Operating Day;

U is the sum of all uninstructed purchases of Real-Time Energy by all Customers (in MWhs) over the Operating Day;
and

u_i is the aggregate uninstructed purchases of Real-Time Energy by Customer i over the Operating Day.

- (ii) If the sum of all uninstructed purchases of Real-Time Energy is less than the aggregate MWhs of Replacement Reserves committed over the Operating Day, then the Replacement Reserve charge for each Customer i shall be calculated as:

$$\text{Replacement Reserve charge for Customer } i = (P/R) \times d_i$$

where:

P is the sum of the aggregate payments made pursuant to Section G.8.1.1 for the Operating Day;

R is the aggregate MWhs of Replacement Reserves that the Independent Transmission Provider has committed over the Operating Day pursuant to Section F.1.8.

u_i is the aggregate uninstructed purchases of Real-Time Energy by Customer i over the Operating Day.

8.1.3 Unrecovered Bid Revenue Sufficiency Guarantee Payments.

Any amounts of Bid Revenue Sufficiency Guarantee payments for an Operating Day made pursuant to Section G.8.1.1 that are not recovered through Replacement Reserve charges for the Operating Day pursuant to Section G.8.1.2 shall be recovered in a separate charge to all Load-Serving Entities in the Independent Transmission Provider's Service Area. The charge for each Load-Serving Entity for the Operating Day shall equal to the product of (a) the total amounts of Bid Revenue Sufficiency Guarantee payments for an Operating Day made pursuant to Section G.8.1.1 that are not recovered through Replacement Reserve charges for the Operating Day pursuant to G.8.1.2 and (b) the ratio of (1) the Load-Serving Entity's total actual Load over the Operating Day to (2) the total actual Load within the Independent Transmission Provider's Service Area over the Operating Day.

8.2 Other Real-Time Bid Revenue Sufficiency Guarantee Payments

8.2.1 Payments to Suppliers. The Independent Transmission Provider shall pay each Resource scheduled, committed, or dispatched by the Independent Transmission Provider after the close of the Day-Ahead Market (other than a Resource committed to supply Replacement Reserves) the real-time Bid Revenue Sufficiency Guarantee payment for the Operating Day, calculated pursuant to Section G.2.3(ii).

8.2.2 Charges to Customers. A purchase of Real-Time Energy is deemed to be made by any Customer whose actual Energy injections in any hour of the Operating Day is less than its injections scheduled for that hour in the Day-Ahead Market, and by any Customer whose actual Energy withdrawals in any hour in the Operating Day exceed its withdrawals scheduled for that hour in the Day-Ahead Market. Each Customer purchasing Real-Time Energy shall pay a Real-Time Bid Revenue Sufficiency Guarantee payment. The Bid Revenue

Sufficiency Guarantee payment for any Customer i for the Operating Day shall be calculated based on the following formula:

$$\text{Bid Revenue Sufficiency Guarantee for Customer } i = G \times (C_i / D)$$

where:

G is the sum of all Bid Revenue Sufficiency Guarantee payments made for the Operating Day pursuant to Section G.8.2.1;

C_i is the total purchases of Real-Time Energy by Customer i during the Operating Day; and

D is the sum of the total purchases of Real-Time Energy by all Customers over the Operating Day.

PART IV. Market Monitoring

Each Independent Transmission Provider must file a market monitoring plan in accordance with the Commission's regulations as part of this Tariff.

H. Market Power Mitigation and Market Monitoring

1. Market Power Mitigation

1.1 Participating Generator Agreements: The participating generator agreement between the Independent Transmission Provider and a generator will include a provision to require that all available capacity of the generator must be scheduled or offered to the Day-Ahead and Real-Time markets at bids that do not exceed specified Bid caps under non-competitive conditions to be specified in the agreement.

1.2 Determination of Bid Caps

1.2.1 The Safety-Net Bid Cap: The MMU will establish a safety-net Bid cap that will apply to all markets at all times.

1.2.2 Generator-specific Bid Caps: The MMU will establish for each Generator identified in Section H.1.4.1 below Bid caps that may apply to each Bid-in parameter when mitigation is warranted. These shall include: Bid caps for Energy, regulation service, operating reserves, start-up costs, no-Load costs, incremental and decremental Energy costs, and any other parameter allowed to vary in Day-Ahead and Real-Time markets.

1.3 Determination of Available Capacity: Available capacity is all capacity not scheduled or on an outage.

1.3.1 Adjustments to Available Capacity to Reflect Risk of Forced Outages in Real-Time Market: Independent Transmission Provider may file provisions.

1.3.2 Available Capacity Reduced by Forced Outages Subject to Audit: Units declaring a forced outage would be subject to audit by the MMU. If the outage was not proved to be justified, then the Generator shall be subject to a penalty. [The Independent Transmission Provider shall specify the type of penalty.]

1.4 Determination of Non-competitive Conditions

1.4.1 Local Non-competitive Conditions: The MMU shall identify specific Generators that are frequently needed to support the operation of the grid and sellers that own facilities in identified Load pockets with fewer than __ independent suppliers. Participating Generator Agreements for these entities will require that they be subject to Local Market Power Mitigation.

1.4.2 Other Non-competitive Conditions: The MMU shall identify other non-competitive conditions as necessary.

1.5 Triggering Mitigation

1.5.1 Market Power Mitigation Independent of Market Conditions: The Independent Transmission Provider may not accept any Bid into the Day-Ahead or Real-Time markets that exceeds the higher of: (a) the safety-net Bid cap specified in Section H.1.2.1; or (b) the bid cap specified in a Participating Generator Agreement.

1.5.2 Market Power Mitigation Triggered by Section H.1.4.1: When mitigation is triggered by Section H.1.4.1, the units will be required to offer all available capacity to the Day-Ahead and Real-Time markets at bids that do not exceed applicable bid caps determined in H.1.2.2.

1.5.3 Market Power Mitigation Triggered by Section H.1.4.2: To be specified.

2. Market Monitoring Plan

The transmission and power markets administered by the Independent Transmission Provider will be monitored on an on-going basis by the Market Monitoring Unit (MMU). The MMU reports directly to the Commission and the governing board of the transmission provider.

2.1 Data Requirements and Data Collection: The MMU shall collect and evaluate data provided by the Independent Transmission Provider and Market Participants in order to identify inefficiencies in the markets or the market design, and individual Market Participant behavior that may be a

prohibited exercise of market power or a violation of this Tariff or other market rules.

2.1.1 Obligations of Market Participants: As a condition of participating in the markets operated by the Independent Transmission Provider, all Market Participants shall be required to comply with information requests from the MMU. Any disputes concerning whether the information is necessary or how the information is to be provided or how any confidential information could be used should first be attempted to be resolved either through dispute resolution or the Commission's Office of Market Oversight and Investigations (Hotline). If the parties are then unable to resolve the dispute, a complaint under Section 206 of the Federal Power Act may be filed.

2.1.2 Generator-Specific data: The MMU shall have the responsibility to collect all Generator-specific data needed to evaluate whether a seller is exercising market power and to establish Bid restrictions that may be imposed when markets are not sufficiently competitive. The data shall include, at a minimum: start-up, no Load, and shut-down costs, environmental restrictions, fuel costs, maintenance costs, heat rates, ramp rates, high and low operating levels, and minimum run times.

2.1.3 Data Acquired in the Course of Conducting Market Operations: The MMU shall have immediate access to all Bid data submitted to the Independent Transmission Provider.

2.1.4 Other Publicly Available Data: The Market Monitor shall collect all data needed to assess the overall competitiveness of its markets. The data would include, but not be limited to, information on market shares of Generation Capacity by type and location, information on planned and unplanned Generator and transmission outages, and plans for transmission expansions and upgrades, and Generator interconnection requests.

2.1.5 Confidentiality: All information obtained by the MMU, that is specific to a Market Participant, shall be treated confidentially.

2. 2 Framework for Analyzing Market Structure and Generator Conduct

2.2.1 Obligations of the Market Monitor: The MMU shall conduct a structural analysis of the markets in the region to include in a state of the market report to the Commission, the committee of state representatives, and the transmission provider's Board of Directors. In addition, the MMU must evaluate the conduct of Market Participants. Any flaws in the market rules that are identified by the Market Monitor, and any Market Participant conduct that indicates exercises of market power, shall be remedied prospectively, unless the conduct violates existing rules, in which case the consequences shall be predetermined and specified in this Tariff.

2.2.1 Structural Analysis: The MMU shall develop an analysis of the overall competitiveness of the markets operated by the Transmission Provider. The analysis will be performed at least annually and will report on the following at a minimum: market concentration by Generator type and region, transmission constraints and Load pockets that may give rise to market power concerns, conditions for entry or new supply, the development of demand response, and development of a competitive benchmark.

2.2.2 Conduct Analysis: The MMU will monitor the conduct of individual Market Participants. The Market Monitor shall review planned transmission and generation outages to ensure that scheduling outages are not used to enhance or create opportunities to exercise Generator market power. Analysis of Market Participant conduct may include a review of Bidding behavior to identify any auction design flaws that may give Market Participants an unanticipated incentive and ability to manipulate market-clearing prices or up-lift payments. Finally, the Market Monitor shall evaluate the effectiveness of the Participating Generator Agreements in mitigating market power where market structure is not sufficiently competitive.

2.3 Annual Reports: No later than May 31 of each year, the Market Monitor shall file a State of the Markets Report with the Commission which includes the results of the Market Monitor's structural and conduct analyses. This report shall address such items as market concentration, demand response programs, Load pockets, and transmission constraints and an assessment of the performance of the markets administered by the Transmission Provider.

In addition, this report shall identify any actions taken by the Market Monitor.

- 2.4 Periodic Reports:** The Market Monitor shall submit a report to the Commission if it detects behavior that cannot be cured within the Market Monitor's authority or if it detects behavior that would require a change in market rules. These reports should be made as soon as practicable after the behavior is detected.
- 3. Rules for Market Participant Conduct:** Market Participants must comply with the following rules:
- 3.1 Physical Withholding:** Entities may not physically withhold the output of an Electric Facility (Generating unit or Transmission Facility) by (a) falsely declaring that an Electric Facility has been forced out of service or otherwise become unavailable, or (b) failing to comply Section H.1.5.2.
- 3.2 Economic Withholding:** Entities may not economically withhold by submitting high bids that are not consistent with the caps specified in Section H.1.2.
- 3.3 Availability Reporting:** Entities must comply with all reporting requirements governing the availability and maintenance of a Generating Unit or Transmission Facility, including proper Outage scheduling requirements. Entities must immediately notify the Transmission Provider when capacity changes or resource limitations occur that affect the availability of the unit or facility or the ability to comply with dispatch instructions.
- 3.4 Factual Accuracy:** All applications, schedules, reports, or other communications to the Transmission Provider or the Market Monitor must be submitted by a responsible company official who is knowledgeable of the facts submitted. All information submitted must be true to the best knowledge of the person submitting the information.
- 3.5 Information Obligation:** Entities must comply with requests for information or data by the Market Monitor or the Transmission Provider that are consistent with the Tariff.
- 3.6 Cooperation:** Entities must assist and cooperate in investigations or audits conducted by the Market Monitor.

- 3.7 Physical Feasibility:** All Bids or schedules that designate Resources must be physically feasible within the limits of the Resource, i.e., the Resource is physically capable of supplying the Energy, Ancillary Service, or demand response needed to fulfill a schedule or Bid according to the physical limitations of the Resource.
- 3.8 Enforcement:** The Market Monitor is responsible for the enforcement of the rules in this section. Violations of these rules will be subject to the following penalties: [to be added]

I. Long-Term Resource Adequacy

This section sets forth terms and conditions requiring each Load-Serving Entity to meet its share of the region's Resource Adequacy Requirement. The Resource Adequacy Requirement will ensure that in the future each Load-Serving Entity will have secured generation, transmission, and demand response resources sufficient to meet real-time load and a reasonable operating reserve margin necessary to maintain the stable and reliable operation of the transmission system.

[Additional details will be completed and filed by each Independent Transmission Provider as part of its compliance filing.]

1. Data Submission for the annual forecast of future regional load

- (i) [There may be regional variation in forecast methodology. Some regions may wish to do a bottom up forecast. The following wording will then be needed.] [Annually, on or before _____ (each Independent Transmission Provider shall insert the relevant date here), each Load Serving Entity shall submit its demand forecast for the Planning Horizon.]

2. Assignment of Resource Adequacy Requirements

- (ii) Annually, on or before _____ [each Independent Transmission Provider shall insert the relevant date here], the Independent Transmission Provider shall assign a share of the region's Resource Adequacy Requirement to each Load Serving Entity within the region based on the ratio of the load.

3. Load Serving Entity's submission for Resource Adequacy Requirements

- (i) Annually, on or before _____ [each Independent Transmission Provider shall insert the relevant date here], each Load Serving Entity shall submit a proposed plan to meet its assigned Resource Adequacy Requirement to the Independent Transmission Provider.
- (ii) Plans for meeting the assigned Resource Adequacy Requirement may rely upon generation, transmission, and/or demand response, subject to the standards set forth in this section of the Tariff, and Independent Transmission Provider's review of operational feasibility.
- (iii) The Independent Transmission Provider shall audit each plan for compliance with the standards set forth in Section I.4 and for operational feasibility. [Each Independent Transmission Provider shall establish a review and resubmission process, with reasonable time frames, to achieve compliant and operationally feasible plans within a specified end date.]

4. Resource Adequacy Requirement Standards

- (ii) Each Load-Serving Entity must satisfy the Independent Transmission Provider that the resources to be relied upon for future Resource Adequacy Requirements are in compliance with the standards of this section of the Tariff and are operationally feasible, dedicated to serving the Load-Serving Entity without prior or conflicting claim, and can be delivered to the load to be served as and if needed to meet future requirements.

- (ii) [Each Independent Transmission Provider shall list in its open access electricity transmission Tariff specific requirements it intends to impose on each Load-Serving Entity such that the Load Serving Entity's resources qualify to meet its share of the Resource Adequacy Requirement.]

5 Penalties

[Each Independent Transmission Provider shall list in its open access electricity transmission Tariff specific penalties it intends to impose.]

- (i) Each Load-Serving Entity that has not met its allocated share of the Resource Adequacy Requirement, shall be subject to penalty rates for spot market energy purchases during the last year of the Planning Horizon to the extent of the resource shortage whenever the Independent Transmission Provider's market has available less than a minimally acceptable level of operating reserves.
- (ii) Penalties will increase on a graduated basis as the Independent Transmission Provider's operating reserves level falls below minimally acceptable levels. (For example, for deficiencies up to 1 percent, the penalty would be \$500/MWh, plus the prevailing market price for energy. As the operating reserve level falls, the premium of the penalty over the prevailing market price for energy would increase: over 1 percent up to 2 percent, the penalty would be \$600/MWh; over 2 percent up to 3 percent, the penalty would be \$700/MWh; and so forth.)

6 Curtailment

- (i) A Load-Serving Entity that fails to implement curtailment (load shedding) when ordered by the Independent Transmission Provider shall be assessed a penalty of \$1,000 per MWh, in addition to the LMP, for all unauthorized energy taken following an instruction to implement curtailment (load shedding).

Part V. Other

J. Generation Interconnection Procedures (to be provided in a separate rule)

Part VI. Transmission Planning and Expansion

K. Transmission Planning and Expansion

Each Independent Transmission Provider must file its transmission planning and expansion plan as part of this Tariff.

PART VI. PRO FORMA SERVICE AGREEMENTS
Form Of Service Agreement For
Network Access Transmission Service

- 1.0 This Service Agreement, dated as of _____, is entered into, by and between _____ (the Independent Transmission Provider), and _____ ("Customer").
- 2.0 The Customer has been determined by the Independent Transmission Provider to have a Completed Application for Network Access Service under the Tariff.
- 3.0 The Customer has provided to the Independent Transmission Provider an Application deposit, if applicable, in accordance with the provisions of Section B.2.2 of the Tariff.
- 4.0 Service under this agreement shall commence on the later of (1) the requested service commencement date, or (2) the date on which construction of any Direct Assignment Facilities and/or Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service under this agreement shall terminate on such date as mutually agreed upon by the parties.
- 5.0 The Independent Transmission Provider agrees to provide and the Customer agrees to take and pay for Network Access Service in accordance with the provisions of Part II of the Tariff and this Service Agreement.
- 6.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

Independent Transmission Provider:

Customer:

7.0 The Tariff is incorporated herein and made a part hereof.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

Independent Transmission Provider:

By: _____
Name Title Date

Customer:

By: _____
Name Title Date

Specifications For Network Access Service
for Customers with Designated Resources and for
Long-Term Customers without Designated Resources

1.0 Term of Transaction: _____

Start Date: _____

Termination Date: _____

2.0 Description of capacity and Energy to be transmitted by Independent Transmission Provider including the electric Service Area in which the transaction originates.

3.0 Receipt Points or Network Resource(s): _____

Delivering Party: _____

4.0 Delivery Points or Network Load: _____

Receiving Party: _____

5.0 Designation of party(ies) subject to reciprocal service obligation: _____

6.0 Name(s) of any Intervening Systems providing transmission service: _____

8.0 Service under this Agreement may be subject to some combination of the charges detailed below plus any applicable Congestion Charges. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of the Tariff.)

8.1 Network Access Charge: _____

8.2 System Impact and/or Facilities Study Charge(s):

8.3 Direct Assignment Facilities Charge: _____

8.4 Ancillary Services Charges: _____

**FORM OF SERVICE AGREEMENT
FOR MARKET SERVICES**

1. This Service Agreement dated as of _____ is entered into by and between _____ (Independent Transmission Provider) and _____ (Customer).
2. The Customer represents and warrants that it has met all applicable requirements set forth in the Independent Transmission Provider's Tariff and has complied with all applicable Procedures under the Tariff.
3. The Independent Transmission Provider agrees to provide and the Customer agrees to pay for Market Services in accordance with the provisions of the Independent Transmission Provider's Tariff and to satisfy all obligations under the terms and conditions of the Independent Transmission's Provider's Tariff, as may be amended from time-to-time, filed with the Federal Energy Regulatory Commission (Commission). The Independent Transmission Provider and the Customer all agree that this Service Agreement shall be subject to, and shall incorporate by reference, all of the terms and conditions of the Independent Transmission Provider's Tariff and Procedures.
4. It is understood that, in accordance with the Independent Transmission Provider's Tariff, the Independent Transmission Provider may amend the terms and conditions of this Service Agreement by notifying the Customer in writing and make the appropriate filing with the Commission.
5. The Customer represents and warrants that:
 - (a) The Customer is an entity duly organized, validly existing and/or otherwise qualified to do business under the laws of the State of _____ and is in good standing under its [insert organizational document] and the laws of the State of [insert state of organization];
 - (b) This Service Agreement, or any Transaction entered into pursuant to the Service Agreement, as applicable, has been duly authorized;
 - (c) The execution, delivery and performance of this Service Agreement will not materially conflict with, constitute a material breach of, or a material default under, any of the terms, conditions, or provisions of any law or order of any agency of government, the [insert organizational document] of the Customer, any contractual limitation, organizational limitation or outstanding trust indenture, deed of trust,

mortgage, loan agreement, other evidence of indebtedness, or any other agreement or instrument to which Customer is a party or by which it or any of its property is bound, or in a material breach of, or a material default under, any of the foregoing; and

(d) This Service Agreement is the legal, valid, and binding obligation of the Customer enforceable in accordance with its terms, except as it may be rendered unenforceable by reason of bankruptcy or other similar laws affecting creditors' rights, or general principles of equity.

The Customer warrants and covenants that, during the term of the Service Agreement, the Customer shall be in compliance with all federal, state, and local laws, rules, and regulations related to the Customer's performance under the agreement.

4. Service under this Service Agreement shall commence on the later of: _____, or such other date as it is permitted to become effective by the Commission. Service under this Service Agreement shall terminate on _____.

5. The Independent Transmission Provider agrees to provide and the Customer agrees to take and pay for, or to supply to the Independent Transmission Provider, Energy, capacity, and Ancillary Services in accordance with the provisions of the Independent Transmission Provider's Tariff and this Service Agreement.

6. Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below:

Independent Transmission Provider:

Customer:

7. Cancellation Rights:

If the Commission or any regulatory agency having authority over this Service Agreement determines that any part of this Service Agreement must be changed, the Independent Transmission Provider shall offer to the Customer an amended Service Agreement reflecting such changes. In the event that the Customer does not execute such an amendment within thirty (30) days, or longer if the Parties mutually agree to an extension, after the Commission's action, this Service Agreement and the amended Service Agreement shall be void.

8. Early Termination by the Customer:

The Customer may terminate service under this Service Agreement no earlier than ninety (90) days after providing the Independent Transmission Provider with written notice of the Customer's intention to terminate; except that a Load-Serving Entity must continue to take service under the Independent Transmission Provider's Tariff as long as it continues to serve Load within the Independent Transmission Provider's Service Area. In the event that tax-exempt financing of a Customer is jeopardized by its participation under this Service Agreement, the Customer is jeopardized by its participation under this Service Agreement, the Customer may terminate this Service Agreement upon thirty (30) days written notice to the Independent Transmission Provider. The Customer's provision of notice to terminate service under this Service Agreement shall not relieve the Customer of its obligation to pay any rates, charges, or fees due under this Service Agreement, and which are owed as of the date of termination.

9. The Customer hereby appoints the Independent Transmission Provider as its agent for the limited purpose of effectively transacting on the Customer's behalf in accordance with the Customer's written instructions, listed herein and the terms of the Independent Transmission Provider's Tariff and Procedures. The Customer agrees to pay all amounts due and chargeable to the Customer in accordance with the terms of the Independent Transmission Provider's Tariff and Procedures.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

Independent Transmission Provider: _____

By: _____

Dated: _____

Title: _____

Customer: _____

By: _____

Dated: _____

Title: _____

FORM OF PARTICIPATING GENERATOR AGREEMENT

[To be provided by Independent Transmission Provider.]

PART VII. ATTACHMENTS

ATTACHMENT A

Methodology To Assess Available Transfer Capability

To be filed by the Independent Transmission Provider based on the following guidelines:

Available Transfer Capability must be calculated on a regional basis by an independent entity. In an RTO or ISO, the Independent Transmission Provider may calculate Available Transfer Capability. Vertically integrated utilities not a part of an RTO or ISO must contract with an independent entity to calculate Available Transfer Capability on its system. The calculation of Available Transfer Capability must take into account the effect of other transmission systems in the interconnection (e.g., loop flow and parallel path flows).

ATTACHMENT B

Methodology for Completing a System Impact Study

To be filed by the Independent Transmission Provider.

ATTACHMENT C

Network Operating Agreement

To be filed by the Independent Transmission Provider.

ATTACHMENT D

Index Of Network Access Service Customers

<u>Customer</u>	<u>Date of Service Agreement</u>
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ATTACHMENT E

Index Of Market Services Customers

<u>Customer</u>	<u>Date of Service Agreement</u>
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ATTACHMENT F

RATES

To be filed by the Independent Transmission Provider.

ATTACHMENT G

List of Existing Transmission Contracts

Customer Commission Designation Date of Contract Termination Date