

New York Independent System Operator, Inc  
Open Access Transmission Tariff

## **1. Definitions**

## 1.4 Definitions - D

**DADRP Component:** As defined in the ISO Services Tariff.

**Day-Ahead:** Nominally, the twenty-four (24) hour period directly preceding the Dispatch Day, except when this period may be extended by the ISO to accommodate weekends and holidays.

**Day-Ahead LBMP:** The LBMPs calculated based upon the ISO's Day-Ahead Security Constrained Unit Commitment process.

**Day-Ahead Market:** The ISO Administered Market in which Capacity, Energy and/or Ancillary Services are scheduled and sold Day-Ahead consisting of the Day-Ahead scheduling process, price calculations and Settlements.

**Day-Ahead Reliability Unit:** A Day-Ahead committed Resource which would not have been committed but for the commitment request by a Transmission Owner in order to meet the reliability needs of the Transmission Owner's local system which request was made known to the ISO prior to the close of the Day-Ahead Market.

**Decremental Bid:** A monotonically increasing Bid Price curve provided by an entity engaged in a Bilateral Import or Internal Transaction to indicate the LBMP below which that entity is willing to reduce its Generator's output and purchase Energy in the LBMP Markets, or by an entity engaged in a Bilateral Wheel Through transaction to indicate the Congestion Component cost below which that entity is willing to accept Transmission Service.

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

**Demand Side Resources:** A Resource that results in the control of a Load in a responsive, measurable, and verifiable manner and within time limits established in the ISO Procedures.

**Dennison Scheduled Line:** A transmission facility that interconnects the NYCA to the Hydro Quebec Control Area at the Dennison substation, located near Massena, New York and extends through the province of Ontario, Canada (near the City of Cornwall) to the Cedars substation in Quebec, Canada.

**Dependable Maximum Net Capability ("DMNC"):** The sustained maximum net output of a Generator, as demonstrated by the performance of a test or through actual operation, averaged over a continuous time period as defined in the ISO Procedures.

**Designated Agent:** Any entity that performs actions or functions on behalf of the Transmission Owner, an Eligible Customer, or the Transmission Customer required under the Tariff.

**Desired Net Interchange ("DNI"):** A mechanism used to set and maintain the desired Energy interchange (or transfer) between two Control Areas; it is scheduled ahead of time and can be changed only manually in real-time.

**Developer:** An Eligible Customer developing a generation project larger than 20 megawatts, or a merchant transmission project, proposing to interconnect to the New York State Transmission System, in compliance with the NYISO Minimum Interconnection Standard and, depending on the Developer's interconnection service election, also in compliance with the NYISO Deliverability Interconnection Standard.

**Direct Assignment Facilities:** Facilities or portions of facilities that are constructed by the Transmission Owner(s) for the sole use/benefit of a particular Transmission Customer requesting service under the ISO OATT. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Transmission Customer and shall be subject to Commission approval.

**Direct Sale:** The sale of ETCNL, and Grandfathered TCCs directly to a buyer by the Transmission Owner that is the Primary Holder through a non-discriminatory auditable sale conducted on the ISO's OASIS, in compliance with the requirements and restrictions set forth in Commission Orders 888 et seq. and 889 et seq.

**Dispatchable:** A bidding mode in which Generators or Demand Side Resources indicate that they are willing to respond to real-time control from the ISO. Dispatchable Resources may either be ISO-Committed Flexible or Self Committed Flexible. Dispatchable Demand Side Resources must be ISO Committed Flexible. Dispatchable Resources that are not providing Regulation Service will follow five-minute RTD Base Point Signals. Dispatchable Resources that are providing Regulation Service will follow six-second AGC Base Point Signals.

**Dispatch Day:** The twenty-four (24) hour (or, if appropriate, the twenty-three (23) or twenty-five (25) hour) period commencing at the beginning of each day (0000 hour).

**Dispute Resolution Administrator ("DRA"):** An individual hired by the ISO to administer the Dispute Resolution Process established in the ISO Tariffs and ISO Agreement.

**Dispute Resolution Process ("DRP"):** The procedures: (1) described in the ISO Tariffs and the ISO Agreement that are used to resolve disputes between Market Participants and the ISO involving services provided under the ISO Tariffs (excluding applications for rate changes or other changes to the ISO Tariffs or rules relating to such services); and (2) described in the ISO/NYSRC Agreement that are used to resolve disputes between the ISO and NYSRC involving the implementation and/or application of the Reliability Rules.

**DSASP Component:** As defined in the ISO Services Tariff.

## 1.5 Definitions - E

**East of Central-East:** An electrical area comprised of Lead Zones F, G, H, I, J, and K, as identifies in the ISO Procedures.

**East of Central-East Excluding Long Island:** An electrical area comprised of Lead Zones F, G, H, I, and J, as identified in the ISO Procedures.

**East of Central-East Excluding New York City and Long Island:** An electrical area comprised of Land Zones F, G, H, I, as identifies in the ISO Procedures.

**Economic Operating Point:** The megawatt quantity which is a function of: i) the real-time LBMP at the Resource bus; and ii) the Supplier's real-time eleven constant cost step Energy Bid, for the Resource, such that (a) the offer price associated with Energy offers below that megawatt quantity (if that megawatt quantity is not that Resource's minimum output level) must be less than or equal to the real-time LBMP at the Resource bus, and (b) the offer price associated with Energy offers above that megawatt quantity (if that megawatt quantity is not that Resource's maximum output level) must be greater than or equal to the real-time LBMP at the Resource bus. In cases where multiple megawatt values meet conditions (a) and (b), the Economic Operating Point is the megawatt value meeting these conditions that is closest to the Resource's real-time scheduled Energy injection. In cases where the Economic Operating Point would be less than the minimum output level, the Economic Operating Point will be set equal to the MW value of the first point on the Energy Bid curve and in cases where the Economic Operating Point would be greater than the maximum output level, the Economic Operating Point will be set equal to the MW value of the last point on the Energy Bid curve.

**Eligible Customer:** (i) Any electric utility (including the Transmission Owner and any power marketer), Federal power marketing agency, or any person generating Energy for sale for resale is an Eligible Customer under the Tariff. Electric energy sold or produced by such entity may be electric 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 Transmission Owner offer the unbundled transmission service, or pursuant to a voluntary offer of such service by the Transmission Owner. (ii) Any retail customer taking unbundled transmission service pursuant to a state requirement that the Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by the Transmission Owner, is an Eligible Customer under the Tariff.

**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 an electric system.

**Emergency State:** The state that the NYS Power System is in when an abnormal condition occurs that requires automatic or immediate, manual action to prevent or limit loss of the NYS Transmission System or Generators that could adversely affect the reliability of the NYS Power System.

**End-State Centralized TCC Auction:** A Centralized TCC Auction that the ISO will conduct after the ISO develops the necessary software.

**Energy (“MWh”):** 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 and Ancillary Services Component:** As defined in the ISO Services Tariff.

**Equivalency Rating:** As defined in the ISO Services Tariff.

**ETA Agent:** A Transmission Customer of the ISO that has been appointed by a Load Serving Entity and approved by the ISO in accordance with ISO Procedures for the purpose of enabling that Transmission Customer to hold all of the rights and obligations associated with Fixed Price TCCs, as provided for in Attachment M of this OATT.

**ETCNL TCC:** A TCC created when a Transmission Owner with ETCNL exercises its right to convert a megawatt of ETCNL into a TCC pursuant to Section 19.4.1 of Attachment M of this ISO OATT.

**Excess Congestion Rents:** Congestion revenues in the Day-Ahead Market for Energy collected by the ISO that are in excess of its Day-Ahead payment obligations. Excess Congestion Rents may arise if Congestion occurs in the Day-Ahead Market for Energy and if the Day-Ahead Transfer Capability of the Transmission System is not exhausted by the set of TCCs and Grandfathered Rights that have been allocated at the completion of the last Centralized TCC Auction.

**Existing Transmission Agreement (“ETA”):** An agreement between two or more Transmission Owners, or between a Transmission Owner and another entity, as defined in this Tariff.

**Existing Transmission Capacity for Native Load:** Transmission capacity identified on a Transmission Owner’s transmission system to serve the Native Load Customers of the current Transmission Owners (as of the filing date of the original ISO Tariff-January 31, 1997) for the purposes of allocating revenues from the sale of TCCs related to that capacity. This includes transmission capacity required: (1) to deliver the output from generating facilities located out of a Transmission Owner’s Transmission District; (2) to deliver power purchased under power supply contracts; and (3) to deliver power purchased under third party agreements (i.e., Non-Utility Generators). Existing Transmission Capacity for Native Load is listed in Attachment L, Table 3, “Existing Transmission Capacity Reservations for Native Load Table.”

**Expected Load Reduction:** For purposes of determining the Real-Time Locational Based Marginal Price, the reduction in Load expected to be realized in real-time from activation of the Emergency Demand Response Program and from Load reductions requested from Special Case Resources, as established pursuant to ISO Procedures.

**Exports:** A Bilateral Transaction or purchases from the LBMP Market where the Energy is delivered to an NYCA interconnection with another Control Area.

**External:** An entity (e.g., Supplier, Transmission Customer) or facility (e.g., Generator, Interface) located outside the Control Area being referenced or between two or more Control Areas. Where a specific Control Area is not referenced, the NYCA is the intended reference.

**External Transactions:** Purchases, sales or exchanges of Energy, Capacity or Ancillary Services for which either the Point of Injection (“POI”) or Point of Withdrawal (“POW”) or both are located outside the NYCA (i.e., Exports, Imports or Wheels Through).

## 1.9 Definitions - I

**Import Curtailment Guarantee Payment:** A payment made in accordance with Section 4.5.3.2 and Attachment J of the ISO Services Tariff to compensate a Supplier whose Import is Curtailed by the ISO.

**Imports:** A Bilateral Transaction or sale to the LBMP Market where Energy is delivered to a NYCA Interconnection from another Control Area.

**Imputed Revenue:** The Congestion Rents that owners of Grandfathered Rights do not have to pay due to their own use of those Grandfathered Rights.

**Inadvertent Energy Accounting:** The accounting performed to track and reconcile the difference between net actual Energy interchange and scheduled Energy interchange of a Control Area with adjacent Control Areas.

**Incremental Energy Bid:** A series of monotonically increasing constant cost incremental Energy steps that indicate the quantities of Energy for a given price that an entity is willing to supply to the ISO Administered Markets.

**Incremental TCC:** A set of point-to-point Transmission Congestion Contract(s) that is awarded pursuant to Section 19.2.2 of Attachment M to this ISO OATT.

**Independent System Operator, Inc. (“ISO”):** The New York Independent System Operator, a not-for-profit corporation established pursuant to the ISO Agreement.

**Independent System Operator Agreement (“ISO Agreement”):** The agreement that establishes the New York ISO.

**Independent System Operator/New York State Reliability Council (“ISO/NYSRC Agreement”):** The agreement between the ISO and the New York State Reliability Council governing the relationship between the two organizations.

**Independent System Operator/Transmission Owner Agreement (“ISO/TO Agreement”):** The agreement that establishes the terms and conditions under which the Transmission Owners transferred to the ISO Operational Control over designated transmission facilities.

**Installed Capacity:** A Generator or Load facility that complies with the requirements in the Reliability Rules and is capable of supplying and/or reducing the demand for Energy in the NYCA for the purpose of ensuring that sufficient Energy and Capacity are available to meet the Reliability Rules. The Installed Capacity requirement, established by the NYSRC, includes a margin of reserve in accordance with the Reliability Rules.

**Interconnection or Interconnection Points (“IP”):** The point(s) at which the NYCA connects with a distribution system or adjacent Control Area. The IP may be a single tie line or several tie lines that are operated in parallel.



**Interface:** A defined set of transmission facilities that separate Load Zones and that separate the NYCA from adjacent Control Areas.

**Interface MW - Mile Methodology:** The procedure used to allocate Original Residual TCCs determined prior to the first Centralized TCC Auction to Transmission Owners.

**Intermittent Power Resource:** Capacity resources that depend upon wind, or solar energy or landfill gas for their fuel and that such dependence precludes accurate prediction of the facility's real-time output. Each Intermittent Power Resource that depends on wind as its fuel shall include all turbines metered at a single scheduling point identifier (PTID).

**Internal:** An entity (e.g., Supplier, Transmission Customer) or facility (e.g., Generator, Interface) located within the Control Area being referenced. Where a specific Control Area is not referenced, internal means the NYCA.

**Internal Transactions:** Purchases, sales or exchanges of Energy, Capacity or Ancillary Services where the Generator and Load are located within the NYCA.

**Interruption:** A reduction in non-Firm Transmission service due to economic reasons pursuant to Section 3.2.7.

**Investment Grade Customer:** As defined in the ISO Services Tariff.

**Investor-Owned Transmission Owners:** At the present time these include: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

**ISO Administered Markets:** The Day-Ahead Market and the Real-Time Market (collectively the LBMP Markets) and any other market administered by the ISO.

**ISO-Committed Fixed:** In the Day-Ahead, a bidding mode in which a Generator requests that the ISO commit and schedule it. In the Real-Time Market, a bidding mode in which a Generator, with ISO approval, requests that the ISO schedule it no more frequently than every 15 minutes. A Generator scheduled in the Day-Ahead Market as ISO-Committed Fixed will participate as a Self-Committed Fixed Generator in the Real-Time Market unless it changes bidding mode, with ISO approval, to participate as an ISO-Committed Fixed Generator.

**ISO-Committed Flexible:** A bidding mode in which a Dispatchable Generator Demand Side Resource follows Base Point Signals and is committed by the ISO.

**ISO Market Power Monitoring Program:** The monitoring program approved by the Commission and administered by the ISO designed to monitor the possible exercise of market power in ISO Administered Markets.

**ISO OATT (the "Tariff"):** The ISO Open Access Transmission Tariff.

**ISO Procedures:** The procedures adopted by the ISO in order to fulfill its responsibilities under the ISO OATT, the ISO Services Tariff and the ISO Related Agreements.

**ISO Related Agreements:** Collectively, the ISO Agreement, the NYSRC Agreement, the ISO/NYSRC Agreement and the ISO/TO Agreement.

**NYISO Services Tariff:** The ISO Market Administration and Control Area Services Tariff.

**ISO Tariffs:** The ISO OATT and the ISO Services Tariff, collectively.

## **1.16 Definitions - P**

**Part 1:** Tariff Section 1 pertaining to Definitions.

**Part 2:** Tariff Section 2 pertaining to Common Service Provisions.

**Part 3:** Tariff Section 3 pertaining to Point-To-Point Transmission Service in conjunction with the applicable Common Service Provisions of Part 2 and appropriate Schedules and Attachments.

**Part 4:** Tariff Section 4 pertaining to Network Integration Transmission Service in conjunction with the applicable Common Service Provisions of Part 2 and appropriate Schedules and Attachments.

**Part 5:** OATT Section 5 – Special Provisions for retail access and the Individual Retail Access Plans

**Party or Parties:** The ISO and the Transmission Customer receiving service under the Tariff.

**Performance Tracking System:** A system designed to report metrics for Generators and Loads which include but are not limited to actual output and schedules (See Rate Schedule 3 of the ISO Services Tariff). This system is used by the ISO to measure compliance with criteria associated with the provision of Energy and Ancillary Services.

**Point(s) of Delivery:** Point(s) on the NYS Transmission System where Capacity, Energy, and Ancillary Services transmitted by the ISO will be made available to the Receiving Party under the ISO Tariffs. The Point(s) of Delivery shall be specified in the Bid, Bilateral Transaction schedule, or similar entry. (Same as Point of Withdrawal.)

**Point(s) of Injection (“POI”):** The point(s) on the NYS Transmission System where Energy, Capacity and Ancillary Services will be made available to the ISO by the Delivering Party under the ISO Tariffs. The Point(s) of Injection shall be specified in the Bid, Bilateral Transaction schedule, or similar entry. (Same as Point of Receipt.)

**Point(s) of Receipt:** Point(s) of interconnection on the NYS Transmission System where Capacity, Energy, and Ancillary Services will be made available to the ISO by the Delivering Party under the ISO Tariffs. The Point(s) of Receipt shall be specified in the Bid, Bilateral Transaction schedule, or similar entry. (Same as Point of Injection.)

**Point(s) of Withdrawal (“POW”):** The point(s) on the NYS Transmission System where Energy, Capacity and Ancillary Services will be made available to the Receiving Party under the ISO Tariffs. The Point(s) of Withdrawal shall be specified in the Bid, Bilateral Transaction Schedule, or other similar entry. (Same as Point of Delivery).

**Point-to-Point Transmission Service:** The reservation and transmission of Capacity and Energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under the ISO Tariffs.

**Pool Control Error (“PCE”):** The difference between the actual and scheduled interchange with other Control Areas, adjusted for frequency bias.

**Post Contingency:** Conditions existing on a system immediately following a Contingency.

**Power Exchange (“PE”):** A commercial entity meeting the requirements for service under the ISO OATT or the ISO Services Tariff that facilitates the purchase and/or sale of Energy, Capacity and/or Ancillary Services in the New York Wholesale Market. A PE may transact with the ISO on its own behalf or as an agent for others.

**Power Factor:** The ratio of real power to apparent power (the product of volts and amperes, expressed in megavolt-amperes, MVA).

**Power Factor Criteria:** Criteria to be established by the ISO to monitor a Load’s use of Reactive Power.

**Power Flow:** A simulation which determines the Energy flows on the NYS Transmission System and adjacent transmission systems.

**Power Purchaser:** The entity that is purchasing the Capacity and Energy to be transmitted under the Tariff.

**Pre-Scheduled Transaction Request:** An offer submitted, pursuant to ISO Procedures, for priority scheduling of Transactions between the ISO and neighboring Control Areas to: (i) purchase Energy from the LBMP Market at the LBMP Market Price and deliver it to an External Control Area; (ii) sell Energy delivered from an External Control Area to the LBMP Market at the LBMP Market Price; or (iii) wheel Energy through the New York Control Area from one External Control Area to another External Control Area at the market-determined Transmission Usage Charge. Pre-Scheduled Transaction Requests accepted for scheduling reserve Ramp Capacity and Transfer Capability and receive priority scheduling in the LBMP Market.

**Pre-Scheduled Transaction.** A Transaction accepted for scheduling in the designated LBMP Market pursuant to a Pre-Scheduled Transaction Request. Pre-Scheduled Transactions may be withdrawn only with the approval of the ISO pursuant to the ISO Procedures.

**Primary Holder:** The Transmission Customer that is the recognized holder of a TCC, as described in Attachment M of this ISO OATT.

**Prior Equivalent Capability Period:** The previous same-season Capability Period.

**Proxy Generator Bus:** A proxy bus located outside the NYCA that is selected by the ISO to represent a typical bus in an adjacent Control Area and for which LBMP prices are calculated. The ISO may establish more than one Proxy Generator Bus at a particular Interface with a neighboring Control Area to enable the NYISO to distinguish the bidding, treatment and pricing of products and services available at the Interface.

**PSC:** The Public Service Commission of the State of New York or any successor agency thereto.

**PSL:** The New York Public Service Law, N.Y. Pub. Serv. Law § 1 et seq. (McKinney 1989 & Supp. 1997-98).

## 1.19 Definitions - S

**Safe Operations:** Actions which avoid placing personnel and equipment in peril with regard to the safety of life and equipment damage.

**Scheduled Energy Injection:** Energy injections which are scheduled on a real-time basis by RTC.

**Scheduled Line:** A transmission facility or set of transmission facilities: (a) that provide a distinct scheduling path interconnecting the ISO with an adjacent control area, (b) over which Customers are permitted to schedule External Transactions, (c) for which the NYISO separately posts TTC and ATC, and (d) for which there is the capability to maintain the Scheduled Line actual interchange at the DNI, or within the tolerances dictated by Good Utility Practice. Each Scheduled Line is associated with a distinct Proxy Generator Bus. Transmission facilities shall only become Scheduled Lines after the Commission accepts for filing revisions to the NYISO's tariffs that identify a specific set or group of transmission facilities as a Scheduled Line. The following transmission facilities are Scheduled Lines: the Cross-Sound Scheduled Line, the Neptune Scheduled Line, the Dennison Scheduled Line, the Northport-Norwalk Scheduled Line, and the Linden VFT Scheduled Line.

**Scheduling Differential:** A monetary amount, to be defined by the ISO pursuant to ISO Procedures that is assigned to, or defines Bid Price limits applicable to, Decremental Bids and Sink Price Cap Bids at Proxy Generator Buses, in order to establish an appropriate scheduling priority for the Transaction or Firm Transmission Service associated with each such Bid. The Scheduling Differential shall be no larger than one dollar (\$1.00).

**SCUC:** Security Constrained Unit Commitment, described in Attachment C of the Tariff.

**Second Contingency Design and Operation:** The planning, design and operation of a power system such that the loss of any two (2) facilities will not result in a service interruption to either native load customers or contracted firm Transmission Customers. Second Contingency Design and Operation criteria do not include the simultaneous loss of two (2) facilities, but rather consider the loss of one (1) facility and the restoration of the system to within acceptable operating parameters, prior to the loss of a second facility. These criteria apply to thermal, voltage and stability limits and are generally equal to or more stringent than NYPP, NPCC and NERC criteria.

**Second Settlement:** The process of: (1) identifying differences between Energy production, Energy consumption or NYS Transmission System usage scheduled in a First Settlement, and the actual production, consumption, or NYS Transmission System usage during the Dispatch Day; and (2) assigning financial responsibility for those differences to the appropriate Customers and Market Participants. Charges for Energy supplied (to replace Generation deficiencies or unscheduled consumption), and payments for Energy consumed (to absorb consumption deficiencies or excess Energy supply) or changes in transmission usage will be based on the Real-Time LBMPs.

**Secondary Holder:** Entities that purchase TCCs and have not been certified as a Primary Holder by the ISO.

**Secondary Market:** A market in which Primary and Secondary Holders sell TCCs by mechanisms other than through the Centralized TCC Auction, Reconfiguration Auction, or by Direct Sale.

**Security Coordinator:** An entity that provides the security assessment and Emergency operations coordination for a group of Control Areas. A Security Coordinator must not participate in the wholesale or retail merchant functions.

**Self-Committed Fixed:** A bidding mode in which a Generator is self-committed and opts not to be Dispatchable over any portion of its operating range.

**Self-Committed Flexible:** A bidding mode in which a dispatchable Generator follows Base Point Signals within a portion of its operating range, but self-commits.

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

**Service Agreement:** The initial agreement and any amendments or supplements thereto entered into by the Transmission Customer and the ISO for service under the Tariff or any unexecuted Service Agreement, amendments on supplements thereto, that the ISO unilaterally files with the Commission.

**Service Commencement Date:** The date the ISO begins to provide service pursuant to the terms of an executed Service Agreement, or the date the ISO begins to provide service in accordance with Section 3.3.3 or Section 4.2.1 under the Tariff.

**Settlement:** The process of determining the charges to be paid to, or by a Transmission Customer to satisfy its obligations

**Shadow Price:** The marginal value of relieving a particular Constraint which is determined by the reduction in system cost that results from an incremental relaxation of that Constraint.

**Shift Factor ("SF"):** A ratio, calculated by the ISO, that compares the change in power flow through a transmission facility resulting from the incremental injection and withdrawal of power on the NYS Transmission System.

**Short-Term Firm Point-To-Point Transmission Service:** Firm Point-to-Point Service, the price of which is fixed for a short term by a Transmission Customer acquiring sufficient TCCs with the same Points of Receipt and Delivery as its Transmission Service.

**Sink Price Cap Bid:** A Bid Price provided by an entity engaged in an Export to indicate the relevant Proxy Generator Bus LBMP below which that entity is willing to either purchase Energy in the LBMP Markets or, in the case of Bilateral Transactions, to accept Transmission Service.

**Special Test Transactions:** The revenues or costs from purchases and/or sales of Energy that may occur pursuant to virtual regional dispatch/intra-hour transaction pilot tests conducted by the

ISO to analyze potential solutions for, or approaches to resolving inter-market “seams” issues with neighboring control area operators.

**Start-Up Bid:** A Bid parameter that may vary hourly and that identifies the payment a Supplier requires to bring a Generator up to its specified minimum operating level from an offline state or a Demand Side Resource from a level of no Demand Reduction to its specified minimum level of Demand Reduction.

Start-Up Bids submitted for a Generator that is not able to complete its specified minimum run time (of up to a maximum of 24 hours) within the Dispatch Day are expected to include expected net costs related to the hour(s) that a Generator needs to run on the day following the Dispatch Day in order to complete its minimum run time. The component of the Start-Up Bid that incorporates costs that the Generator expects to incur on the day following the Dispatch Day is expected to reflect the operating costs that the Supplier does not expect to be able to recover through LBMP revenues while operating to meet the Generator’s minimum run time, at the minimum operating level Bid for that Generator for the hour of the Dispatch Day in which the Generator is scheduled to start-up. Settlement rules addressing Start-Up Bids that incorporates costs related to the hours that a Generator needs to run on the day following the Dispatch Day on which the Generator is committed are set forth in Attachment C to the ISO Services Tariff.

**Storm Watch:** Actual or anticipated severe weather conditions under which region-specific portions of the NYS Transmission System are operated in a more conservative manner by reducing transmission transfer limits.

**Strandable Costs:** Prudent and verifiable expenditures and commitments made pursuant to a Transmission Owner’s legal obligations that are currently recovered in the Transmission Owner’s retail or wholesale rate that could become unrecoverable as a result of a restructuring of the electric utility industry and/or electricity market, or as a result of retail-turned-wholesale customers, or customers switching generation or transmission service suppliers.

**Stranded Investment Recovery Charge (“SIRC”):** A charge established by a Transmission Owner to recover Strandable Costs.

**Sub-Auctions:** The set of rounds in a given Capability Period Auction in which TCCs of a given duration may be purchased.

**Subzone:** That portion of a Load Zone in a Transmission Owner’s Transmission District.

**Supplier:** A Party that is supplying the Capacity, Energy and/or associated Ancillary Services to be made available under the ISO OATT or the ISO Services Tariff, including Generators and Demand Side Resources that satisfy all applicable ISO requirements.

**Supplemental Event Interval:** Any RTD interval in which there is a maximum generation pickup or a large event reserve pickup or which is one of the three RTD intervals following the termination of the maximum generation pickup or the large event reserve pickup.



**Supplemental Resource Evaluation (“SRE”):** A determination of the least cost selection of additional Generators, which are to be committed, to meet: (i) changed or local system conditions for the Dispatch Day that may cause the Day-Ahead schedules for the Dispatch Day to be inadequate to meet the reliability requirements of the Transmission Owner’s local system or to meet Load or reliability requirements of the ISO; or (ii) forecast Load and reserve requirements over the six-day period that follows the Dispatch Day.

**System Impact Study:** An assessment by the ISO of (i) the adequacy of the NYS Transmission System to accommodate a request to build facilities in order to create incremental transfer capability, resulting in incremental TCCs, in connection with a request for either Firm Point-To-Point Transmission Service or Network Integration Transmission Service; and (ii) the additional costs to be incurred in order to provide the incremental transfer capability.

## **6 Schedules**

## **6.1 Schedule 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 NYCA. This service can be provided only by the ISO. The Transmission Customer must purchase this service from the ISO. The ISO Services Charge for Scheduling, System Control and Dispatch Service and any rebillings associated therewith are set forth below.

### **6.1.1 Parties to Which Charges Apply**

The ISO shall charge, and Transmission Customers taking service under the ISO OATT, only, including Special Case Resources, Emergency Demand Response Program participants, Transmission Customers that have their virtual bids accepted and thereby engage in Virtual Transactions, and Transmission Customers that purchase Transmission Congestion Contracts, excluding Transmission Congestion Contracts that are created prior to [the date that the Commission issues an Order approving these revisions], shall pay an “ISO Services Charge” as calculated in Section 6.1.2.2 of this Rate Schedule on all Transmission Services provided pursuant to Parts 3, 4 and 5 to this Tariff, provided that Transmission Customers who are retail access customers who are being served by an LSE shall not pay this charge to the ISO; the LSE shall pay these charges. Transmission Customers taking service under both the ISO OATT and the ISO Services Tariff shall pay the applicable ISO Services Charge as calculated (i) in Sections 15.1.3.1 through 15.1.3.3 of Rate Schedule 1 of the ISO Services Tariff, and (ii) in Sections 6.1.2.2.3 and 6.1.2.2.4 of this Rate Schedule.

## **6.1.2 Billing Units and Calculation of Rates**

The ISO shall charge each Transmission Customer based on the product of: (i) the ISO Services Charge rate for Scheduling, System Control and Dispatch Service; and (ii) the Transmission Customer's applicable injection billing units and/or withdrawal billing units for the month as described in Section 6.1.2.1.

### **6.1.2.1 Billing Units**

For the ISO Services Charge calculated under Section 6.1.2.2.1 of this Rate Schedule, the Transmission Customer's injection billing units shall be based on Actual Energy Injections (for all internal injections) or Scheduled Energy Injections (for all Import Energy injections) in the New York Control Area, including injections for wheelthroughs. The Transmission Customer's withdrawal billing units shall be based on its Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA, and hourly Energy schedules for all Wheels Through and Exports. For the ISO Services Charge calculated pursuant to Sections 6.1.2.2.2 and 6.1.2.2.3 of this Rate Schedule, the Transmission Customer's billing units shall be based on the Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA, and hourly Energy schedules for all Wheels Through and Exports. For the ISO Services Charge calculated pursuant to Sections 6.1.2.2.4, 6.1.2.2.5, 6.1.2.2.6 and 6.1.2.2.7 of this Rate Schedule, the Transmission Customer's billing units shall be as described in the body of those Sections of this Rate Schedule. To the extent Schedule 1 charges are associated with meeting the reliability needs of a local system, the billing units for such charges will be based on the Actual Energy Withdrawals in the Subzone(s) where the Resource needed to meet the reliability need is located.

For Transmission Customers participating in the ISO's Special Case Resource program or in its Emergency Demand Response Program ISO Services Charge calculated under Section

6.1.2.2.1 of this Rate Schedule, shall be the product of: (i) the applicable ISO Services Charge rate; and (ii) the Transmission Customer's applicable billing units for the month. The Transmission Customer's billing units shall be based on the total compensable injection MWh.

For Transmission Customers purchasing Transmission Congestion Contracts or engaged in Virtual Transactions, the ISO Services Charge calculated under Section 6.1.2.2.1 of this Rate schedule shall be the product of: (i) the applicable ISO Services Charge rate; and (ii) the Transmission Customer's applicable billing units for the month.

For Transmission Customers purchasing Transmission Congestion Contracts, the Transmission Customer's billing units shall be based on the settled Transmission Congestion Contract MWh. For Transmission Customers engaging in Virtual Transactions, the Transmission Customer's billing units shall be based on total cleared virtual bid MWh.

#### **6.1.2.2 Computation of Rates**

The ISO Services Charge for Scheduling, System Control and Dispatch Service shall consist of seven components and shall be recovered on a monthly basis (except for Section 6.1.2.2.6 which shall be billed quarterly) in accordance with the following processes:

##### **6.1.2.2.1 ISO Annual Budget and FERC Regulatory Fees Component**

6.1.2.2.1.1 The responsibility for the sum of (a) those costs listed in Section 6.1.3.1 of this Rate Schedule that are included in the ISO's annual budget and (b) the ISO's FERC regulatory fees, shall be allocated 20% to all injection billing units and 80% to all withdrawal billing units. The current 80%/20% cost allocation shall remain unchanged through at least December 31, 2011 and shall continue to remain unchanged until such point in time that a study is conducted and the results of the study warrant changing the 80%/20% cost allocation. The following

provisions prescribe the process and timeline for the review and, if warranted by the results of a future study, modification of the 80%/20% cost allocation on a going forward basis:

6.1.2.2.1.1.1 A vote of the Management Committee will be taken in the third calendar quarter of 2010 on whether a new study should be conducted during late-2010 and 2011 to allow modification of the 80%/20% cost allocation, if warranted by the results of the study, to be implemented by January 1, 2012. A positive vote by 58% of the Management Committee will be required to go forward with the study, but there will no longer be a “material change” standard as was historically applied to the determination of whether a study should be conducted.

6.1.2.2.1.1.2 If the Management Committee vote discussed in (i) above determines that a study should not be conducted, the 80%/20% cost allocation between withdrawal billing units and injection billing units shall be extended through at least December 31, 2012. In the third calendar quarter of 2011, a vote will be taken on whether a new study should be conducted during late-2011 and 2012 to allow modification of the percentage allocation, if warranted by the results of the study, to be implemented by January 1, 2013. Unless a 58% vote of the Management Committee is registered in favor of declining to go forward with the study, the study will be conducted.

6.1.2.2.1.1.3 If the Management Committee vote in the third calendar quarter of 2011 discussed in (ii) above determines that a study should not be conducted, the current 80%/20% cost allocation shall remain unchanged until such point in time as the Management Committee determines that a study shall be conducted and the

results of that study warrant changing the percentage allocation between withdrawal billing units and injection billing units. If the Management Committee vote in the third calendar quarter of 2011 discussed in (ii) above determines that a study should not be conducted, the Management Committee will revisit the issue of conducting a study annually in the third calendar quarter of each year using the same voting standard (*i.e.* the study gets performed unless 58% of the Management Committee votes not to commission the study) that was applied to the Management Committee vote in the third calendar quarter of 2011 discussed in (ii) above.

6.1.2.2.1.1.4 If, and when, the Management Committee determines a study shall be conducted:

- (a) Such study shall be completed, and the results thereof shared with Market Participants, before the end of the second calendar quarter of the year prior to the date on which a possible change to the then current allocation may become effective; and
- (b) The ISO will present a draft study scope to Market Participants for consideration and comment before the ISO issues the study scope as part of its Request For Proposal process to retain a consultant to perform the study. A meeting shall be held with Market Participants to discuss the components (*e.g.*, categories of costs considered, allocation of benefits, unbundling, etc.) that should be included in the draft study scope before the draft is issued by the ISO.

6.1.2.2.1.2 The rate to be applied to injection billing units shall be the quotient of 20% of the sum of the ISO's annual budget and FERC regulatory fees divided by

the total annual estimated injection billing units as described in Section 6.1.2.1 of this Rate Schedule. The rate to be applied to withdrawal billing units shall be the quotient of 80% of the sum of the ISO's annual budget and FERC regulatory fees divided by the total annual estimated withdrawal billing units as described in Section 6.1.2.1 of this Rate Schedule.

6.1.2.2.1.3 The rates derived in Section 6.1.2.2.1 of this Rate Schedule shall then be multiplied by each Transmission Customer's injection billing units and withdrawal billing units, as appropriate, for the month.

6.1.2.2.1.4 For Transmission Customers that purchase Transmission Congestion Contracts and/or engage in Virtual Transactions their portion of the sum of (a) those costs listed in Section 6.1.3.1 of this Rate Schedule that are included in the ISO's annual budget and (b) the ISO's FERC regulatory fees, attributable to Transmission Congestion Contracts or Virtual Transactions, shall be calculated and billed as follows:

6.1.2.2.1.4.1 For Calendar Year 2010:

- (a) \$0.020 per MWh for Transmission Congestion Contracts for calendar year 2010, based on a \$6.7 million projected 2010 annual revenue requirement.
- (b) \$0.065 per cleared MWh for Virtual Trading transactions for calendar year 2010 based on a \$2.0 million projected 2010 annual revenue requirement.

6.1.2.2.1.4.2 For Subsequent Calendar Years

Each Transmission Customer shall be charged a rate computed annually based on the product of the annual revenue requirement adjusted for the over or under



collection of the prior year's annual revenue requirement, divided by the three year rolling average of the billing units, where:

- (a) the annual revenue requirement is determined using an escalation factor calculated as the percentage change in the originally-approved ISO budget between the calendar year two years prior to the current calendar year ("Calendar Year Minus 2") and the calendar year one year prior the current calendar year ("Calendar Year Minus 1");
- (b) the over/under collection of the prior year's annual revenue requirement is calculated for the period between July of Calendar Year Minus 2 and June of Calendar Year Minus 1. For the purpose of this calculation the annual revenue requirement will be converted to a monthly requirement and then aggregated across the 12 months;
- (c) the three year rolling average of billing units is calculated using an annual average of the billing units for the period between July of the calendar year four years prior to the current calendar year ("Calendar Year Minus 4") and June of Calendar Year Minus 1.

However, the annual rate computed will be subject to a 25% maximum increase or decrease for each year. Revenue collected pursuant to this Section 6.1.2.2.1.4 will be disbursed monthly to all injection billing units as described in Section 6.1.2.1 of this Rate Schedule and to all withdrawal billing units as described in Section 6.1.2.1 of this Rate Schedule on the same basis described in Section 6.1.2.2.1.1 of this Rate Schedule.

6.1.2.2.1.5 For Customers that participate in the ISO's Special Case Resources program or its Emergency Demand Response Program their portion of the sum of (i) the ISO's annual budget including the costs listed in Section 6.1.3.1 of this Rate Schedule; and (ii) the ISO's FERC Regulatory fees, shall be billed at the same rate charged to injection billing units as described in Section 6.1.2.1 of this Rate Schedule. The rate will be reset annually to match the current calendar year's rate for injections. Revenue collected pursuant to this Section 6.1.2.2.1.5 will be disbursed monthly to all injection billing units as described in Section 6.1.2.1 of this Rate Schedule and to all withdrawal billing units as described in Section 6.1.2.1 of this Rate Schedule on the same basis described in Section 6.1.2.2.1.1 of this Rate Schedule.

#### **6.1.2.2.2 ISO Unbudgeted Cost Component**

Except with respect to bad debt loss and working capital contribution costs, the responsibility for those costs listed in Section 6.1.3.1 of this Rate Schedule that are neither (i) included in the ISO's annual budget, nor (ii) FERC-assessed regulatory fees, shall be allocated 100% to all withdrawal billing units. The rate to be applied to withdrawal billing units in each month shall be the quotient of the amount of these costs to be included in the month, as determined by the ISO, divided by the total estimated withdrawal billing units for the month, as described in Section 6.1.2.1 of this Rate Schedule. This rate shall then be multiplied by each Transmission Customer's withdrawal billing units for the month. The responsibility for costs associated with bad debt losses and working capital contributions shall be allocated pursuant to Attachments U and V to this Tariff, respectively.

### **6.1.2.2.3 Non-ISO Facilities Payments Component**

6.1.2.2.3.1 The monthly payments the ISO makes to owners of facilities that are needed for the economic and reliable operation of the NYS Transmission System shall be recovered based on withdrawal billing units. Currently, the ISO makes payments to Consolidated Edison Co. of New York, Inc. for the purchase, installation, operation and maintenance of phase angle regulators at the Branchburg-Ramapo Interconnection between the ISO and PJM Interconnection, LLC and to Rochester Gas & Electric Corporation for the installation of a 135 MVAR Capacitor Bank at Rochester Station 80 on the cross-state 345 kV system. The charges to be applied to withdrawal billing units for Transmission Customers, other than those taking service under Section 5 of the OATT to supply Station Power as third party providers, shall be the product of (A) the sum of the monthly bills for such facilities from: (i) Consolidated Edison Co. of New York (less the one-half of such bill paid by PJM Interconnection, LLC) and (ii) Rochester Gas and Electric Corporation, divided by the total number of hours in the month, and (B) the ratio of (i) the Transmission Customer's withdrawal billing units for that hour as described in Section 6.1.2.1 of this Rate Schedule to (ii) the sum of all ISO Transmission Customers' withdrawal billing units for that hour (other than withdrawal billing units for those taking services under Part 5 of the OATT) as described in Section 6.1.2.1 of this Rate Schedule. Charges to be paid by Transmission Customers for this service shall be aggregated to render a monthly charge.

6.1.2.2.3.2 Transmission Customers taking service under Section 5 of the OATT to supply Station Power as third-party providers shall pay to the ISO a daily charge

for this service equal to the product of (A) the sum of the daily bills for such facilities as described in subparagraph (a) above and (B) the ratio of the Transmission Customer's Station Power supplied under Section 5 of the OATT for the day to the sum of all withdrawal billing units for the day.

6.1.2.2.3.3 The ISO shall credit charges paid for this service by Transmission Customers and LSEs taking service under Section 5 of the OATT to supply Station Power as third-party providers for the day on a Load Ratio Share basis to Transmission Customers serving Load in the NYCA for the day.

#### **6.1.2.2.4 Residual Adjustment**

The residual Adjustment shall consist of four costs: Residual Costs pursuant to 6.1.2.2.4.1.1 and 6.1.2.2.4.1.2 of this Rate Schedule, Special Case Resource and Curtailment Service Provider costs pursuant to 6.1.2.2.4.2 of this Rate Schedule, Day-Ahead Margin Assurance payments pursuant 6.1.2.2.4.3 of this Rate Schedule and Import Supplier Guarantee costs pursuant to 6.1.2.2.4.4 of this Rate Schedule.

##### **6.1.2.2.4.1 Residual Costs**

6.1.2.2.4.1.1 The ISO shall calculate, and Transmission Customers, other than Transmission Customers taking service under Section 5 of the OATT to supply Station Power as third party providers, shall pay an hourly charge equal to the product of (A) the residual costs listed in Section 6.1.4.1 of this Rate Schedule for each hour and (B) the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the hour, and hourly Energy schedules for all Wheels Through and Exports, to (ii) the sum of all ISO Transmission Customers' Actual Energy withdrawals for all

Transmission Service to supply Load in the NYCA for the hour and hourly Energy schedules for all Wheels Through and Exports.

6.1.2.2.4.1.2 The ISO shall calculate, and each Transmission Customer taking service under Part 5 of the OATT to supply Station Power as a third party provider shall pay a daily charge equal to the product of (A) the residual costs listed in Section 6.1.4.1 of this Rate Schedule for each day and (B) the ratio of (i) the withdrawal units of the Transmission Customer taking service under Part 5 of the OATT to supply Station Power as a third party provider for that day to (ii) the sum of all ISO Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the day, and Energy schedules for the day for all Wheels Through and Exports. The ISO shall credit revenue collected by application of this charge, on a Load ratio share basis, to all ISO Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the day, and Energy schedules for all Wheels Through and Exports summed for the day.

**6.1.2.2.4.2 Special Case Resource and Curtailment Service Provider costs**

The ISO shall calculate, and Transmission Customers, other than Transmission Customers taking service under Part 5 of the OATT to supply Station Power as third party providers, shall pay an hourly charge for the costs of payments made for Special Case Resources and Curtailment Service Providers to meet the reliability needs of local systems and of the NYCA pursuant to Section 6.1.4.2 of this Rate Schedule.

#### **6.1.2.2.4.3 Day-Ahead Margin Assurance payments**

The ISO shall calculate, and Transmission Customers shall pay an hourly charge for the costs of payments made for Day-Ahead Margin Assurance calculated pursuant to Section 6.1.5 of this Rate Schedule.

#### **6.1.2.2.4.4 Import Supplier Guarantee costs**

The ISO shall calculate, and Transmission Customers shall pay an hourly charge for the costs of payments made for Import Supplier Guarantees calculated pursuant to Section 6.1.6 of this Rate Schedule.

#### **6.1.2.2.5 Bid Production Cost guarantee payments**

The ISO shall calculate, and each Transmission Customer shall pay, a daily charge for Bid Production Cost guarantees including the costs of supplemental payments and Demand Reduction Incentive Payments made to Demand Reduction Providers calculated pursuant to Section 6.1.7 of this Rate Schedule.

#### **6.1.2.2.6 NERC and Related Dues, Fees and Other Charges Component**

Dues, fees, and other charges: (i) of NERC for its service as the Electric Reliability Organization for the United States (“ERO”) recovered pursuant to FERC Docket Nos. RM05-30-000, RR06-1-000 and RR06-3-000 and related dockets, and (ii) of Northeast Power Coordinating Council: Cross-Border Regional Entity, Inc., or its successors, incurred to carry out functions that are delegated by the NERC and that are related to ERO matters pursuant to Section 215 of the FPA, all of which dues, fees, and other charges shall be recovered quarterly. Such recovery shall be based on Actual Energy Withdrawals to supply Load in the NYCA, utilizing the load metering

information for the most recent month for which actual load meter data are available for invoices issued through August 31, 2007 and utilizing finalized actual load metering data no longer subject to challenge for invoices issued on or after September 1, 2007. The metering information shall not be subject to correction or adjustment. Notwithstanding any applicable provisions of this Tariff or of the ISO Services Tariff, the ISO may supply to NERC the name of any LSE failing to pay any amounts due to NERC and the amounts not paid.

**6.1.2.2.7 Payments Made To Generators Pursuant to Incremental Cost Recovery for Units Responding to Local Reliability Rule I-R3 and I-R5.**

Amounts paid to Suppliers, pursuant to the Incremental Cost Recovery for Units Responding to Local Reliability Rules I-R3 and I-R5, shall be recovered from Load in the Transmission District of the Supplier being paid, other than Load scheduled by a Transmission Customer taking service under Part 5 of the OATT to supply Station Power as a third party provider, on the basis of each LSE's contribution to the Load in the day the payment obligation is incurred.

**6.1.3 ISO Costs**

ISO costs to be recovered through the Rate Schedule 1 charge include:

**6.1.3.1** Costs associated with the operation of the NYS Transmission System by the ISO and administration of this Tariff by the ISO, including without limitation, the following:

- Processing and implementing requests for transmission service including support of the ISO OASIS node;
- Coordination of transmission system operation and implementation of necessary control actions by the ISO and support for these functions;

- Performing centralized security constrained dispatch to optimally re-dispatch the NYS Power System to mitigate transmission Interface overloads and provide balancing services;
- Billing associated with Transmission Service provided under this Tariff;
- Preparation of settlement statements;
- Rebilling which supports this service;
- NYS Transmission System studies, when the costs of the studies are not recoverable from a Transmission Customer;
- Engineering services and operations planning;
- Data and voice communications network service coordination;
- Metering maintenance and calibration scheduling;
- Dispute resolution;
- Record keeping and auditing;
- Training of ISO personnel;
- Development of new information, communication and control systems;
- Professional services;
- Working capital and carrying costs on ISO assets, capital requirements and debts;
- Tax expenses, if any;
- Administrative and general expenses;
- Insurance expenses, including costs incurred by the Board to procure credit insurance to protect against losses attributable to nonpayment by Customers;
- Any indemnification of or by the ISO pursuant to Section 2.11.2 of this Tariff;
- Costs that the ISO incurs as a result of bad debt, including finance charges;
- Refunds, if any, ordered by the Commission to be paid by the ISO, at the conclusion of Central Hudson Gas & Electric Corp., Docket Nos. ER97-1523-011, OA97-470-010 and ER97-4234-008; and
- Regulatory fees.
- The ISO's share of the expenses of Northeast Power Coordinating Council, Inc. or its successor.



## **6.1.4 Residual Adjustment**

### **6.1.4.1 Residual Costs**

The ISO's payments from Transmission Customers will not equal the ISO's payments to Suppliers. That part of the difference not otherwise allocated pursuant to provisions of this Rate Schedule, including Day-Ahead Congestion Rent, shall comprise the Residual Cost component of the Residual Adjustment. Significant components of the Residual Cost component, which is calculated below, include:

- The greater revenue the ISO collects for Marginal Losses from Transmission Customers, in contrast to payments for losses remitted to generation facilities;
- Costs or savings associated with the ISO redispatch of Generators resulting from a change in Transfer Capability between the Day-Ahead schedule and the real-time dispatch;
- The cost resulting from inadvertent interchange (if unscheduled Energy flows out of the NYCA to other Control Areas), or the decrease in cost resulting from inadvertent interchange (if unscheduled Energy flows into the NYCA from other Control Areas) and associated payments in kind;
- Costs or revenues from Emergency Transactions with other Control Area operators;
- Cost or revenues from Special Test Transactions with other Control Area operators;
- Metering errors resulting in payments to or from Transmission Customers to be either higher or lower than they would have been in the absence of metering errors;
- Deviations between actual system Load and the five-minute ahead Load forecast used by SCD, resulting in either more or less Energy than is needed to meet Load;
- Energy provided by generation facilities in excess of the amounts requested by the ISO (through SCD Base Point Signals or AGC Base Point Signals);
- If generation facilities providing Regulation Service have actual output in excess of their AGC Base Point Signals, but the SCD Base Point Signals is higher than either, the real-time payments they receive for Energy produced will be based on the SCD Base Point Signals; and
- Transmission Customers serving Load in the NYCA will be billed based upon an estimated distribution of Loads to buses within each Load Zone. If the actual distribution of Load differs from this assumed distribution, the total amount collected from Transmission Customers could be either higher or lower than the

amount that would have been collected if the actual distribution of Loads had been known.

- Settlements for losses revenue variances, as described in Attachment K of this Tariff, with Transmission Owners that pay marginal losses to the ISO for losses associated with modified TWAs (not converted to TCCs) while receiving losses payments from the participants in those TWAs other than marginal losses.
- Payments made to Generators that are redispatched pursuant to the Interregional Transmission Congestion Management Pilot Program, set forth in Sections 5.1.2-5.1.2.4 of the Services Tariff, to the extent such payments are not recovered by the ISO an Emergency Transaction with another Control Area.

The Residual Cost component for each month shall be the sum of the hourly Residual costs calculated as follows: (A) the ISO's receipts from Transmission Customers and Primary Holders of TCCs for services which equal the sum of: (i) payments for Energy scheduled in the LBMP Market in that hour in the Day-Ahead commitment; (ii) payments for Energy purchased in the Real-Time LBMP Market for that hour that was not scheduled Day-Ahead; (iii) payments for Energy by generating facilities that generated less Energy in the real-time dispatch for that hour than they were scheduled Day-Ahead to generate in that hour for the LBMP Market; (iv) TUC payments made in accordance with Sections 3, 4 and 5 of this Tariff that were scheduled in that hour in the Day-Ahead commitment; and (v) real-time TUC payments in accordance with Parts 3, 4 and 5 of this Tariff that were not scheduled in that hour in the Day-Ahead commitment; (B) less the ISO's payments to generation facilities, Transmission Owners and Primary Holders of TCCs equal to the sum of the following: (i) payments for Energy to generation facilities that were scheduled to operate in the LBMP Market in that hour in the Day-Ahead commitment; (ii) payments to generation facilities for Energy provided to the ISO in the real-time dispatch for that hour that those generation facilities were not scheduled to generate in that hour in the Day-Ahead commitment; (iii) payments for Energy to LSEs that consumed less Energy in the real-time dispatch than those LSEs were scheduled Day-Ahead to consume in that hour; (iv) payments of the real-time TUC to Transmission Customers that

reduced their schedules for that hour after the Day-Ahead commitment; (v) payments of Congestion Rents collected for that hour in the Day-Ahead schedule to Primary Holders of TCCs; (vi) settlements with Transmission Owners for losses revenue variances; and (vii) positive Net Congestion Rents collected in that hour.

#### **6.1.4.2 Allocation of Payments for Special Case Resources and Curtailment Service Providers**

##### **6.1.4.2.1 Payments for Special Case Resources and Curtailment Service Providers Called to Meet the Reliability Needs of a Local System**

The ISO shall allocate payments for Special Case Resources and Curtailment Service Providers called to meet the reliability needs of a local system only to Transmission Customers, other than those taking service under Part 5 of this OATT to supply station power as a third party provider, serving Load in the Subzone for which the reliability services of the Special Case Resources and Curtailment Service Providers were called. To do so, the ISO shall assess to each Transmission Customer an hourly charge for each Subzone equal to the product of:

6.1.4.2.1.1 the payments made for that hour to Suppliers for Special Case Resources and Curtailment Service Providers called to meet the reliability needs of a local system; and

6.1.4.2.1.2 the ratio of (i) Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load for that hour in that Subzone, excluding Wheels Through and Exports, to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all transmission Service to supply Load for that hour in that Subzone excluding Wheels Through and Exports.

#### **6.1.4.2.2 Payments for Special Case Resources and Curtailment Service Providers Called to Meet the Reliability Needs of the NYCA**

The ISO shall allocate payments to Special Case Resources and Curtailment Service Providers called to meet the reliability needs of the NYCA to Transmission Customers, other than those taking service under Part 5 of this OATT to supply station power as a third party provider, serving Load in the NYCA. To do so, the ISO shall assess to each Transmission Customer an hourly charge equal to the product of:

6.1.4.2.2.1 the payments made for that hour to Suppliers for Special Case Resources and Curtailment Service Providers; and

6.1.4.2.2.2 the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the hour, and hourly Energy schedules for all Wheels Through and Exports, to (ii) the sum of all Transmission Customers' Actual energy Withdrawals for all Transmission Service to supply Load in the NYCA for the hour, and hourly Energy schedules for all Wheels Through and Exports.

#### **6.1.5 Day-Ahead Margin Assurance Payments**

The ISO shall allocate, on an hourly basis, the costs related to Day-Ahead Margin Assurance Payments in the following manner:

##### **6.1.5.1 Costs of DAMAPs Resulting from Meeting the Reliability Needs of a Local System**

The ISO shall allocate the costs for DAMAPs incurred to compensate Resources for meeting the reliability needs of a local system only to Transmission Customers serving Load in the Subzone where the Resource is located. To do so, the ISO shall assess to each Transmission Customer an hourly charge for each Subzone equal to the product of:

6.1.5.1.1 the DAMAP costs for that hour in that Subzone arising as a result of meeting the reliability needs of the local system; and

6.1.5.1.2 the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load for that hour in that Subzone, excluding Wheels Through and Exports, to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load for that hour in that Subzone excluding Wheels Through and Exports.

#### **6.1.5.2 Costs of All Remaining DAMAPs**

The ISO shall allocate the costs of all DAMAPs not recovered through Section 6.1.5.1 of this Schedule 1 among all Transmission Customers. To do so, the ISO shall assess to each Transmission Customer an hourly charge equal to the product of:

6.1.5.2.1 the remaining DAMAP costs for that hour not recovered by the ISO through Section 6.1.5.1; and

6.1.5.2.2 the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the hour, and hourly Energy schedules for all Wheels Through and Exports to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load for that hour in that Subzone and hourly Energy schedules for all Wheels Through and Exports.

#### **6.1.6 Import Curtailment Guarantee Payments**

6.1.5 The ISO shall allocate, on an hourly basis, the costs of all Import Curtailment Guarantee Payments paid to Import Suppliers among all Transmission

Customers. To do so, the ISO shall assess to each Transmission Customer an hourly charge equal to the product of:

6.1.6      6.1.6.1              the costs for the Import Curtailment Guarantee Payments for that hour; and

6.1.7      6.1.6.2              the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the hour, and hourly Energy schedules for all Wheels Through and Exports to (ii) the sum of all Transmission Customers' Actual energy Withdrawals for all Transmission Service to supply Load in the NYCA for the hour, and hourly Energy schedules for all Wheels Through and Exports.

**6.1.7      Bid Production Cost Guarantee Payments and Demand Reduction Incentive Payments**

6.1.8      The ISO shall allocate on a daily basis the costs related to Bid Production Cost guarantee payments in the following manner:

**6.1.9      6.1.7.1 Costs of Demand Reduction BPCG and Demand Reduction Incentive Payments**

6.1.10      After accounting for imbalance charges paid by Demand Reduction Providers, the ISO shall allocate the costs associated with Demand Reduction Bid Production Cost guarantee payments and Demand Reduction Incentive Payments to Transmission Customers pursuant to the methodology established in Attachment R of this ISO OATT.

**6.1.11      6.1.7.2 Costs of BPCG for Additional Generating Units Committed to Meet Forecast Load**

6.1.12      If the sum of all Bilateral Transaction schedules and all Day-Ahead Market purchases to serve Load in the Day-Ahead schedule is less than the ISO's Day-Ahead forecast of Load the ISO may commit Resources in addition to the reserves that it normally maintains to enable it to respond to contingencies to meet the ISO's Day-Ahead forecast of Load. The ISO shall allocate a portion of the costs associated with Bid Production Cost guarantee payments for the additional Resources committed Day-Ahead to meet the Day-Ahead forecast of Load to Transmission Customers pursuant to the methodology established in Attachment T of this ISO OATT. The ISO shall allocate the residual costs of such Bid Production Cost guarantee payments not recovered through the methodology in Attachment T of the ISO OATT pursuant to Section 6.1.7.6 of this Schedule 1.

**6.1.7.3      Costs of BPCGs Resulting from Meeting the Reliability Needs of a Local System**

The ISO shall allocate the costs for Bid Production Cost guarantee payments incurred to compensate Suppliers for their Resources, other than Special Case Resources, that are committed or dispatched to meet the reliability needs of a local system only to Transmission Customers serving Load in the Subzone where the Resource is located. To do so, the ISO shall assess to each Transmission Customer a daily charge for each Subzone equal to the product of:

- 6.1.7.3.1      the Bid Production Cost guarantee payments made for that day to Suppliers for Resources in the Subzone arising as a result of meeting the reliability needs of the local system; and

6.1.7.3.2 the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load for that day in that Subzone, excluding Wheels Through and Exports, to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load for that day in that Subzone excluding Wheels Through and Exports.

**6.1.7.4 Cost of BPCGs for Special Case Resources Called to Meet the Reliability Needs of a Local System**

The ISO shall allocate the costs for Bid Production Cost guarantee payments incurred to compensate Special Case Resources called to meet the reliability needs of a local system only to Transmission Customers, other than those taking service under Part 5 of this OATT to supply station power as a third party provider, serving Load in the Subzone where the Special Case Resource is located. To do so, the ISO shall assess to each Transmission Customer a daily charge for each Subzone equal to the product of:

6.1.7.4.1 the BPCG payments made for that day to Suppliers for Special Case Resources called in that Subzone to meet the reliability needs of the local system; and

6.1.7.4.2 the ratio of (i) the Transmission Customer's Actual energy Withdrawals for all Transmission Service to supply Load for that day in that Subzone, excluding Wheels Through and Exports, to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load for that day in that Subzone excluding Wheels Through and Exports.



**6.1.7.5 Cost of BPCG for Special Case Resources Called to Meet the Reliability Needs of the NYCA**

The ISO shall allocate the costs for Bid Production Cost guarantee payments to compensate Special Case Resources called to meet the reliability needs of the NYCA to Transmission Customers, other than those taking service under Part 5 of this OATT to supply station power as a third party provider, serving Load in the NYCA. To do so, the ISO shall assess to each Transmission Customer a daily charge for each Subzone equal to the product of:

6.1.7.5.1 the BPCG payments made for that day to Suppliers for Special Case Resources called to meet the reliability needs for the NYCA; and

6.1.7.5.2 the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the day, and Energy schedules for the day for all Wheels Through and Exports to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the day, and Energy schedules for the day for all Wheels Through and Exports.

**6.1.7.6 Costs of All Remaining BPCGs**

The ISO shall allocate the costs of all Bid Production Cost guarantee payments not recovered through Sections 6.1.7.1, 6.1.7.2, 6.1.7.3, 6.1.7.4, and 6.1.7.5 of this Schedule 1, including the residual costs of Bid Production Cost guarantee payments for additional Resources not recovered through the methodology in Attachment T of this ISO OATT, among all Transmission Customers. To do so, the ISO shall assess to each Transmission Customer a daily charge equal to the product of:

6.1.7.6.1 the remaining BPCG costs for that day not recovered by the ISO through 6.1.7.1, 6.1.7.2, 6.1.7.3, 6.1.7.4, and 6.1.7.5 of this Schedule; and

6.1.7.6.2        the ratio of (i) the Transmission Customer's Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the day, and Energy schedules for the day for all Wheels Through and Exports to (ii) the sum of all Transmission Customers' Actual Energy Withdrawals for all Transmission Service to supply Load in the NYCA for the day, and energy schedules for the day for all Wheels Through and Exports.

**26 Attachment T – Cost Allocation Methodology for Schedule 1 Bid Production Guarantees for Additional Generating Units Committed to Meet Forecast Load**

The Day-Ahead commitment of generating units includes sufficient Resources to provide for the safe and reliable operation of the NYS Power System. In cases in which the sum of all Day-Ahead Bilateral Schedules, and all Day-Ahead purchases of energy to serve Load within the NYCA is less than the ISO's Day-Ahead forecast of Load, the ISO may commit Resources in addition to the reserves it normally maintains ("Additional Resources"). Payments for Bid Production Cost guarantees ("BPCG") made to such Additional Resources are to be allocated pursuant to the methodology set forth below and recovered under Rate Schedule 1 of the OATT. Any BPCG payments made to Additional Resources that are not allocated pursuant to this methodology shall be allocated to Transmission Customers according to the provisions of Section 6.1.7.2, of Rate Schedule 1 of the OATT

For purposes of this Attachment T, "Eligible Transmission Customers" are Transmission Customers that are scheduled to sell Energy at a Load bus specified for Virtual Transactions in the Day-Ahead Market and Transmission Customers purchasing Energy to serve load in the real-time market at a Load bus that is not a Load bus specified for Virtual Transactions and not a Proxy Generator Bus. Load Zones and composite Load Zones used in the allocation of Bid Production Cost guarantee payments made to Additional Resources are initially set as: (i) Load Zones A-E, (ii) Load Zones F-I, (iii) Load Zone J, and (iv) Load Zone K and may be adjusted by the ISO to reflect the most frequently constrained transmission interfaces in the NYCA.

BPCG payments made to Additional Resources shall be allocated to each Eligible Transmission Customer as follows:

$$BPCG_c = BPCG_{NYCA} \times \sum_{L \in NYCA} K_L^{fe} \times K_L^{loc} \times K_{c,L}^{customer}$$

Where:

$BPCG_c$	Obligation of Transmission Customer “c” for the Bid Production Cost guarantees for Additional Resources for the day.
$BPCG_{NYCA}$	Total Bid Production Cost guarantees paid to Additional Resources in the NYCA for the day.
c	An Eligible Transmission Customer.
J	Index for Load Zones or Composite Load Zones in the set NYCA
D	Index for eligible transmission customers in the NYCA
E	Set of all eligible transmission customers
L	Load Zone or Composite Load Zone
$K_L^{fe}$	A scale factor calculated for each Load Zone or Composite Load Zone that determines the portion of BPCG to Additional Resources that will be allocated through the procedures described in this attachment.
$K_L^{loc}$	A scale factor calculated for each Load Zone or Composite Load Zone “L” that determines the share of BPCG to Additional Resources that shall be allocated to that Load Zone or Composite Load Zone. The scale factor is based on the ratio of Energy purchases in the real-time market by Eligible Transmission Customers in load zone or composite load zone “L” in each hour, summer over the hours of the day in which these purchases are positive, to all Energy purchases in the real-time market by Eligible Transmission Customers in each Load Zone or Composite Load Zone in each hour, summed over the hours of the day in which these purchases in a given Load Zone or Composite Load Zone are positive, and summed over all Load Zones or Composite Load Zones.
$K_{c,L}^{customer}$	A scale factor calculated for Eligible Transmission Customer “c” in Load Zone or Composite Load Zone “L” which determines the portion of the BPCG to Additional Resources allocated to that Load Zone or Composite Load Zone that shall be allocated to that Eligible Transmission Customer “c.”
$RTP_L^{act}$	Net Energy purchases from the Real-Time market in Load Zone or Composite Load Zone “L” by all Eligible Transmission Customers in each hour, summed over the hours of the day in which these purchases are positive.
$RTP_{c,L}^{act}$	Energy purchases from the Real-Time market in Load Zone or Composite Load Zone “L” by an Eligible Transmission Customer “c” in each hour summed over hours of the day in which these purchases are

	positive.
$RTP_L^{fcst}$	The sum of (1) Day-Ahead sales for each hour of the day in the Day-Ahead market at the Load bus specified for Virtual Transactions in Load Zone or Composite Load Zone “L” by Eligible Transmission Customers; and (2) the ISO’s Day-Ahead forecast Load requirement for Load Zone or Composite Load Zone “L” for that hour of the day less the sum of Energy purchases from the Day-Ahead market at Load buses including Load buses specified for Virtual Transactions but not Proxy Generator Buses and Bilateral Transactions with POWs that are Load Buses other than those specified for Virtual Transactions and other than Proxy Generator Buses for that hour; summed over the hours of the day in which the sum of (1) and (2) is positive.

$K_L^{fe}$  shall be calculated as shown below except that the value one shall be used if the expression yields a number greater than one.

$$K_L^{fe} = \frac{RTP_L^{act}}{RTP_L^{fcst}}$$

$K_L^{loc}$  shall be calculated as shown below.

$$K_L^{loc} = \frac{RTP_L^{act}}{\sum_{j \in NYCA} RTP_j^{act}},$$

$K_{c,L}^{customer}$  shall be calculated as shown below.

$$K_{c,L}^{customer} = \frac{RTP_{c,L}^{act}}{\sum_{d \in E} RTP_{d,L}^{act}},$$

The residual BPCG payments not allocated to such Additional Resources according to the methodology described above shall be allocated to all Transmission Customers using the methods described in Section 6.1.7.2. , of Rate Schedule 1 of the OATT. The residual is determined according to:

$$BPCG_{NYCA} - \sum_{c \in E} BPCG_c.$$

New York Independent System Operator, Inc  
Market Administration and Control Area Services Tariff

## **2      DEFINITIONS**

The following definitions are applicable to the ISO Services Tariff:

## 2.4 Definitions - D

**DADRP Component:** The credit requirement for a Demand Reduction Provider to bid into the Day-Ahead Market, and a component of the Operating Requirement, calculated in accordance with Section 26.3.2 of Attachment K to this Services Tariff.

**Day-Ahead:** Nominally, the twenty-four (24) hour period directly preceding the Dispatch Day, except when this period may be extended by the ISO to accommodate weekends and holidays.

**Day-Ahead LBMP:** The LBMPs calculated based upon the ISO's Day-Ahead Security Constrained Unit Commitment process.

**Day-Ahead Margin:** That portion of Day-Ahead LBMP, Operating Reserves settlement or Regulation Service settlement for an hour that represents the difference between the Supplier's accepted Day-Ahead offer price and the Day-Ahead LBMP, Operating Reserves settlement or Regulation Service settlement for that hour.

**Day-Ahead Margin Assurance Payment:** A supplemental payment made to an eligible Supplier that buys out of a Day-Ahead Energy, Regulation Service, or Operating Reserves schedule such that an hourly balancing payment obligation offsets its Day-Ahead Margin. Rules for calculating these payments, and for determining Suppliers' eligibility to receive them, are set forth in Attachment J to this ISO Services Tariff.

**Day-Ahead Market:** The ISO Administered Market in which Capacity, Energy and/or Ancillary Services are scheduled and sold Day-Ahead consisting of the Day-Ahead scheduling process, price calculations and Settlements.

**Day-Ahead Reliability Unit:** A Day-Ahead committed Resource which would not have been committed but for a request by a Transmission Owner that the unit be committed in the Day-Ahead Market in order to meet the reliability needs of the Transmission Owner's local system or as the result of the ISO's analysis indicating the unit was needed in order to meet the reliability requirements of the NYCA.

**Decremental Bid:** A monotonically increasing Bid curve provided by an entity engaged in a Bilateral Import or Internal Transaction to indicate the LBMP below which that entity is willing to reduce its Generator's output, and purchase Energy in the LBMP Markets, or by an entity engaged in a Bilateral Wheel Through Transaction to indicate the Congestion Component cost below which that entity is willing to accept Transmission Service.

**Demand Reduction:** A quantity of reduced electricity demand from a Demand Side Resource that is bid, produced, purchased or sold over a period of time and measured or calculated in Megawatt hours. Demand Reductions offered by a Demand Side Resource as Energy in the LBMP Markets may only be offered in the Day-Ahead Market, and shall be offered only by a Demand Reduction Provider. The same Demand Reduction may not be offered by a Demand Reduction Provider and by a customer as Operating Reserves or Regulation Service.



**Demand Reduction Aggregator:** A Demand Reduction Provider, qualified pursuant to ISO Procedures, that bids Demand Side Resources of at least 1 MW through contracts with Demand Side Resources and is not a Load Serving Entity.

**Demand Reduction Incentive Payment:** A payment to Demand Reduction Providers that are scheduled to make Day-Ahead Demand Reductions that are not supplied by a Local Generator. The payment shall be equal to the product of: (a) the Day-Ahead hourly LBMP at the applicable Demand Reduction bus; and (b) the lesser of the actual hourly Demand Reduction or the Day-Ahead scheduled hourly Demand Reduction in MW.

**Demand Reduction Provider:** A Customer that is eligible, pursuant to the relevant ISO Procedures, to bid Demand Side Resources of at least 1 MW as Energy into the Day-Ahead Market. A Demand Reduction Provider can be (i) a Load Serving Entity or (ii) a Demand Reduction Aggregator.

**Demand Side Resources:** A Resource located in the NYCA that is capable of controlling demand in a responsive, measurable and verifiable manner within time limits, and that is qualified to participate in competitive Energy, Capacity, Operating Reserves or Regulation Service markets, or in the Emergency Demand Response Program pursuant to this ISO Services Tariff and the ISO Procedures.

**Dennison Scheduled Line:** A transmission facility that interconnects the NYCA to the Hydro Quebec Control Area at the Dennison substation, located near Massena, New York and extends through the province of Ontario, Canada (near the City of Cornwall) to the Cedars substation in Quebec, Canada.

**Dependable Maximum Net Capability (“DMNC”):** The sustained maximum net output of a Generator, as demonstrated by the performance of a test or through actual operation, averaged over a continuous time period as defined in the ISO Procedures.

**Desired Net Interchange (“DNI”):** A mechanism used to set and maintain the desired Energy interchange (or transfer) between two Control Areas; it is scheduled ahead of time and can be changed only manually in real-time.

**Direct Sale:** The sale of TCCs directly to a buyer by the Primary Owner through a non-discriminatory auditable sale conducted on the ISO’s OASIS, in compliance with the requirements and restrictions set forth in Commission Order Nos. 888 et seq. and 889 et seq.

**Dispatchable:** A bidding mode in which Generators or Demand Side Resources indicate that they are willing to respond to real-time control from the ISO. Dispatchable Generators may be either ISO-Committed Flexible or Self-Committed Flexible. Dispatchable Demand Side Resources must be ISO-Committed Flexible. Dispatchable Resources that are not providing Regulation Service will follow five-minute RTD Base Point Signals. Dispatchable Resources that are providing Regulation Service will follow six-second AGC Base Point Signals.

**Dispatch Day:** The twenty-four (24) hour (or, if appropriate, the twenty-three (23) or twenty-five (25) hour) period commencing at the beginning of each day (0000 hour).

**Dispute Resolution Administrator (“DRA”):** An individual hired by the ISO to administer the Dispute Resolution Process established in the ISO Tariffs and ISO Agreement.

**Dispute Resolution Process (“DRP”):** The procedures: (1) described in the ISO Tariffs and the ISO Agreement that are used to resolve disputes between Market Participants and the ISO involving services provided under the ISO Tariffs (excluding applications for rate changes or other changes to the ISO Tariffs or rules relating to such services); and (2) described in the ISO/NYSRC Agreement that are used to resolve disputes between the ISO and NYSRC involving the implementation and/or application of the Reliability Rules.

**DMNC Test Period:** The period within a Capability Period during which a Resource required to do so pursuant to ISO procedures shall conduct a DMNC test if that DMNC test is to be valid for purposes of determining the amount of Installed Capacity used to calculate the Unforced Capacity that this Resource is permitted to supply to the NYCA. Such periods will be established pursuant to the ISO Procedures.

**DSASP Component:** The credit requirement for a Demand Side Resource to offer Ancillary Services, and a component of the Operating Requirement, calculated in accordance with Section 26.3.2 of Attachment K to this Services Tariff.

## 2.5 Definitions - E

**East of Central-East:** An electrical area comprised of Load Zones F, G, H, I, J, and K, as identified in the ISO Procedures.

**East of Central-East Excluding Long Island:** An electrical area comprised of Load Zones F, G, H, I, and J, as identified in the ISO Procedures.

**East of Central-East Excluding New York City and Long Island:** An electrical area comprised of Load Zones F, G, H, and I, as identified in the ISO Procedures.

**Economic Operating Point:** The megawatt quantity which is a function of: i) the real-time LBMP at the Resource bus; and ii) the Supplier's real-time eleven constant cost step Energy Bid, for the Resource, such that (a) the offer price associated with Energy offers below that megawatt quantity (if that megawatt quantity is not that Resource's minimum output level) must be less than or equal to the real-time LBMP at the Resource bus, and (b) the offer price associated with Energy offers above that megawatt quantity (if that megawatt quantity is not that Resource's maximum output level) must be greater than or equal to the real-time LBMP at the Resource bus. In cases where multiple megawatt values meet conditions (a) and (b), the Economic Operating Point is the megawatt value meeting these conditions that is closest to the Resource's real-time scheduled Energy injection. In cases where the Economic Operating Point would be less than the minimum output level, the Economic Operating Point will be set equal to the MW value of the first point on the Energy Bid curve and in cases where the Economic Operating Point would be greater than the maximum output level, the Economic Operating Point will be set equal to the MW value of the last point on the Energy Bid curve.

**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 an electric system.

**Emergency Demand Response Program ("EDRP"):** A program pursuant to which the ISO makes payments to Curtailment Service Providers that voluntarily take effective steps in real time, pursuant to ISO procedures, to reduce NYCA demand in Emergency conditions.

**Emergency State:** The state that the NYS Power System is in when an abnormal condition occurs that requires automatic or immediate, manual action to prevent or limit loss of the NYS Transmission System or Generators that could adversely affect the reliability of the NYS Power System.

**Emergency Upper Operating Limit (UOL<sub>E</sub>):** The upper operating limit that a Generator indicates it expects to be able to reach, or the maximum amount of demand that a Demand Side Resource expects to be able to reduce, at the request of the ISO during extraordinary conditions. Each Generator or Demand Side Resource shall specify a UOL<sub>E</sub> in its bids that shall be equal to or greater than its stated Normal Upper Operating Limit.

**Energy ("MWh"):** 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 and Ancillary Services Component:** A component of the Operating Requirement, calculated in accordance with Section 26.3.2 of Attachment K to this Services Tariff.

**Energy Limited Resource:** Capacity resources that, due to 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, but are able to operate for at least four consecutive hours each day. Energy Limited Resources must register their Energy limiting characteristics with, and justify them to, the ISO consistent with ISO Procedures.

**Equivalent Demand Forced Outage Rate:** The portion of time a unit is in demand, but is unavailable due to forced outages.

**Equivalency Rating:** A rating determined by the ISO, at a Customer's request, based on the ISO's financial evaluation of an Unrated Customer that shall serve as the starting point of the ISO's determination of an amount of Unsecured Credit to be granted to the Customer, if any, as provided in Table K-1 of Attachment K to this Services Tariff.

**ETA Agent:** A Customer of the ISO that has been appointed by a Load Serving Entity and approved by the ISO in accordance with ISO Procedures for the purpose of enabling that Customer to hold all of the rights and obligations associated with Fixed Price TCCs, as provided for in this Services Tariff.

**ETCNL TCC:** A TCC created when a Transmission Owner with ETCNL exercises its right to convert a megawatt of ETCNL into a TCC pursuant to Section 19.4.1 of Attachment M of the OATT.

**Excess Amount:** The difference, if any, between the dollar amounts charged to purchasers of Unforced Capacity in an ISO-administered Unforced Capacity auction and the dollar amounts paid to sellers of Unforced Capacity in that ISO-administered Installed Capacity auction.

**Excess Congestion Rents:** Congestion revenues in the Day-Ahead Market for Energy collected by the ISO that are in excess of its Day-Ahead payment obligations. Excess Congestion Rents may arise if Congestion occurs in the Day-Ahead Market for Energy and if the Day-Ahead Transfer Capability of the transmission system is not exhausted by the set of TCCs and Grandfathered Rights that have been allocated at the completion of the last Centralized TCC Auction.

**Existing Transmission Capacity for Native Load ("ETCNL"):** Transmission Capacity reserved on a Transmission Owner's transmission system to serve the Native Load Customers of the current Transmission Owners (as of the filing date of the original ISO Tariff - January 31, 1997). This includes transmission Capacity required: (1) to deliver the output from operating facilities located out of a Transmission Owner's Transmission District; (2) to deliver power purchased under power supply contracts; and (3) to deliver power purchased under third party agreements (i.e., Non-Utility Generators). Existing Transmission Capacity for Native Load is listed in Attachment L of the ISO OATT.

**Existing Transmission Agreement (“ETA”):** An agreement between two or more Transmission Owners, or between a Transmission Owner and another entity, as defined in the ISO Agreement and the ISO OATT.

**Expected Load Reduction:** For purposes of determining the Real-Time Locational Based Marginal Price, the reduction in Load expected to be realized in real-time from activation of the Emergency Demand Response Program and from Load reductions requested from Special Case Resources, as established pursuant to ISO Procedures.

**Expedited Dispute Resolution Procedures:** The dispute resolution procedures applicable to disputes arising out of the Installed Capacity provisions of this ISO Services Tariff (as set forth in Section 5.16) and the Customer settlements provisions of this ISO Services Tariff (as set forth in Section 7.4.3).

**Exports:** A Bilateral Transaction or purchases from the LBMP Market where the Energy is delivered to an NYCA Interconnection with another Control Area.

**External:** An entity (e.g., Supplier, Transmission Customer) or facility (e.g., Generator, Interface) located outside the Control Area being referenced or between two or more Control Areas. Where a specific Control Area is not referenced, the NYCA is the intended reference.

**External Transactions:** Purchases, sales or exchanges of Energy, Capacity or Ancillary Services for which either the Point of Injection (“POI”) or Point of Withdrawal (“POW”) or both are located outside the NYCA (i.e., Exports, Imports or Wheels Through).

## 2.9 Definitions - I

**ICAP Demand Curve:** A series of prices which decline until reaching zero as the amount of Installed Capacity increases.

**ICAP Spot Market Auction:** An auction conducted pursuant to Section 5.14.1.1 of this Tariff to procure and set LSE Unforced Capacity Obligations for the subsequent Obligation Procurement Period, pursuant to the Demand Curves applicable to each respective LSE and the supply that is offered.

**Import Curtailment Guarantee Payment:** A payment made in accordance with Section 4.5.3.2 and Attachment J of this ISO Services Tariff to compensate a Supplier whose Import is Curtailed by the ISO.

**Imports:** A Bilateral Transaction or sale to the LBMP Market where Energy is delivered to a NYCA Interconnection from another Control Area.

**Inadvertent Energy Accounting:** The accounting performed to track and reconcile the difference between net actual Energy interchange and scheduled Energy interchange of a Control Area with adjacent Control Areas.

**In-City:** Located electrically within the New York City Locality (LBMP Load Zone J).

**Incremental Energy Bid:** A series of monotonically increasing constant cost incremental Energy steps that indicate the quantities of Energy for a given price that an entity is willing to supply to the ISO Administered Markets.

**Incremental TCC:** A set of point-to-point Transmission Congestion Contract(s) that is awarded pursuant to Section 19.2.2 of Attachment M to the ISO OATT.

**Independent System Operator (“ISO”):** The New York Independent System Operator, Inc., a not-for-profit corporation established pursuant to the ISO Agreement.

**Independent System Operator Agreement (“ISO Agreement”):** The agreement that establishes the New York ISO.

**Independent System Operator/New York State Reliability Council (“ISO/NYSRC Agreement”):** The agreement between the ISO and the New York State Reliability Council governing the relationship between the two organizations.

**Independent System Operator-Transmission Owner Agreement (“ISO/TO Agreement”):** The agreement that establishes the terms and conditions under which the Transmission Owners transferred to the ISO Operational Control over designated transmission facilities.

**Installed Capacity:** External or Internal Capacity, in increments of 100 kW, that is made available; pursuant to Tariff requirements and ISO Procedures.

**Installed Capacity Equivalent:** The Resource capability that corresponds to its Unforced Capacity, calculated in accordance with ISO Procedures.

**Installed Capacity Marketer:** An entity which has signed this Tariff and which purchases Unforced Capacity from qualified Installed Capacity Suppliers, or from LSEs with excess Unforced Capacity, either bilaterally or through an ISO-administered auction. Installed Capacity Marketers that purchase Unforced Capacity through an ISO-administered auction may only resell Unforced Capacity purchased in such auctions in the NYCA.

**Installed Capacity Supplier:** An Energy Limited Resource, Generator, Installed Capacity Marketer, Special Case Resource, Intermittent Power Resource, Limited Control Run of River Hydro Resource, municipally-owned generation, System Resource or Control Area System Resource that satisfies the ISO's qualification requirements for supplying Unforced Capacity to the NYCA.

**Interconnection or Interconnection Points ("IP"):** The point(s) at which the NYCA connects with a distribution system or adjacent Control Area. The IP may be a single tie line or several tie lines that are operated in parallel.

**Interface:** A defined set of transmission facilities that separate Load Zones and that separate the NYCA from adjacent Control Areas.

**Interface MW - Mile Methodology:** The procedure used to allocate Original Residual TCCs determined prior to the first Centralized TCC Auction to Transmission Owners.

**Intermittent Power Resource:** Capacity resources that depend upon wind, solar energy or landfill gas for their fuel and that such dependence precludes accurate prediction of the facility's real-time output. Each Intermittent Power Resource that depends on wind as its fuel shall include all turbines metered at a single scheduling point identifier (PTID).

**Internal:** An entity (e.g., Supplier, Transmission Customer) or facility (e.g., Generator, Interface) located within the Control Area being referenced. Where a specific Control Area is not referenced, internal means the NYCA.

**Internal Transactions:** Purchases, sales or exchanges of Energy, Capacity or Ancillary Services where the Generator and Load are located within the NYCA.

**Investment Grade Customer:** A Customer that meets the criteria set forth in Section 26.2 of Attachment K to this Services Tariff.

**Investor-Owned Transmission Owners:** At the present time these include: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

**ISO Administered Markets :** The Day-Ahead Market and the Real-Time Market (collectively the "LBMP Markets") and any other market or auction administered by the ISO.

**ISO-Committed Fixed:** In the Day-Ahead Market, a bidding mode in which a Generator requests that the ISO commit and schedule it. In the Real-Time Market, a bidding mode in which a Generator, with ISO approval, requests that the ISO schedule it no more frequently than every 15 minutes. A Generator scheduled in the Day-Ahead Market as ISO-Committed Fixed will participate as a Self-Committed Fixed Generator in the Real-Time Market unless it changes bidding mode, with ISO approval, to participate as an ISO-Committed Fixed Generator.

**ISO-Committed Flexible:** A bidding mode in which a Dispatchable Generator or Demand Side Resource follows Base Point Signals and is committed by the ISO.

**ISO Market Power Monitoring Program:** The monitoring program approved by the Commission and administered by the ISO and the Market Monitoring Unit that is designed to monitor the possible exercise of market power in ISO Administered Markets.

**ISO OATT:** The ISO Open Access Transmission Tariff.

**ISO Procedures:** The procedures adopted by the ISO in order to fulfill its responsibilities under the ISO OATT, the ISO Services Tariff and the ISO Related Agreements.

**ISO Related Agreements:** Collectively, the ISO Agreement, the ISO/TO Agreement, the NYSRC Agreement, and the ISO/NYSRC Agreement.

**ISO Services Tariff (the "Tariff"):** The ISO Market Administration and Control Area Services Tariff.

**ISO Tariffs:** The ISO OATT and the ISO Services Tariff, collectively.



## 2.16 Definitions - P

**Performance Index:** An index, described in ISO Procedures, that tracks a Generator's response to AGC signals from the ISO.

**Performance Tracking System:** A system designed to report metrics for Generators and Loads which include but are not limited to actual output and schedules. This system is used by the ISO to measure compliance with criteria associated with the provision of Energy and Ancillary Services.

**Point to Point Transmission Service:** The reservation and transmission of Capacity and Energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under Part 3 of the ISO OATT.

**Point(s) of Injection ("POI" or "Point of Receipt"):** The point(s) on the NYS Transmission System where Energy, Capacity and Ancillary Services will be made available to the ISO by the delivering party under the ISO OATT or the ISO Services Tariff. The Point(s) of Injection shall be specified in the Service Agreement.

**Point(s) of Withdrawal ("POW" or "Point of Delivery"):** The point(s) on the NYS Transmission System where Energy, Capacity and Ancillary Services will be made available to the receiving party under the ISO OATT or the ISO Services Tariff. The Point(s) of Withdrawal shall be specified in the Service Agreement.

**Pool Control Error ("PCE"):** The difference between the actual and scheduled interchange with other Control Areas, adjusted for frequency bias.

**Post Contingency:** Conditions existing on a system immediately following a Contingency.

**Power Exchange ("PE"):** A commercial entity meeting the requirements for service under the ISO OATT or the ISO Services Tariff that facilitates the purchase and/or sale of Energy, Unforced Capacity and/or Ancillary Services in a New York Wholesale Market. A PE may transact with the ISO on its own behalf or as an agent for others.

**Power Factor:** The ratio of real power to apparent power (the product of volts and amperes, expressed in megavolt-amperes, MVA).

**Power Factor Criteria:** Criteria to be established by the ISO to monitor a Load's use of Reactive Power.

**Power Flow:** A simulation which determines the Energy flows on the NYS Transmission System and adjacent transmission systems.

**Pre-Scheduled Transaction Request:** An offer submitted, pursuant to ISO Procedures, for priority scheduling of Transactions between the ISO and neighboring Control Areas to: (i) purchase Energy from the LBMP Market at the LBMP Market Price and deliver it to an External Control Area; (ii) sell Energy delivered from an External Control Area to the LBMP Market at the LBMP Market Price; or (iii) wheel Energy through the New York Control Area from one

External Control Area to another External Control Area at the market-determined Transmission Usage Charge. Pre-Scheduled Transaction Requests accepted for scheduling reserve Ramp Capacity and Transfer Capability and receive priority scheduling in the LBMP Market.

**Pre-Scheduled Transaction:** A Transaction accepted for scheduling in the designated LBMP Market pursuant to a Pre-Scheduled Transaction Request. Pre-Scheduled Transactions may be withdrawn only with the approval of the ISO pursuant to the ISO Procedures.

**Price Adjustment:** For each month in the Prior Equivalent Capability Period, the Price Adjustment equals the quotient of dividing (a) the Henry Hub futures gas price for the like month in the succeeding same-season Capability Period by (b) the average Henry Hub spot gas price for that month in the Prior Equivalent Capability Period.

**Primary Holder:** A Primary Holder of each TCC is the Primary Owner of that TCC or the party that purchased that TCC at the close of the Centralized TCC Auction. With respect to each TCC, a Primary Holder must be: (1) a Transmission Customer that has purchased the TCC in the Centralized TCC Auction, and that has not resold it in that same Auction; (2) a Transmission Customer that has purchased the TCC in a Direct Sale with another Transmission Customer; (3) the Primary Owner who has retained the TCC; or (4) Primary Owners of the TCC that allocated the TCC to certain customers or sold it in the Secondary Market or sold through a Direct Sale to an entity other than a Transmission Customer. The ISO settles Day-Ahead Congestion Rents pursuant to Attachments M and N to the ISO OATT with the Primary Holder of each TCC.

**Primary Owner:** The Primary Owner of each TCC is the Transmission Owner or other Transmission Customer that has acquired the TCC through conversion of rights under an Existing Transmission Agreement to Grandfathered TCCs (in accordance with Attachment K of the ISO OATT), or through the conversion of Existing Transmission Agreements upon their expiration (in accordance with Attachment B), or the Transmission Owner that acquired the TCC through the ISO's allocation of Original Residual TCCs or through the conversion of ETCNL or an RCRR.

**Prior Equivalent Capability Period:** The previous same-season Capability Period.

**Proxy Generator Bus:** A proxy bus located outside the NYCA that is selected by the ISO to represent a typical bus in an adjacent Control Area and for which LBMP prices are calculated. The ISO may establish more than one Proxy Generator Bus at a particular Interface with a neighboring Control Area to enable the NYISO to distinguish the bidding, treatment and pricing of products and services at the Interface.

**PSC:** The Public Service Commission of the State of New York or any successor agency thereto.

**PSL:** The New York Public Service Law, Public Service Law § 1 et seq. (McKinney 1989 & Supp. 1997-98).

**Public Power Entity:** An entity which is either (i) a public authority or corporate municipal instrumentality, including a subsidiary thereof, created by the State of New York that owns or operates generation or transmission and that is authorized to produce, transmit or distribute electricity for the benefit of the public, or (ii) a municipally owned electric system that owns or

controls distribution facilities and provides electric service, or (iii) a cooperatively owned electric system that owns or controls distribution facilities and provides electric service.

## 2.19 Definitions - S

**Safe Operations:** Actions which avoid placing personnel and equipment in peril with regard to the safety of life and equipment damage.

**Scheduled Line:** A transmission facility or set of transmission facilities: (a) that provide a distinct scheduling path interconnecting the ISO with an adjacent control area, (b) over which Customers are permitted to schedule External Transactions, (c) for which the ISO separately posts TTC and ATC, and (d) for which there is the capability to maintain the Scheduled Line actual interchange at the DNI, or within the tolerances dictated by Good Utility Practice. Each Scheduled Line is associated with a distinct Proxy Generator Bus. Transmission facilities shall only become Scheduled Lines after the Commission accepts for filing revisions to the NYISO's tariffs that identify a specific set or group of transmission facilities as a Scheduled Line. The following transmission facilities are Scheduled Lines: the Cross-Sound Scheduled Line, the Neptune Scheduled Line, the Dennison Scheduled Line, the Northport Norwalk Scheduled Line, and the Linden VFT Scheduled Line.

**Scheduling Differential:** A monetary amount, to be defined by the ISO pursuant to ISO Procedures, that is assigned to, or defines Bid Price limits applicable to, Decremental Bids and Sink Price Cap Bids at Proxy Generator Buses, in order to establish an appropriate scheduling priority for the Transaction or Firm Transmission Service associated with each such Bid. The Scheduling Differential shall be no larger than one dollar (\$1.00).

**SCUC:** Security Constrained Unit Commitment, described in Section 4.2.4 of this ISO Services Tariff.

**Secondary Holders:** Entities that: (1) purchase TCCs in the Secondary Market; (2) purchase TCCs in a Direct Sale from a Transmission Owner and have not been certified as a Primary Holder by the ISO; or (3) receive an allocation of Native Load TCCs from a Transmission Owner (See Attachment M). A Transmission Customer purchasing TCCs in a Direct Sale may qualify as a Primary Holder with respect to those TCCs purchased in that Direct Sale.

**Second Settlement:** The process of: (1) identifying differences between Energy production, Energy consumption or NYS Transmission System usage scheduled in a First Settlement and actual production, consumption, or usage during the Dispatch Day; and (2) assigning financial responsibility for those differences to the appropriate Customers and Market Participants. Charges for Energy supplied (to replace generation deficiencies or unscheduled consumption), and payments for Energy consumed (to absorb consumption deficiencies or excess Energy supply) or changes in transmission usage will be based on the Real-Time LBMPs.

**Secondary Market:** A market in which Primary and Secondary Holders sell TCCs by mechanisms other than through the Centralized TCC Auction or by Direct Sale. Buyers of TCCs in the Secondary Market shall neither pay nor receive Congestion Rents directly to or from the ISO.

**Security Coordinator:** An entity that provides the security assessment and Emergency operations coordination for a group of Control Areas. A Security Coordinator must not participate in the wholesale or retail merchant functions.

**Self-Committed Fixed:** A bidding mode in which a Generator is self-committed and opts not to be Dispatchable over any portion of its operating range.

**Self-Committed Flexible:** A bidding mode in which a Dispatchable Generator follows Base Point Signals within a portion of its operating range, but self-commits.

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

**Service Agreement:** The agreement, in the form of Attachment A to the Tariff, and any amendments or supplements thereto entered into by a Customer and the ISO of service under the Tariff, or any unexecuted Service Agreement, amendments or supplements thereto, that the ISO unilaterally files with the Commission.

**Service Commencement Date:** The date that the ISO begins to provide service pursuant to the terms of a Service Agreement, or in accordance with the Tariff.

**Settlement:** The process of determining the charges to be paid to, or by, a Customer to satisfy its obligations.

**Shadow Price:** The marginal value of relieving a particular Constraint which is determined by the reduction in system cost that results from an incremental relaxation of that Constraint.

**Shift Factor ("SF"):** A ratio, calculated by the ISO, that compares the change in power flow through a transmission facility resulting from the incremental injection and withdrawal of power on the NYS Transmission System.

**Shutdown Period:** An ISO approved period of time immediately following a shutdown order, such as a zero base point, that has been designated by the Customer, during which unstable operation prevents the unit from accurately following its base points.

**Sink Price Cap Bid:** A Bid Price provided by an entity engaged in an Export to indicate the relevant Proxy Generator Bus LBMP below which that entity is willing to either purchase Energy in the LBMP Markets or, in the case of Bilateral Transactions, to accept Transmission Service.

**Special Case Resource:** Demand Side Resources capable of being interrupted upon demand, and Local Generators, rated 100 kW or higher, that are not visible to the ISO's Market Information System and that are subject to special rules, set forth in Section 5.12.11.1 of this ISO Services Tariff and related ISO Procedures, in order to facilitate their participation in the Installed Capacity market as Installed Capacity Suppliers. Special Case Resources that are not Local Generators, may be offered as synchronized Operating Reserves and Regulation Service and Energy in the Day-Ahead Market. Special Case Resources, using Local Generators rated 100 kW or higher, that are not visible to the ISO's Market Information System may also be offered as non-synchronized Operating Reserves.

**Special Case Resource Capacity:** The Installed Capacity Equivalent of the Unforced Capacity which has been sold by a Special Case Resource in the Installed Capacity market during the current Capability Period.

**Start-Up Period:** An ISO approved period of time immediately following synchronization to the Bulk power system, which has been designated by a Customer and bid into the Real-Time Market, during which unstable operation prevents the unit from accurately following its base points.

**Station Power:** Station Power shall mean the Energy used by a Generator:

1. for operating electric equipment located on the Generator site, or portions thereof, owned by the same entity that owns the Generator, which electrical equipment is used by the Generator exclusively for the production of Energy and any useful thermal energy associated with the production of Energy; and
2. for the incidental heating, lighting, air conditioning and office equipment needs of buildings, or portions thereof, that are: owned by the same entity that owns the Generator; located on the Generator site; and
3. used by the Generator exclusively in connection with the production of Energy and any useful thermal energy associated with the production of Energy.

Station Power does not include any Energy: (i) used to power synchronous condensers; (ii) used for pumping at a pumped storage facility or for charging a Limited Energy Storage Resource; or (iii) provided during a Black Start restoration by Generators that provide Black Start Capability Service.

**Start-Up Bid:** A Bid parameter that may vary hourly and that identifies the payment a Supplier requires to bring a Generator up to its specified minimum operating level from an offline state or a Demand Side Resource from a level of no Demand Reduction to its specified minimum level of Demand Reduction.

Start-Up Bids submitted for a Generator that is not able to complete its specified minimum run time (of up to a maximum of 24 hours) within the Dispatch Day are expected to include expected net costs related to the hour(s) that a Generator needs to run on the day following the Dispatch Day in order to complete its minimum run time. The component of the Start-Up Bid that incorporates costs that the Generator expects to incur on the day following the Dispatch Day is expected to reflect the operating costs that the Supplier does not expect to be able to recover through LBMP revenues while operating to meet the Generator's minimum run time, at the minimum operating level Bid for that Generator for the hour of the Dispatch Day in which the Generator is scheduled to start-up. Settlement rules addressing Start-Up Bids that incorporates costs related to the hours that a Generator needs to run on the day following the Dispatch Day on which the Generator is committed are set forth in Attachment C to this ISO Services Tariff.

**Storm Watch:** Actual or anticipated severe weather conditions under which region-specific portions of the NYS Transmission System are operated in a more conservative manner by reducing transmission transfer limits.

**Strandable Costs:** Prudent and verifiable expenditures and commitments made pursuant to a Transmission Owner's legal obligations that are currently recovered in the Transmission Owner's retail or wholesale rate that could become unrecoverable as a result of a restructuring of the electric utility industry and/or electricity market, or as a result of retail-turned-wholesale customers, or customers switching generation or Transmission Service suppliers.

**Stranded Investment Recovery Charge:** A charge established by a Transmission Owner to recover Strandable Costs.

**Subzone:** That portion of a Load Zone in a Transmission Owner's Transmission District.

**Supplemental Event Interval:** Any RTD interval in which there is a maximum generation pickup or a large event reserve pickup or which is one of the three RTD intervals following the termination of the maximum generation pickup or the large event reserve pickup.

**Supplemental Resource Evaluation ("SRE"):** A determination of the least cost selection of additional Generators, which are to be committed, to meet: (i) changed or local system conditions for the Dispatch Day that may cause the Day-Ahead schedules for the Dispatch Day to be inadequate to meet the reliability requirements of the Transmission Owner's local system or to meet Load or reliability requirements of the ISO; or (ii) forecast Load and reserve requirements over the six-day period that follows the Dispatch Day.

**Supplier:** A Party that is supplying the Capacity, Demand Reduction, Energy and/or associated Ancillary Services to be made available under the ISO OATT or the ISO Services Tariff, including Generators and Demand Side Resources that satisfy all applicable ISO requirements.

**System Resource:** A portfolio of Unforced Capacity provided by Resources located in a single ISO-defined Locality, the remainder of the NYCA, or any single External Control Area, that is owned by or under the control of a single entity, which is not the operator of the Control Area where such Resources are located, and that is made available, in whole or in part, to the ISO.

## **4      MARKET SERVICES: RIGHTS AND OBLIGATIONS**



## **4.2 Day-Ahead Markets and Schedules**

### **4.2.1 Pre-Scheduled Transaction Requests**

Pre-Scheduled Transaction Requests shall be submitted, pursuant to ISO Procedures, no earlier than eighteen (18) months prior to the Dispatch Day, and shall include hourly Transaction quantities (in MW) at each affected External Interface for each specified Dispatch Day.

Customers may submit Pre-Scheduled Transaction Requests for scheduling in the Day-Ahead Market. The ISO shall determine, pursuant to ISO Procedures, the amount of Total Transfer Capability at each External Interface to be made available for scheduling. The ISO shall evaluate Pre-Scheduled Transaction Requests in the order in which they are submitted for evaluation until the Pre-Scheduled Transaction Request expires, pursuant to ISO Procedures, prior to the close of the Day-Ahead Market for the specified Dispatch Day. Modification of a Pre-Scheduled Transaction Request shall constitute a withdrawal of the original request and a submission of a new Pre-Scheduled Transaction Request. At the request of a Customer, the ISO shall continue to evaluate a Pre-Scheduled Transaction Request that was not accepted for scheduling in the priority order in which the Request was originally submitted until it is either accepted for scheduling, is withdrawn or expires, pursuant to ISO Procedures, prior to the close of the Day-Ahead Market for the specified Dispatch Day. The ISO shall accept Pre-Scheduled Transaction Requests for scheduling, pursuant to ISO Procedures, provided that there is Ramp Capacity, and Transfer Capability at each affected External Interface, available in the NYCA for each hour requested. If Ramp Capacity or Transfer Capability, on the designated External Interface, is unavailable in the NYCA for any hour of the Pre-Scheduled Transaction Request, the request shall not be scheduled. The ISO shall confirm the Transaction with affected Control

Areas, as necessary, pursuant to ISO Procedures and may condition acceptance for scheduling on such confirmation.

The ISO shall provide the requesting Customer with notice, as soon as is practically possible, as to whether the Pre-Scheduled Transaction Request is accepted for scheduling and, if it is not scheduled, the ISO shall provide the reason.

The ISO shall reserve Ramp Capacity, and Transfer Capability on affected Interfaces, for each Pre-Scheduled Transaction. The ISO shall evaluate requests to withdraw Pre-Scheduled Transactions pursuant to ISO Procedures. The ISO shall submit Pre-Scheduled Transactions to the appropriate LBMP Market for the designated Dispatch Day.

Prescheduled Transactions that are submitted for scheduling in the Day-Ahead Market shall be assigned a Decremental Bid or Sink Price Cap Bid, as appropriate, to provide the highest scheduling priority available.

Prescheduled Transactions may not be scheduled at Proxy Generator Buses that are associated with Scheduled Lines.

## **4.2.2 Day-Ahead Load Forecasts, Bids and Bilateral Schedules**

### **4.2.2.1 General Customer Forecasting and Bidding Requirements**

By 5 a.m., on the day prior to the Dispatch Day (or by 4:50 a.m. for Eligible Customers seeking to schedule External Transactions at the Proxy Generator Bus associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, or the Linden VFT Scheduled Line):

(i) All LSEs serving Load in the NYCA shall provide the ISO with Day-Ahead and seven (7) day Load forecasts; and (ii) Customers submitting Bids in the Day-Ahead Market, other than Pre-scheduled Transaction Requests, shall provide the ISO, consistent with ISO Procedures:

- 4.2.2.1.1 Bids to supply Energy, including Bids to supply Energy in Virtual Transactions;
- 4.2.2.1.2 Bids to supply Ancillary Services;
- 4.2.2.1.3 Requests for Bilateral Transaction schedules;
- 4.2.2.1.4 Bids to purchase Energy, including Bids to purchase Energy in Virtual Transactions; and
- 4.2.2.1.5 Demand Reduction Bids.

In general, the information provided to the ISO shall include the following:

#### **4.2.2.2 Load Forecasts**

The Load forecast shall indicate the predicted level of Load in MW by Point of Withdrawal for each hour of the following seven (7) days.

#### **4.2.2.3 Bids by Dispatchable and ISO-Committed Fixed Resources to Supply Energy and/or Ancillary Services**

##### **4.2.2.3.1 General Rules**

Day-Ahead Bids by Dispatchable or ISO-Committed Fixed Suppliers shall identify the Capacity, in MW, available for commitment in the Day-Ahead Market (for every hour of the Dispatch Day) and the price(s) at which the Supplier will voluntarily enter into dispatch commitments. Bids to supply Energy at Proxy Generator Buses shall be priced no lower than the Bid that provides the highest scheduling priority for sales to the relevant LBMP Market plus the product of (i) the Scheduling Differential and (ii) three.

If the Supplier is ISO-Committed Flexible or Self-Committed Flexible, and is eligible to provide Regulation Service or Operating Reserves under Rate Schedules 3 and 4 respectively of this ISO Services Tariff, the Supplier's Bid shall specify the quantity of Regulation Service it is

making available and an emergency response rate that determines the quantity of Operating Reserves that it is capable of providing. Offers to provide Regulation Service and Operating Reserves must comply with the rules set forth in Rate Schedules 3 and 4 and Attachment D to this ISO Services Tariff. If a Supplier that is eligible to provide Operating Reserves does not submit a Day-Ahead Availability Bid for Operating Reserves, its Day-Ahead Bid shall be rejected in its entirety. A Supplier may resubmit a complete Day-Ahead Bid, provided that the new Bid is timely.

#### **4.2.2.3.2 Bid Parameters**

Day-Ahead Bids by Dispatchable or ISO-Committed Fixed Suppliers, may identify variable Energy price Bids, consisting of up to eleven monotonically increasing, constant cost incremental Energy steps, and other parameters described in Attachment D of this ISO Services Tariff and the ISO Procedures. Day-Ahead Bids from Demand Side Resources offering Operating Reserves or Regulation Service shall be ISO-Committed Flexible and shall have an Energy Bid price no lower than \$75/MW hour. Day-Ahead offers by Intermittent Power Resources that depend on wind as their fuel shall be ISO-Committed Flexible and shall not include a Minimum Generation Bid or a Start-Up Bid.

Day-Ahead Bids by ISO-Committed Fixed and ISO-Committed Flexible Generators shall also include Minimum Generation Bids and hourly Start-Up Bids. Bids shall specify whether a Supplier is offering to be ISO-Committed Fixed, ISO-Committed Flexible or Self-Committed Flexible.

#### **4.2.2.3.3 Upper Operating Limits**

All Bids to supply Energy and Ancillary Services must specify a  $UOL_N$  and a  $UOL_E$  for each hour. A Resource's  $UOL_E$  may not be lower than its  $UOL_N$ .

#### **4.2.2.4 Offers to Supply Energy from Self-Committed Fixed Generators**

Self-Committed Fixed Generators shall provide the ISO with a schedule of their expected Energy output for each hour. Self-Committed Fixed Generators are responsible for ensuring that any hourly changes in output are consistent with their response rates. Self-Committed Fixed Generators shall also submit  $UOL_{NS}$ ,  $UOL_{ES}$  and variable Energy Bids for possible use by the ISO in the event that RTD-CAM initiates a maximum generation pickup, as described in Section 4.4.4 of this ISO Services Tariff.

#### **4.2.2.5 Bids to Supply Energy in Virtual Transactions**

Customers submitting bids to supply Energy in Virtual Transactions shall identify the Energy, in MW, available in the Day-Ahead Market (for every hour of the Dispatch Day) and the price(s) at which the Customer will voluntarily make it available.

#### **4.2.2.6 Bids to Purchase Energy in Virtual Transactions**

Customers submitting bids to purchase Energy in Virtual Transactions shall identify the Energy, in MW, to be purchased in the Day-Ahead Market (for every hour of the Dispatch Day) and the price(s) at which the Customer will voluntarily purchase it.

#### **4.2.2.7 Bilateral Transactions**

Bilateral Transaction schedules shall identify hourly Transaction quantities (in MW) by Point of Injection and Point of Withdrawal, minimum run times associated with Firm Point to Point Transmission Service, if any, and provide other information (as described in Attachment D). Decremental Bids and Sink Price Cap Bids shall be subject to the bid limitations and pricing rules set forth in Section 17.3.2.7 of Attachment B to this ISO Services Tariff.

#### **4.2.2.8 Bids to Purchase Energy in the Day-Ahead Market**

Each purchaser shall submit Bids indicating the hourly quantity of Energy, in MW, that it will purchase from the Day-Ahead Market for each hour of the following Dispatch Day. These Bids shall indicate the quantities to be purchased by Point of Withdrawal. The Bids may identify prices at which the purchaser will voluntarily Curtail the Transaction, provided however that Bids from External purchasers to purchase Energy in the Day-Ahead Market shall be priced no higher than the Bid that provides the highest scheduling priority for purchases in the LBMP Market, minus the product of (i) the Scheduling Differential and (ii) three.

#### **4.2.2.9 Day-Ahead Bids from Demand Reduction Providers to Supply Energy from Demand Reductions**

Demand Reduction Providers offering Energy from Demand Side Resources shall: (i) bid in whole megawatts and, as described in Attachment D, shall: (ii) identify the amount of demand, in whole megawatts, that is available for commitment in the Day-Ahead Market (for every hour of the dispatch day) and (iii) identify the prices at which the Demand Reduction Provider will voluntarily enter into dispatch commitments to reduce demand provided, however, the price at which the Demand Reduction Provider will voluntarily enter into dispatch commitments to reduce demand shall be no lower than \$75/MW hour. The Bids will identify the minimum period of time that the Demand Reduction Provider is willing to reduce demand. The Bid may separately identify the Demand Reduction Provider's Curtailment Initiation Cost. Demand Reduction Bids from Demand Reduction Providers that are not accepted in the Day-Ahead Market shall expire at the close of the Day-Ahead Market.

#### **4.2.3 ISO Responsibility to Establish a Statewide Load Forecast**

By 8 a.m., the ISO will develop and publish its statewide Load forecast on the OASIS. The ISO will use this forecast to perform the SCUC for the Dispatch Day.

#### **4.2.4 Security Constrained Unit Commitment (“SCUC”)**

Subject to ISO Procedures and Good Utility Practice, the ISO will develop a SCUC schedule over the Dispatch Day using a computer algorithm which simultaneously minimizes the total Bid Production Cost of: (i) supplying power or Demand Reductions to satisfy accepted purchasers’ Bids to buy Energy from the Day-Ahead Market; (ii) providing sufficient Ancillary Services to support Energy purchased from the Day-Ahead Market consistent with the Regulation Service Demand curve and Operating Reserve Demand Curves set forth in Rate Schedules 3 and 4 respectively of this ISO Services Tariff; (iii) committing sufficient Capacity to meet the ISO’s Load forecast and provide associated Ancillary Services; and (iv) meeting Bilateral Transaction schedules submitted Day-Ahead excluding schedules of Bilateral Transactions with Trading Hubs as their POWs. The computer algorithm shall consider whether accepting Demand Reduction Bids will reduce the total Bid Production Cost. The schedule will include commitment of sufficient Generators and/or Demand Side Resources to provide for the safe and reliable operation of the NYS Power System. Pursuant to ISO Procedures, the ISO may schedule any Resource to run above its  $UOL_N$  up to the level of its  $UOL_E$ . In cases in which the sum of all Bilateral Schedules, excluding Bilateral Schedules for Transactions with Trading Hubs as their POWs, and all Day-Ahead Market purchases to serve Load within the NYCA in the Day-Ahead schedule is less than the ISO’s Day-Ahead forecast of Load, the ISO will commit Resources in addition to the Operating Reserves it normally maintains to enable it to respond to contingencies. The purpose of these additional resources is to ensure that sufficient Capacity is

available to the ISO 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 ISO's Load forecast, the ISO will evaluate unscheduled Imports, and will not schedule those Transactions if its evaluation determines the cost of those Transactions would effectively exceed a Bid Price cap in the hours in which the Energy provided by those Transactions is required. In addition to all Reliability Rules, the ISO shall consider the following information when developing the SCUC schedule: (i) Load forecasts; (ii) Ancillary Service requirements as determined by the ISO given the Regulation Service Demand Curve and Operating Reserve Demand Curves referenced above; (iii) Bilateral Transaction schedules excluding Bilateral Schedules for Transactions with Trading Hubs as their POWs; (iv) price Bids and operating Constraints submitted for Generators or for Demand Side Resources; (v) price Bids for Ancillary Services; (vi) Decremental Bids and Sink Price Cap Bids for External Transactions; (vii) Ancillary Services in support of Bilateral Transactions; and (viii) Bids to purchase or sell Energy from or to the Day-Ahead Market. External Transactions with minimum run times greater than one hour will only be scheduled at the requested Bid for the full minimum run time. External Transactions with identical Bids and minimum run times greater than one hour will not be prorated. The SCUC schedule shall list the twenty-four (24) hourly injections and withdrawals for: (a) each Customer whose Bid the ISO accepts for the following Dispatch Day; and (b) each Bilateral Transaction scheduled Day-Ahead excluding Bilateral Transactions with Trading Hubs as their POWs.

In the development of its SCUC schedule, the ISO may commit and de-commit Generators and Demand Side Resources, based upon any flexible Bids, including Minimum Generation Bids, Start-Up Bids, Curtailment Initiation Cost Bids, Energy, and Incremental



Energy Bids and Decremental Bids received by the ISO provided however that the ISO shall commit zero megawatts of Energy for Demand Side Resources committed to provide Operating Reserves and Regulation Service.

The ISO will select the least cost mix of Ancillary Services and Energy from Suppliers, Demand Side Resources, and Customers submitting Virtual Transactions bids. The ISO 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. For example, 10-Minute Non-Synchronized Reserve may be substituted for 30-Minute Reserve if doing so would reduce the total bid cost of providing Energy and Ancillary Services.

#### **4.2.4.1 Reliability Forecast for the Dispatch Day**

At the request of a Transmission Owner to meet the reliability of its local system, the ISO may incorporate into the ISO's Security Constrained Unit Commitment constraints specified by the Transmission Owner.

A Transmission Owner may request commitment of certain Generators for a Dispatch Day if it determines that certain Generators are needed to meet the reliability of its local system. Such request shall be made before the Day-Ahead Market for that Dispatch Day has closed if the Transmission Owner knows of the need to commit certain Generators before the Day-Ahead Market close. The ISO may commit one or more Generator(s) in the Day-Ahead Market for a Dispatch Day if it determines that the Generator(s) are needed to meet NYCA reliability requirements.

A Transmission Owner may request commitment of additional Generators for a Dispatch Day following the close of the Day-Ahead Market to meet changed or local system conditions for the Dispatch Day that may cause the Day-Ahead schedules for the Dispatch Day to be

inadequate to ensure the reliability of its local system. The ISO will use SRE to fulfill a Transmission Owner's request for additional units.

All Generator commitments made in the Day-Ahead Market pursuant to this Section 4.2.4.1 shall be posted on the ISO website following the close of the Day-Ahead Market, in accordance with ISO procedures. In addition, the ISO shall post on its website a non-binding, advisory notification of a request, or any modifications thereto, made pursuant to this Section 4.2.4.1 in the Day-Ahead Market by a Transmission Owner to commit a Generator that is located within a Constrained Area, as defined in Attachment H of this Services Tariff. The advisory notification shall be provided upon receipt of the request and in accordance with ISO procedures.

After the Day-Ahead schedule is published, the ISO shall evaluate any events, including, but not limited to, the loss of significant Generators or transmission facilities that may cause the Day-Ahead schedules to be inadequate to meet the Load or reliability requirements for the Dispatch Day.

In order to meet Load or reliability requirements in response to such changed conditions the ISO may: (i) commit additional Resources, beyond those committed Day-Ahead, using a SRE and considering (a) Bids submitted to the ISO that were not previously accepted but were designated by the bidder as continuing to be available; or (b) new Bids from all Suppliers, including neighboring systems; or (ii) take the following actions: (a) after providing notice, require all Resources to run above their  $UOL_{NS}$ , up to the level of their  $UOL_{ES}$  (pursuant to ISO Procedures) and/or raise the  $UOL_{NS}$  of Capacity Limited Resources and Energy Limited Resources to their  $UOL_E$  levels, or (b) cancel or reschedule transmission facility maintenance outages when possible. Actions taken by the ISO in performing supplemental commitments will not change any financial commitments that resulted from the Day-Ahead Market

#### **4.2.5 Reliability Forecast for the Six Days Following the Dispatch Day**

In the SCUC program, system operation shall be optimized based on Bids over the Dispatch Day. However, to preserve system reliability, the ISO must ensure that there will be sufficient resources available to meet forecasted Load and reserve requirements over the seven (7)-day period that begins with the next Dispatch Day. The ISO will perform a Supplemental Resource Evaluation (“SRE”) for days two (2) through seven (7) of the commitment cycle. If it is determined that a long start-up time Generator (*i.e.*, a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) is needed for reliability, the ISO shall accept a Bid from the Generator and the Generator will begin its start-up sequence. During each day of the start-up sequence, the ISO will perform an SRE to determine if long start-up time Generators will still be needed as previously forecasted. If at any time it is determined that the Generator will not be needed as previously forecasted, the ISO shall order the Generator to abort its start-up sequence.

The ISO will commit to long start-up time Generators to preserve reliability. However, the ISO will not commit resources with long start-up times to reduce the cost of meeting Loads that it expects to occur in days following the next Dispatch Day.

A Supplier that bids on behalf of a long start-up time Generator, including one that is committed and whose start is subsequently aborted by the ISO as described in this Section 4.2.5, may be eligible for a Bid Production Cost Guarantee pursuant to the provisions of Section 4.6.6 and Attachment C of this ISO Services Tariff. The costs of such a Bid Production Cost guarantee will be recovered by the ISO under Rate Schedule 1 of the ISO OATT.

The ISO shall perform the SRE as follows: (1) The ISO shall develop a forecast of daily system peak Load for days two (2) through seven (7) in this seven (7)-day period and add the appropriate reserve margin; (2) the ISO shall then forecast its available Generators for the day in

question by summing the Operating Capacity for all Generators currently in operation that are available for the commitment cycle, the Operating Capacity of all other Generators capable of starting on subsequent days to be available on the day in question, and an estimate of the net Imports from External Bilateral Transactions; (3) if the forecasted peak Load plus reserves exceeds the ISO's forecast of available Generators for the day in question, then the ISO shall commit additional Generators capable of starting prior to the day in question (*e.g.*, start-up period of two (2) days when looking at day three (3)) to assure system reliability; (4) in choosing among Generators with comparable start-up periods, the ISO shall schedule Generators to minimize Minimum Generation Bid and Start-Up Bid costs of meeting forecasted peak Load plus Ancillary Services consistent with the Reliability Rules; (5) in determining the appropriate reserve margin for days two (2) through seven (7), the ISO will supplement the normal reserve requirements to allow for forced outages of the short start-up period units (*e.g.*, gas turbines) assumed to be operating at maximum output in the unit commitment analysis for reliability.

The bidding requirements and the Bid tables in Attachment D indicate that Energy Bids are to be provided for days one (1) through seven (7). Energy Bids are binding for day one (1) only for units in operation or with start-up periods less than one (1) day. Minimum Generation Bids for Generators with start-up periods greater than one (1) day will be binding only for units that are committed by the ISO and only for the first day in which those units could produce Energy given their start-up periods. For example, Minimum Generation Bids for a Generator with a start-up period of two (2) days would be binding only for day three (3) because, if that unit begins to start up at any time during day one (1), it would begin to produce Energy forty-eight (48) hours later on day three (3). Similarly, the Minimum Generation Bids for a Generator with a start-up period of three (3) days would be binding only for day four (4).

#### **4.2.6 Post the Day-Ahead Schedule**

By 11 a.m. on the day prior to the Dispatch Day, the ISO shall close the Day-Ahead scheduling process and post on the Bid/Post System the Day-Ahead schedule for each entity that submits a Bid or Bilateral Transaction 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 (See Attachment F to the ISO OATT). The ISO will post on the OASIS the statewide aggregate resources (Day-Ahead Energy schedules and total operating capability forecast) and Load (Day-Ahead scheduled and forecast) for each Load Zone, and the Day-Ahead LBMP prices (including the Congestion Component and the Marginal Losses Component) for each Load Zone in each hour of the upcoming Dispatch Day. The ISO shall conduct the Day-Ahead Settlement based upon the Day-Ahead schedule determined in accordance with this section. The ISO will provide the Transmission Owner with the Load forecast (for seven (7) days) as well as the ISO security evaluation data to enable local area reliability to be assessed.

#### **4.2.7 Day-Ahead LBMP Market Settlements**

The ISO shall calculate the Day-Ahead LBMPs for each Load Zone and at each Generator bus and Demand Reduction Bus as described in Attachment B. Each Supplier that bids a Generator into the ISO Day-Ahead Market and is scheduled in the SCUC to sell Energy in the Day-Ahead Market will be paid the product of: (a) the Day-Ahead hourly LBMP at the applicable Generator bus; and (b) the hourly Energy schedule. For each Demand Reduction Provider that bids a Demand Reduction into the Day-Ahead Market and is scheduled in SCUC to provide Energy from the Demand Reduction, the LSE providing Energy service to the Demand Side Resource that accounts for the Demand Reduction shall be paid the product of: (a) the Day-

Ahead hourly LBMP at the applicable Demand Reduction Bus; and (b) the hourly demand reduction scheduled Day-Ahead (in MW). In addition, each Demand Reduction Provider that bids a Demand Reduction into the Day-Ahead Market and is scheduled in the SCUC to provide Energy through Demand Reduction shall receive a Demand Reduction Incentive Payment from the ISO equal to the product of: (a) the Day-Ahead hourly LBMP at the Demand Reduction bus; and (b) the lesser of the actual hourly Demand Reduction or the scheduled hourly Demand Reduction (in MW). Each Customer that bids into the Day-Ahead Market, including each Customer that submits a Bid for a Virtual Transaction, and has a schedule accepted by the ISO to purchase Energy in the Day-Ahead Market will pay the product of: (a) the Day-Ahead hourly Zonal LBMP at each Point of Withdrawal; and (b) the scheduled Energy at each Point of Withdrawal. Each Customer that submits a Virtual Transaction bid into the ISO Day-Ahead Market and has a schedule accepted by the ISO to sell Energy in a Load Zone in the Day-Ahead Market will receive a payment equal to the product of (a) the Day-Ahead hourly zonal LBMP for that Load Zone; and (b) the hourly scheduled Energy for the Customer in that Load Zone. Each Trading Hub Energy Owner who bids a Bilateral Transaction into the Day-Ahead Market with a Trading Hub as its POI and has its schedule accepted by the ISO will pay the product of: (a) the Day-Ahead hourly zonal LBMP for the Load Zone associated with that Trading Hub; and (b) the Bilateral Transaction scheduled MW. Each Trading Hub Energy Owner who bids a Bilateral Transaction into the Day-Ahead Market with a Trading Hub as its POW and has its schedule accepted by the ISO will be paid the product of: (a) the Day-Ahead hourly zonal LBMP for the Load Zone associated with that Trading Hub; and (b) the Bilateral Transaction scheduled MW.

The ISO shall publish the Day-Ahead Settlement Load Zone LBMPs for each hour in the scheduling horizon (nominally twenty-four (24) hours). The ISO shall then close the Day-Ahead Settlement.

#### **4.4 Real-Time Markets and Schedules**

##### **4.4.1 In-Day Pre-Scheduled Transactions**

For any hour in which the operator of an External Control Area informs the ISO that it must call on a Supplier located in the NYCA to provide the External Control Area with Energy, and that Supplier has previously committed to provide installed capacity to the External Control Area, then the ISO shall ensure, to the extent possible, that the required quantity of Energy will flow to the External Control Area in the hour. If the Supplier has already submitted an Export to the External Control Area for evaluation by the ISO, the ISO shall treat the Export as an in-day Pre-Scheduled Transaction. Such a Transaction shall be assigned a Sink Price Cap Bid that provides the highest scheduling priority available. If the Supplier has not previously submitted an Export for evaluation by the ISO it shall immediately submit such a bid into RTC. The ISO shall schedule the proposed Export as an in-day Pre-Scheduled Transaction, with the highest scheduling priority available, unless there is no Ramp Capacity or Transfer Capability on the relevant External Interface, in which case the Export will not be scheduled. To the extent that Ramp Capacity or Transfer Capability are available to support only a portion of an in-day Pre-Scheduled Transaction the ISO will schedule that portion of the Transaction.

In-day Pre-Scheduled Transactions will only be subject to Curtailment in the same limited circumstances as other Pre-Scheduled Transactions.

In-day Pre-Scheduled Transactions may not be scheduled at Proxy Generator Buses that are associated with Scheduled Lines.



## **4.4.2 Real-Time Commitment (“RTC”)**

### **4.4.2.1 Overview**

RTC will make binding unit commitment and de-commitment decisions for the periods beginning fifteen minutes (in the case of Resources that can respond in ten minutes) and thirty minutes (in the case of Resources that can respond in thirty minutes) after the scheduled posting time of each RTC run, will provide advisory commitment information for the remainder of the two and a half hour optimization period, and will produce binding schedules for External Transactions to begin at the start of each hour. RTC will co-optimize to solve simultaneously for all Load, Operating Reserves and Regulation Service requirements and to minimize the total as-bid production costs over its optimization timeframe. RTC will consider SCUC’s Resource commitment for the day, load and loss forecasts that RTC itself will produce each quarter hour, binding transmission constraints, and all Real-Time Bids and Bid parameters submitted pursuant to Section 4.4.2.2 below.

### **4.4.2.2 Bids and Other Requests**

After the Day-Ahead schedule is published and no later than seventy-five (75) minutes before each hour (or no later than eighty-five minutes before each hour for Bids to schedule External Transactions at the Proxy Generator Buses associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, or the Linden VFT Scheduled Line), Customers may submit Real-Time Bids into RTC for real-time evaluation.

#### **4.4.2.2.1 Real-Time Bids to Supply Energy and Ancillary Services**

Intermittent Power Resources that depend on wind as their fuel submitting new or revised offers to supply Energy shall bid as ISO-Committed Flexible and shall not include a Minimum Generation Bid or a Start-Up Bid. Eligible Customers may submit new or revised Bids to supply

Energy, Operating Reserves and/or Regulation Service. Customers that submit such Bids may specify different Bid parameters in RTC than they did Day-Ahead. ISO-Committed Fixed Generators, ISO-Committed Flexible Generators and Demand Side Resources, and Self-Committed Flexible Generators may not increase their Day-Ahead Incremental Energy Bids that are applicable to any portion of their Capacity that was scheduled Day-Ahead, and may not increase their Minimum Generation Bids, or Start-Up Bids, for any hour in which they received a Day-Ahead Energy schedule. Additionally, Real-Time Minimum Run Qualified Gas Turbine Customers shall not increase their previously submitted Real-Time Incremental Energy Bids, Minimum Generation Bids, or Start-Up Bids within 135 minutes of the dispatch hour. Bids to supply Energy or Ancillary Services shall be subject to the rules set forth in Section 4.2.2 above and in Attachment D to this ISO Services Tariff.

Generators that did not submit a Day-Ahead Bid for a given hour may offer to be ISO-Committed Flexible, Self-Committed Flexible, Self-Committed Fixed or, with ISO approval, as ISO-Committed Fixed in real-time. Demand Side Resources that did not submit a Day-Ahead Bid to provide Operating Reserves or Regulation Service for a given hour or that submitted a Day-Ahead Bid to provide Operating Reserves or Regulation Service but did not receive a Day-Ahead schedule for a given hour may offer to provide Operating Reserves or Regulation Service as ISO-Committed Flexible for that hour in the Real-Time Market provided, however, that the Demand Side Resource shall have an Energy price Bid no lower than \$75 /MW hour.

Generators that submitted a Day-Ahead Bid but did not receive a Day-Ahead schedule for a given hour may change their bidding mode for that hour to be ISO-Committed Flexible, Self-Committed Flexible, Self-Committed Fixed or, with ISO approval, ISO-Committed Fixed in real-time without restriction.

Generators that received a Day-Ahead schedule for a given hour may not change their bidding mode between Day-Ahead and real-time provided, however, that Generators that were scheduled Day-Ahead in Self-Committed Fixed mode may switch, with ISO approval, to ISO-Committed Fixed bidding mode in real-time. Generators that were scheduled Day-Ahead in ISO-Committed Fixed mode will be scheduled as Self-Committed Fixed in the Real-Time Market unless, with ISO approval, they change their bidding mode to ISO-Committed Fixed.

A Generator with a real time physical operating problem that makes it impossible for it to operate in the bidding mode in which it was scheduled Day-Ahead should notify the NYISO.

Generators and Demand Side Resources may not submit separate Operating Reserves Availability Bids in real-time and will instead automatically be assigned a real-time Operating Reserves Availability Bid of zero for the amount of Operating Reserves they are capable of providing in light of their response rate (as determined under Rate Schedule 4).

#### **4.4.2.2.2 Bids Associated with Internal and External Bilateral Transactions**

Customers may seek to modify Bilateral Transactions that were previously scheduled Day-Ahead or propose new Bilateral Transactions, including External Transactions, for economic evaluation by RTC, provided however, that Bilateral Transactions with Trading Hubs as their POWs that were previously scheduled Day-Ahead may not be modified. Bids associated with Internal Bilateral Transactions shall be subject to the rules set forth above in Section 4.2.2.7.

Except as noted in Attachment N to this ISO Services Tariff, Sink Price Cap Bids or Decremental Bids for External Transactions may be submitted into RTC up to seventy five minutes before the hour in which the External Transaction would flow. External Transaction Bids must have a one hour duration, must start and stop on the hour, and must have constant

magnitude for the hour. Intra-hour schedule changes, or Bid modifications, associated with External Transactions will not be accommodated.

#### **4.4.2.2.3 Self-Commitment Requests**

Self-Committed Flexible Resources must provide the ISO with schedules of their expected minimum operating points in quarter hour increments. Self-Committed Fixed Resources must provide their expected actual operating points in quarter hour increments or, with ISO approval, bid as an ISO-Committed Fixed Generator.

#### **4.4.2.2.4 ISO-Committed Fixed**

The ability to use the ISO-Committed Fixed bidding mode in the Real-Time Market shall be subject to ISO approval pursuant to procedures, which shall be published by the ISO.

Generators that do not have the communications systems, operational control mechanisms or hardware to be able to respond to five-minute dispatch basepoints are eligible to bid as ISO-Committed in the Real-Time Market. Real-Time Bids by ISO-Committed Fixed Generators shall identify variable Energy price Bids, consisting of up to eleven monotonically increasing, constant cost incremental Energy steps, and other parameters described in Attachment D of this ISO Services Tariff and the ISO Procedures. Real-Time Bids by ISO-Committed Fixed Generators shall also include Minimum Generation Bids and hourly Start-Up Bids. ISO-Committed Fixed Bids shall specify that the Generator is offering to be ISO-Committed Fixed.

RTC shall schedule ISO-Committed Fixed Generators.

#### **4.4.2.3 External Transaction Scheduling**

RTC<sub>15</sub> will schedule External Transactions on an hour-ahead basis as part of its development of a co-optimized least-bid cost real-time commitment. RTC will alert the ISO

when it appears that scheduled External Transactions need to be reduced for reliability reasons but will not automatically Curtail them. Curtailment decisions will be made by the ISO, guided by the information that RTC provides, pursuant to the rules established by Attachment B of this ISO Services Tariff and the ISO Procedures.

#### **4.4.2.4 Posting Commitment/De-Commitment and External Transaction Scheduling Decisions**

Except as specifically noted in Section 4.4.3 and 4.4.4 of this ISO Services Tariff, RTC will make all Resource commitment and de-commitment decisions. RTC will make all economic commitment/de-commitment decisions based upon available offers assuming Suppliers internal to the NYCA have a one-hour minimum run time; provided however, Real-Time Minimum Run Qualified Gas Turbines shall be assumed to have a two-hour minimum run time.

RTC will produce advisory commitment information and advisory real-time prices. RTC will make decisions and post information in a series of fifteen-minute “runs” which are described below.

RTC<sub>15</sub> will begin at the start of the first hour of the RTC co-optimization period and will post its commitment, de-commitment, and External Transaction scheduling decisions no later than fifteen minutes after the start of that hour. During the RTC<sub>15</sub> run, RTC will:

- (i) Commit Resources with 10-minute start-up times that should be synchronized by the time that the results of the next RTC run are posted so that they will be synchronized and running at their minimum generation levels by that time;
- (ii) Commit Resources with 30-minute start-up times that should be synchronized by the time that the results of the RTC run following the next RTC run are posted so that they will be synchronized and running at their minimum generation levels by that time;

- (iii) De-commit Resources that should be disconnected from the network by the time that the results of the next RTC run are posted so that they will be disconnected by that time;
- (iv) Issue advisory commitment and de-commitment guidance for periods more than thirty minutes in the future and advisory dispatch information;
- (v) Schedule Pre-Scheduled Transaction and economic External Transactions to run during the entirety of the next hour; and
- (vi) Schedule ISO-Committed Fixed Resources.

All subsequent RTC runs in the hour, i.e.,  $RTC_{30}$ ,  $RTC_{45}$ , and  $RTC_{00}$  will begin executing at fifteen minutes before their designated posting times (for example,  $RTC_{30}$  will begin in the fifteenth minute of the hour), and will take the following steps:

- (i) Commit Resources with 10-minute start-up times that should be synchronized by the time that the results of the next RTC run are posted so that they will be synchronized and running at that time;
- (ii) Commit Resources with 30-minute start-up times that should be synchronized by the time that the results of the RTC run following the next RTC run are posted so that they will be synchronized and running at that time;
- (iii) De-commit Resources that should be disconnected from the network by the time that the results of the next RTC run are posted so that they will be disconnected at that time;
- (iv) Issue advisory commitment, de-commitment, and dispatching guidance for the period from thirty minutes in the future until the end of the RTC co-optimization period;

- (v) Either reaffirm that the External Transactions scheduled by RTC<sub>15</sub> to flow in the next hour should flow, or inform the ISO that External Transactions may need to be reduced; and
- (vi) Schedule ISO-Committed Fixed Resources.

#### **4.4.2.5 External Transaction Settlements**

RTC<sub>15</sub> will calculate the Real-Time LBMP for all External Transactions if constraints at the interface associated with that External Transaction are binding. In addition, RTC<sub>15</sub> will calculate Real-Time LBMPs at Proxy Generator Buses for any hour in which: (i) proposed economic Transactions over the Interface between the NYCA and the External Control Area that the Proxy Generator Bus is associated with would exceed the Available Transfer Capability for the Proxy Generator Bus or for that Interface; (ii) proposed interchange schedule changes pertaining to the NYCA as a whole would exceed any Ramp Capacity limits in place for the NYCA as a whole; or (iii) proposed interchange schedule changes pertaining to the Interface between the NYCA and the External Control Area that the Proxy Generator Bus is associated with would exceed any Ramp Capacity limit imposed by the ISO for the Proxy Generator Bus or for that Interface. Finally, Real-Time LBMPs will be determined at certain times at Non-Competitive Proxy Generator Buses and Proxy Generator Buses associated with designated Scheduled Lines that are subject to the Special Pricing Rules as is described in Attachment B to this ISO Services Tariff.

Real-Time LBMPs will be calculated by RTD for all other purposes, including for pricing External Transactions during intervals when the interface associated with an External Transaction is not binding pursuant to Section 4.4.3.2.

### **4.4.3 Real-Time Dispatch**

#### **4.4.3.1 Overview**

The Real-Time Dispatch will make dispatching decisions, send Base Point Signals to Internal Generators and Demand Side Resources, calculate Real-Time Market clearing prices for Energy, Operating Reserves, and Regulation Service, and establish real-time schedules for those products on a five-minute basis, starting at the beginning of each hour. The Real-Time Dispatch will not make commitment decisions and will not consider start-up costs in any of its dispatching or pricing decisions, except as specifically provided in Section 4.4.3.3 below. Each Real-Time Dispatch run will co-optimize to solve simultaneously for Load, Operating Reserves, and Regulation Service and to minimize the total cost of production over its bid optimization horizon (which may be fifty, fifty-five, or sixty minutes long depending on where the run falls in the hour.) In addition to producing a binding schedule for the next five minutes, each Real-Time Dispatch run will produce advisory schedules for the remaining four time steps of its bid-optimization horizon (which may be five, ten, or fifteen minutes long depending on where the run falls in the hour). RTD will use the most recent system information and the same set of Bids and constraints that are considered by RTC.

#### **4.4.3.2 Calculating Real-Time Market LBMPs and Advisory Prices**

With the exceptions noted above in Section 4.4.2.5, RTD shall calculate *ex ante* Real-Time LBMPs at each Generator bus, and for each Load Zone in each RTD cycle, in accordance with the procedures set forth in Attachment B to this ISO Services Tariff. RTD will also calculate and post advisory Real-Time LBMPs for the next four quarter hours in accordance with the procedures set forth in Attachment B.



#### **4.4.3.3 Real-Time Pricing Rules for Scheduling Ten Minute Resources**

RTD may commit and dispatch, for pricing purposes, Resources meeting Minimum Generation Levels and capable of starting within ten minutes (“eligible Resources”) when necessary to meet load. Eligible Resources committed and dispatched by RTD for pricing purposes may be physically started through normal ISO operating processes. In the RTD cycle in which RTD commits and dispatches an eligible Resource, RTD will consider the Resource’s start-up and incremental energy costs and will assume the Resource has a zero downward response rate for purposes of calculating *ex ante* Real-Time LBMPs at each Generator Bus, and for each Load Zone.

#### **4.4.3.4 Converting to Demand Reduction, Special Case Resource Capacity scheduled as Operating Reserves, Regulation or Energy in the Real-Time Market**

The ISO shall convert to Demand Reductions, in hours in which the ISO requests that Special Case Resources reduce their demand pursuant to ISO Procedures, any Operating Reserves, Regulation Service or Energy scheduled in the Day-Ahead Market from Demand Side Resources that are also providing Special Case Resource Capacity. The ISO shall settle the Demand Reduction provided by that portion of the Special Case Resource Capacity that was scheduled Day-Ahead as Operating Reserves, Regulation Service or Energy as being provided by a Supplier of Operating Reserves, Regulation Service or Energy as appropriate. The ISO shall settle any remaining Demand Reductions provided beyond Capacity that was scheduled Day-Ahead as Ancillary Services or Energy as being provided by a Special Case Resource, provided such Demand Reduction is otherwise payable as a reduction by a Special Case Resource.

Operating Reserves or Regulation Service scheduled Day-Ahead and converted to Energy in real time pursuant to this Section 4.4.3.4, will be eligible for a Day-Ahead Margin Assurance Payment, pursuant to Attachment J of this ISO Services Tariff.

Special Case Resource Capacity that has been scheduled in the Day-Ahead Market to provide Operating Reserves, Regulation Service or Energy and that has been instructed as a Special Case Resource to reduce demand shall be considered, for the purpose of applying Real-Time special scarcity pricing rules described in Attachment B of this Services Tariff, to be a Special Case Resource.

The ISO shall not accept offers of Operating Reserves or Regulation Service in the Real-Time Market from Demand Side Resources that are also providing Special Case Resource Capacity for any hour in which the ISO has requested Special Case Resources to reduce demand.

#### **4.4.3.5      Converting to Demand Reduction Curtailment Services Provider Capacity scheduled as Operating Reserves, Regulation or Energy in the Real-Time Market**

The ISO shall convert to Demand Reductions, in hours in which the ISO requests Demand Reductions from the Emergency Demand Response Program pursuant to ISO Procedures, any Operating Reserves, Regulation Service or Energy scheduled in the Day-Ahead Market by Demand Side Resources that are also providing Curtailment Services Provider Capacity. The ISO shall settle the Demand Reduction provided by that portion of the Curtailment Services Provider Capacity that was scheduled Day-Ahead as Operating Reserves, Regulation Service or Energy as being provided by a Supplier of Operating Reserves, Regulation Service or Energy as appropriate. The ISO shall settle Demand Reductions provided beyond Capacity that was scheduled Day-Ahead as ancillary services or Energy as being provided by a Curtailment Services Provider.

Operating Reserves or Regulation Service scheduled Day-Ahead and converted to Energy in real time pursuant to this Section 4.4.3.4, will be eligible for a Day-Ahead Margin Assurance Payment, pursuant to Attachment J of this ISO Services Tariff.

Curtailment Services Provider Capacity that has been scheduled in the Day-Ahead Market as Operating Reserves, Regulation Service or Energy and that has been instructed to reduce demand shall be considered, for the purpose of applying Real-Time special scarcity pricing rules described in Attachment B of this Services Tariff, to be a Emergency Demand Response Program Resource.

The ISO shall not accept offers of Operating Reserves and Regulation Service in the Real-Time Market from Demand Side Resources that are also providing Curtailment Services Provider Capacity for any hour in which the ISO has requested participants in the Emergency Demand Response Program pursuant to ISO Procedures to reduce demand.

#### **4.4.3.6 Real-Time Scarcity Pricing Rules Applicable to Regulation Service and Operating Reserves During EDRP and/or SCR Activations**

Under Sections 17.1.1.2 and 17.1.1.3 of Attachment B to this ISO Services Tariff, and Sections 16.1.1.2 and 16.1.1.3 of Attachment J to the ISO OATT, the ISO will use special scarcity pricing rules to calculate Real-Time LBMPs during intervals when it has activated the EDRP and/or SCRs in order to avoid reserves shortages. During these intervals, the ISO will also implement special scarcity pricing rules for real-time Regulation Service and Operating Reserves. These rules are set forth in Section 15.3.2.5.2 of Rate Schedule 15.3 and Section 15.4.6.2 of Rate Schedule 15.4 of this ISO Services Tariff.

#### **4.4.4 Real-Time Dispatch - Corrective Action Mode**

When the ISO needs to respond to system conditions that were not anticipated by RTC or the regular Real-Time Dispatch, e.g., the unexpected loss of a major Generator or Transmission line, it will activate the specialized RTD-CAM program. RTD-CAM runs will be nominally either five or ten minutes long, as is described below. Unlike the Real-Time Dispatch, RTD-CAM will have the ability to commit certain Resources. When RTD-CAM is activated, the ISO will have discretion to implement various measures to restore normal operating conditions. These RTD-CAM measures are described below.

The ISO shall have discretion to determine which specific RTD-CAM mode should be activated in particular situations. In addition, RTD-CAM may require all Resources to run above their  $UOL_{NS}$ , up to the level of their  $UOL_{ES}$  as is described in the ISO Procedures. Self-Committed Fixed Resources will not be expected to move in response to RTD-CAM Base Point Signals except when a maximum generation pickup is activated.

Except as expressly noted in this section, RTD-CAM will dispatch the system in the same manner as the normal Real-Time Dispatch.

##### **4.4.4.1 RTD-CAM Modes**

###### **4.4.4.1.1 Reserve Pickup**

The ISO will enter this RTD-CAM mode when necessary to re-establish schedules when large area control errors occur. When in this mode, RTD-CAM will send 10-minute Base Point Signals and produce schedules for the next ten minutes. RTD-CAM may also commit, or if necessary de-commit, Resources capable of starting or stopping within 10-minutes. The ISO will continue to optimize for Energy and Operating Reserves, will recognize locational Operating Reserve requirements, but will suspend Regulation Service requirements. If

Resources are committed or de-committed in this RTD-CAM mode the schedules for them will be passed to RTC and the Real-Time Dispatch for their next execution.

The ISO will have discretion to classify a reserve pickup as a “large event” or a “small event.” In a small event the ISO will have discretion to reduce Base Point Signals in order to reduce transmission line loadings. The ISO will not have this discretion in large events. The distinction also has significance with respect to a Supplier’s eligibility to receive Bid Production Cost guarantee payment in accordance with Section 4.6.6 and Attachment C of this ISO Services Tariff.

#### **4.4.4.1.2 Maximum Generation Pickup**

The ISO will enter this RTD-CAM mode when an Emergency makes it necessary to maximize Energy production in one or more location(s), i.e., Long Island, New York City, East of Central East and/or NYCA-wide. RTD-CAM will produce schedules directing all Generators located in a targeted location to increase production at their emergency response rate up to their  $UOL_E$  level and to stay at that level until instructed otherwise. Security constraints will be obeyed to the extent possible. The ISO will continue to optimize for Energy and Operating Reserves, will recognize locational Operating Reserve requirements, but will suspend its Regulation Service requirements.

#### **4.4.4.1.3 Base Points ASAP -- No Commitments**

The ISO will enter this RTD-CAM mode when changed circumstances make it necessary to issue an updated set of Base Point Signals. Examples of changed circumstances that could necessitate taking this step include correcting line, contingency, or transfer overloads and/or voltage problems caused by unexpected system events. When operating in this mode, RTD-CAM will produce schedules and Base Point Signals for the next five minutes but will only

redispatch Generators that are capable of responding within five minutes. RTD-CAM will not commit or de-commit Resources in this mode.

#### **4.4.4.1.4 Base Points ASAP -- Commit As Needed**

This operating mode is identical to Base Points ASAP – No Commitments, except that it also allows the ISO to commit Generators that are capable of starting within 10 minutes when doing so is necessary to respond to changed system conditions.

#### **4.4.4.1.5 Re-Sequencing Mode**

When the ISO is ready to de-activate RTD-CAM, it will often need to transition back to normal Real-Time Dispatch operation. In this mode, RTD-CAM will calculate normal five-minute Base Point Signals and establish five minute schedules. Unlike the normal RTD-Dispatch, however, RTD-CAM will only look ahead 10-minutes. RTD-CAM re-sequencing will terminate as soon as the normal Real-Time Dispatch software is reactivated and is ready to produce Base Point signals for its entire optimization period.

#### **4.4.4.2 Calculating Real-Time LBMPs**

When RTD-CAM is activated, except when it is in reserve pickup mode, *ex ante* Real-Time LBMPs will be calculated at each Generator bus, and for each Load Zone, every five minutes, in accordance with the procedures set forth above in Section 4.4.3.2 When it is in reserve pickup mode, *ex ante* Real-Time LBMPs will be calculated every ten minutes, but RTD-CAM shall otherwise follow the procedures set forth above in Section 4.4.3.2 In addition, when RTD-CAM is activated, Suppliers may be eligible for Bid Production Cost guarantee payments during large event, but not small event, reserve pickups and during maximum generation pickups in accordance with Section 4.6.6 and Attachment C of this ISO Services Tariff.

#### **4.4.4.3     Posting Commitment Decisions**

To the extent that RTD-CAM makes commitment and de-commitment decisions they will be posted at the same time as Real-Time LBMPs.

#### **4.5 Real-Time Market Settlements**

Transmission Customers taking service under the Tariff, shall be subject to the Real-Time Market Settlement. Settlements for Limited Energy Storage Resources are governed by Rate Schedule 15.3 of this Services Tariff and are not governed by this Section 4.5. All withdrawals and injections not scheduled on a Day-Ahead basis, including Real-Time deviations from any Bilateral Transaction schedules, shall be subject to the Real-Time Market Settlement. Transmission Customers not taking service under this Tariff shall be subject to balancing charges as provided for under the ISO OATT. Settlements with External Suppliers or External Loads will be based upon hourly scheduled withdrawals or injections. Real-Time Market Settlements for injections by Resources supplying Regulation Service or Operating Reserves shall follow the rules which are described in Rate Schedules 15.3 and 15.4, respectively.

For the purposes of this section, the scheduled output of each of the following Generators in each RTD interval in which it has offered Energy shall retroactively be set equal to its actual output in that RTD interval:

- (i) Generators providing Energy under contracts executed and effective on or before November 18, 1999 (including PURPA contracts) in which the power purchaser does not control the operation of the supply source but would be responsible for penalties for being off-schedule, with the exception of Generators under must-take PURPA contracts executed and effective on or before November 18, 1999 who have not provided telemetering to their local TO and historically have not been eligible to participate in the NYPP market, which will continue to be treated as TO Load modifiers under the ISO-administered markets;



- (ii) Existing topping turbine Generators and extraction turbine Generators producing electric Energy resulting from the supply of steam to the district steam system located in New York City (LBMP Zone J) in operation on or before November 18, 1999 and/or topping or extraction turbine Generators utilized in replacing or repowering existing steam supplies from such units (in accordance with good engineering and economic design) that cannot follow schedules, up to a maximum total of 499 MW of such units.

This procedure shall not apply to a Generator for those hours it has bid in a manner that indicates it is available to provide Regulation Service or Operating Reserves.

In Sections 4.5.1, 4.5.2, 4.5.3, 4.5.4, 4.5.5 and 4.5.6 of this Tariff, references to “scheduled” Energy injections and withdrawals shall encompass injections and withdrawals that are scheduled Day-Ahead, as well as injections and withdrawals that occur in connection with real-time Bilateral Transactions. In Sections 4.5.1, 4.5.3, 4.5.4 and 4.5.6 of this Tariff, references to Energy Withdrawals and Energy Injections shall not include Energy Withdrawals or Energy Injections in Virtual Transactions, or Energy Withdrawals or Energy Injections at Trading Hubs. Generators that are providing Regulation Service shall not be subject to the real-time Energy market settlement provisions set forth in this Section, but shall instead be subject to the Energy settlement rules set forth in Section 15.4.6 of Rate Schedule 15.3 of this ISO Services Tariff.

#### **4.5.1 Settlement When Actual Energy Withdrawals Exceed Scheduled Energy Withdrawals Other Than Scheduled or Actual Withdrawals in Virtual Transactions**

When the Actual Energy Withdrawals by a Customer over an RTD interval exceed the Energy withdrawals scheduled over that RTD interval, the ISO shall charge the Real-Time

LBMP for Energy equal to the product of: (a) the Real-Time LBMP calculated in that RTD interval for each applicable Load Zone; and (b) the difference between the Actual Energy Withdrawals and the scheduled Energy withdrawals at that Load Zone.

#### **4.5.2 Settlement for Customers Scheduled To Sell Energy in Virtual Transactions in Load Zones**

The Actual Energy Injection in a Load Zone by a Customer scheduled Day-Ahead to sell Energy in a Virtual Transaction is zero and the Customer shall pay a charge for the Energy imbalance equal to the product of: (a) the Real-Time LBMP calculated in that hour for the applicable Load Zone; and (b) the scheduled Day-Ahead Energy Injection of the Customer for that Hour in that Load Zone.

#### **4.5.3 Settlement When Actual Energy Injections are Less Than Scheduled Energy Injections or Actual Demand Reductions are Less Than Scheduled Demand Reductions**

##### **4.5.3.1 General Rule**

When the actual Energy injections by a Supplier over an RTD interval are less than the Energy injections scheduled Day-Ahead over that RTD interval, the Supplier shall pay a charge for the Energy imbalance equal to the product of: (a) the Real-Time LBMP calculated in that RTD interval for the applicable Generator bus; and (b) the difference between the scheduled Day-Ahead Energy injections and the lesser of: (i) the actual Energy injections at that bus; or (ii) the Supplier's Real-Time Scheduled Energy Injection plus any Compensable Overgeneration. If the Energy injections by a Supplier over an RTD interval are less than the Energy injections scheduled for the Supplier Day-Ahead, and if the Supplier reduced its Energy injections in response to instructions by the ISO or a Transmission Owner that were issued in order to

maintain a secure and reliable dispatch, the Supplier may be entitled to a Day-Ahead Margin Assurance Payment, pursuant to Attachment J of this ISO Services Tariff.

#### **4.5.3.2 Failed Transactions**

If an Energy injection scheduled by RTC at a Proxy Generator Bus fails in the ISO's checkout process after RTC<sub>15</sub>, the Supplier or Transmission Customer that was scheduled to make the injection will pay the Energy imbalance charge described above in Section 4.5.3.1. In addition, if the checkout failure occurred for reasons within the Supplier's or Transmission Customer's control it will be required to pay the "Financial Impact Charge" described below. The ISO's Market Mitigation and Analysis Department will determine whether the Transaction associated with an injection failed for reasons within a Supplier's or Transmission Customer's control.

If an Energy injection at a Proxy Generator Bus is determined to have failed for reasons within a Supplier's or Transmission Customer's control, the Financial Impact Charge will equal: (i) the difference computed by subtracting the actual real-time Energy injection from the amount of the Import scheduled by RTC; multiplied by (ii) the greater of the difference computed by subtracting the RTC price from the RTD price in the relevant interval, or zero.

If a Wheel Through fails for reasons within a Supplier's or Transmission Customer's control, the Financial Impact Charge will equal the sum of the Financial Impact Charge described in this section and the Financial Impact Charge described below in Section 4.5.4.2.

All Financial Impact Charges collected by the ISO shall be used to reduce the charges assessed under Rate Schedule 1 of this ISO Services Tariff. In the event that the Energy injections scheduled by RTC<sub>15</sub> at a Proxy Generator Bus are Curtailed at the request of the ISO then the Supplier or Transmission Customer that is subjected to the Curtailment, in addition to

the charge for Energy Imbalance, shall be eligible to receive an Import Curtailment Guarantee Payment for its curtailed Import pursuant to Attachment J of this ISO Services Tariff.

#### **4.5.3.3 Capacity Limited Resources and Energy Limited Resources**

For any hour in which: (i) a Capacity Limited Resource is scheduled to supply Energy, Operating Reserves, or Regulation Service in the Day-Ahead Market; (ii) the sum of its schedules to provide these services exceeds its bid-in upper operating limit; (iii) the Capacity Limited Resource requests a reduction for Capacity limitation reasons; and (iv) the ISO reduces the Capacity Limited Resource's upper operating limit to a level equal to, or greater than, its bid-in upper operating limit; the imbalance charge for Energy, Operating Reserve Service or Regulation Service imposed on that Capacity Limited Resource for that hour for its Day-Ahead Market obligations above its Capacity limited upper operating limit shall be equal to the product of: (a) the Real-Time price for Energy, Operating Reserve Service and Regulation Service; and (b) the Capacity Limited Resource's Day-Ahead schedule for each of these services minus the amount of these services that it has an obligation to supply pursuant to its ISO-approved schedule. When a Capacity Limited Resource's Day-Ahead obligation above its Capacity limited upper operating limit is balanced as described above, any real-time variation from its obligation pursuant to its Capacity limited schedules shall be settled pursuant to the methodology set forth in the first paragraph of this Section 4.5.3.

For any day in which: (i) an Energy Limited Resource is scheduled to supply Energy, Operating Reserves or Regulation Service in the Day-Ahead Market; (ii) the sum of its schedules to provide these services exceeds its bid-in Normal Upper Operating Limit; (iii) the Energy Limited Resource requests a reduction for Energy limitation reasons; and (iv) the ISO reduces the Energy Limited Resource's Day-Ahead Emergency Upper Operating Limit to a limit no lower

than the Normal Upper Operating Limit; the Resource may be eligible to receive a Day-Ahead Margin Assurance Payment pursuant to Attachment J of this ISO Services Tariff.

#### **4.5.3.4 Demand Reductions**

When actual Demand Reduction over an hour from a Demand Reduction Provider that is also the LSE providing Energy service to the Demand Side Resource(s) that produced the reduction is less than the Demand Reduction scheduled for that hour, that-LSE shall pay a Demand Reduction imbalance charge consisting of the product of: (a) the greater of the Day-Ahead LBMP or the Real-Time LBMP for that hour and (b) the difference between the scheduled Demand Reduction and the actual Demand Reduction in that hour.

When actual Demand Reduction over an hour from a Demand Reduction Provider that is not the LSE providing Energy service to the Demand Side Resource(s) that produced the reduction is less than the Demand Reduction scheduled over that hour, then (1) the LSE providing Energy service to the Demand Reduction Provider's Demand Side Resource(s) shall pay a Demand Reduction imbalance charge equal to the product of (a) the Day-Ahead LBMP calculated for that hour for the applicable Load bus and (b) the difference between the scheduled Demand Reduction and the actual Demand Reduction at that bus in that hour, and (2) the Demand Reduction Provider will pay an amount equal to (a) the product of (i) the higher of the Day-Ahead LBMP or the Real-Time LBMP calculated for that hour for the applicable Load bus, and (ii) the difference between the scheduled Demand Reduction and the actual Demand Reduction at that bus in that hour, and (b) minus the amount paid by the LSE providing service to the Demand Reduction Provider's Demand Side Resource(s) under (1), above.

#### **4.5.4 Settlement When Actual Energy Withdrawals are Less Than Scheduled Energy Withdrawals Other Than Actual or Scheduled Withdrawals in Virtual Transactions**

##### **4.5.4.1 General Rules**

When a Customer's Actual Energy Withdrawals over an SCD interval are less than its Energy withdrawals scheduled Day-Ahead over that SCD interval, the Customer shall be paid the product of: (a) the Real-Time LBMP calculated in that RTD interval for each applicable Load Zone; and (b) the difference between the scheduled Energy withdrawals and the Actual Energy Withdrawals in that Load Zone.

##### **4.5.4.2 Failed Transactions**

If an Energy withdrawal at a Proxy Generator Bus scheduled by RTC fails in the ISO's checkout process after  $RTC_{15}$ , the Supplier or Transmission Customer that was scheduled to make the withdrawal will pay or be paid the energy imbalance charge described above in Section 4.5.4.1. In addition, if the checkout failure occurred for the reasons within the Supplier's or Transmission Customer's control it will be required to pay the "Financial Impact Charge" described below. The ISO's Market Mitigation and Analysis Department will determine whether the Transaction associated with a withdrawal failed for reasons within a Supplier's or Transmission Customer's control.

If an Energy withdrawal at a Proxy Generator Bus is determined to have failed for reasons within a Supplier's or Transmission Customer's control, the Financial Impact Charge will equal: (i) the difference computed by subtracting the actual real-time Energy withdrawal from the amount of the Export scheduled by RTC; multiplied by (ii) the greater of the difference computed by subtracting the RTD price in the relevant interval from the RTC price, or zero.

If a Wheel Through fails for reasons within a Supplier's or Transmission Customer's control, the Financial Impact Charge will equal the sum of the Financial Impact Charge described in this subsection and the Financial Impact Charge described above in Section 4.5.3.2.

All Financial Impact Charges collected by the ISO shall be used to reduce the charges assessed under Rate Schedule 15.1 of this ISO Services Tariff.

#### **4.5.5 Settlement for Customers Scheduled To Purchase Energy in Virtual Transactions in Load Zones**

The Actual Energy Withdrawal in a Load Zone by a Customer scheduled Day-Ahead to purchase Energy in a Virtual Transaction is zero and the Customer shall be paid the product of:

(1) the Real-Time LBMP calculated in that hour for the applicable Load Zone; and (b) the scheduled Day-Ahead Energy Withdrawal of the Customer for that Hour in that Load Zone.

#### **4.5.6 Settlement When Actual Energy Injections Exceed Scheduled Energy Injections**

When actual Energy injections from a Generator over an RTD interval exceed the Energy injections scheduled Day-Ahead over the RTD interval the Supplier shall be paid the product of:

(1) the Real-Time LBMP calculated in that RTD interval for the applicable Generator bus and  
(2) the difference between the lesser of (i) the Supplier's actual Energy injection or (ii) its Real-Time Scheduled Energy Injection for that RTD interval, plus any Compensable Overgeneration and the Supplier's Day-Ahead scheduled Energy injection over the RTD interval, unless the payment that the Supplier would receive for such injections would be negative (i.e., unless the LBMP calculated in that RTD interval at the applicable Generator's bus is negative) in which case the Supplier shall be paid the product of: (1) the Real-Time LBMP calculated in that RTD interval for the applicable Generator bus and (2) the difference between the Supplier's actual Energy injection for that RTD interval and the Supplier's scheduled Energy injection over that

RTD interval. Suppliers shall not be compensated for Energy in excess of their Real-Time Scheduled Energy Injections, except: (i) for Compensable Overgeneration; (ii) when the ISO initiates a large event reserve pickup or a maximum generation pickup under RTD-CAM; or (iii) when a Transmission Owner initiates a reserve pickup in accordance with a Reliability Rule, including a Local Reliability Rule. When there is no large event reserve pickup or maximum generation pickup, or when there is such an instruction but a Supplier is not located in the area affected by the maximum generation pickup, that Supplier shall not be compensated for Energy in excess of its Real-Time Scheduled Energy Injection plus any Compensable Overgeneration. When there is a reserve pickup, or when there is a maximum generation pickup and a Supplier is located in the area affected by it, and the Supplier was either scheduled to operate in RTD or subsequently was directed to operate by the ISO, that Supplier shall be paid based on the product of: (1) the Real-Time LBMP calculated in that RTD Interval for the applicable Generator bus; and (2) the actual Energy injection minus the Energy injection scheduled Day-Ahead. Generators will not be compensated for Energy produced during their start-up sequence.

#### **4.5.7 Settlement for Trading Hub Energy Owner when POI is a Trading Hub**

Each Trading Hub Energy Owner who bids a Bilateral Transaction into the Real-Time Market with a Trading Hub as its POI and has its schedule accepted by the ISO will pay the product of: (a) the hourly integrated Real-Time LBMP for the Load Zone associated with that Trading Hub; and (b) the Bilateral Transaction scheduled MW.

#### **4.5.8 Settlement for Trading Hub Energy Owner when POW is a Trading Hub**

Each Trading Hub Energy Owner who bids a Bilateral Transaction into the Real-Time Market with a Trading Hub as its POW and has its schedule accepted by the ISO will be paid the



product of: (a) the hourly integrated Real-Time LBMP for the Load Zone associated with that Trading Hub; and (b) the Bilateral Transaction scheduled MW.

## **4.6 Payments**

### **4.6.1 Payments to Suppliers of Regulation Service**

Suppliers of Regulation Service shall receive a payment that is calculated pursuant to Rate Schedule 15.3 of this ISO Services Tariff

### **4.6.2 Payments to Suppliers of Reactive Supply and Voltage Support Service (“Voltage Support Service”)**

Suppliers of Voltage Support Service shall receive a Voltage Support Service payment in accordance with the criteria and formula in Rate Schedule 15.2.

### **4.6.3 Payments to Suppliers for Operating Reserves**

Suppliers of each type of Operating Reserve will receive payments for each MW of Operating Reserve that they provide, as requested by the ISO, pursuant to Rate Schedule 15.4.

Additionally, Generators providing Operating Reserves shall receive a payment for Energy when the ISO requests Energy under a reserve activation. The Energy payment shall be calculated as the product of: (a) the Energy provided; and (b) the Real-Time Market LBMP.

### **4.6.4 Payments to Generators for Black Start Capability**

Black Start Capability providers shall receive a payment for Black Start Capability as set forth in Rate Schedule 15.5.

### **4.6.5 Day-Ahead Margin Assurance Payments**

A Supplier that is scheduled in the Day-Ahead Market to provide Energy, Regulation Service, or Operating Reserves may be eligible to receive a Day-Ahead Margin Assurance Payment pursuant to Attachment J of this ISO Services Tariff.

#### **4.6.6 Bid Production Cost Guarantee Payments**

##### **4.6.6.1 Day-Ahead BPCG for Generators**

The ISO shall determine if a Supplier eligible under Section 18.2.1 of Attachment C of this ISO Services Tariff for a Day-Ahead Bid Production Cost guarantee payment will not recover its Day-Ahead Minimum Generation Bid, Start-Up Bid, and Incremental Energy Bid to produce Energy in the Day-Ahead Market through Day-Ahead LBMP revenues and net Day-Ahead Ancillary Services revenues for Voltage Support Service, Regulation Service, and synchronized Operating Reserves. Such determination shall be made for an entire Day-Ahead Market day, and such determination shall be made separately for each Generator. On the basis of such determination (and subject to any mitigation that may apply) the ISO shall pay a Day-Ahead BPCG to the Supplier pursuant to Section 18.2 of Attachment C to this ISO Services Tariff.

##### **4.6.6.2 Day-Ahead BPCG for Imports**

The ISO shall determine if a Supplier supplying an Import Sale to the LBMP Market and eligible under Section 18.3.1 of Attachment C of this ISO Services Tariff for a Day-Ahead Bid Production Cost guarantee payment will not recover its Day-Ahead Decremental Bid through Day-Ahead LBMP revenues. Such determination shall be made for an entire Day-Ahead Market day and such determination shall be made separately for each Import transaction. On the basis of such determination, the ISO shall pay a Day-Ahead Bid Production Cost guarantee payment to the Supplier pursuant to Section 18.3 of Attachment C of this ISO Services Tariff.

#### **4.6.6.3 Real-Time BPCG for Generators in RTD Intervals Other than Supplemental Event Intervals**

The ISO shall determine if a Supplier eligible under Section 18.4.1 of Attachment C of this ISO Services Tariff for a real-time Bid Production Cost guarantee payment will not recover its real-time Minimum Generation Bid, Start-Up Bid, and Incremental Energy Bid to produce Energy that was not scheduled in the Day-Ahead Market through real-time LBMP revenues and net real-time Ancillary Services revenues for Voltage Support Service, Regulation Service, and synchronized Operating Reserves. Such determination shall be made for an entire Dispatch Day (except for Supplemental Event Intervals). Such determination shall be made separately for each Generator. On the basis of such determination, and subject to any mitigation that may apply, the ISO shall pay a real-time Bid Production Cost guarantee payment to the Supplier pursuant to Section 18.4 of Attachment C to this ISO Services Tariff.

Suppliers bidding on behalf of Resources that were not committed by the ISO to operate in a given Dispatch Day, but which continue to operate due to minimum run time Constraints, shall not receive such a supplemental payment.

#### **4.6.6.4 BPCG for Generators for Supplemental Event Intervals**

The ISO shall determine if a Supplier eligible under Section 18.5.1 of Attachment C of this ISO Services Tariff for a Bid Production Cost guarantee payment for a Supplemental Event Interval will not recover its real-time Minimum Generation Bid and Incremental Energy Bid to produce Energy that was not scheduled Day-Ahead through real-time LBMP revenues and net real-time Ancillary Services revenues for Voltage Support Service, Regulation Service, and Operating Reserves in that interval. Such determination shall be made separately for each Supplemental Event Interval, and such determination shall be made separately for each Generator. On the basis of such determination, the ISO shall pay a Bid Production Cost

guarantee payment to the Supplier for a Supplemental Event Interval pursuant to Section 18.5 of Attachment C of this ISO Services Tariff.

#### **4.6.6.5 Real-Time BPCG for Imports**

The ISO shall determine if a Supplier supplying an Import sale to the LBMP Market and eligible under Section 18.6.1 of Attachment C of this ISO Services Tariff for a real-time Bid Production Cost guarantee payment will not recover its real-time Decremental Bid through real-time LBMP revenues. Such determination shall be made for an entire Dispatch Day. Such determination shall be made separately for each Import transaction. On the basis of such determination, the ISO shall pay a real-time Bid Production Cost guarantee payment to the Supplier pursuant to Section 18.6 of Attachment C of this ISO Services Tariff.

#### **4.6.6.6 BPCG for Long Start-Up Time Generators Whose Starts Are Aborted by the ISO Prior to their Dispatch**

The ISO shall pay a Supplier eligible under Section 18.7.1 of Attachment C of this ISO Services Tariff for a Bid Production Cost guarantee payment for a long start-up time Generator (i.e., a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) whose start is aborted by the ISO prior to its dispatch that portion of its Start-Up Bid that corresponds to that portion of its start-up sequence that it completed prior to being aborted. Such determination shall be made for an entire Dispatch Day, and such determination shall be made separately for each long start-up time Generator. On the basis of such determination, the ISO shall pay a Bid Production Cost guarantee payment to the Supplier pursuant to Section 18.7 of Attachment C of this ISO Services Tariff.

#### **4.6.6.7 BPCG for Demand Reduction in the Day-Ahead Market**

The ISO shall determine if a Demand Reduction Provider eligible under Section 18.8.1 of Attachment C of this ISO Services Tariff for a Bid Production Cost guarantee payment for Demand Reduction in the Day-Ahead Market will not recover its Day-Ahead Curtailment Initiation Cost and its Day-Ahead Demand Reduction Bid through Day-Ahead LBMP revenues. Such determination shall be made for an entire Day-Ahead Market day, and such determination shall be made separately for each Demand Side Resource. On the basis of such determination, the ISO shall pay a Bid Production Cost guarantee payment to the Demand Reduction Provider pursuant to Section 18.8 of Attachment C of this ISO Services Tariff.

#### **4.6.6.8 BPCG for Special Case Resources**

The ISO shall determine if a Supplier eligible under Section 18.9.1 of Attachment C of this ISO Services Tariff for a Bid Production Cost guarantee payment for a Special Case Resource will not recover its Minimum Payment Nomination through real-time LBMP revenues. Such determination shall be made for an entire Dispatch Day, and such determination shall be made separately for each Special Case Resource. On the basis of such determination, the ISO shall make a Bid Production Cost guarantee payment to the Supplier pursuant to Section 18.9 of Attachment C of this ISO Services Tariff.

#### **4.6.6.9 Day-Ahead BPCG for Demand Side Resources Scheduled to Provide Synchronized Operating Reserves**

The ISO shall determine if a Supplier that bids Demand Side Resources committed by the ISO to provide synchronized Operating Reserves in the Day-Ahead Market will not recover its Day-Ahead synchronized Operating Reserves Bid to provide the amount of synchronized Operating Reserves that it was scheduled to provide. Such supplier shall be eligible under

Section 18.10.1 of Attachment C to this ISO Services Tariff for a Day-Ahead Bid Production Cost guarantee payment. Such determination shall be made for an entire Day-Ahead Market day, and such determination shall be made separately for each Demand Side Resource. On the basis of such determination, the ISO shall make a Bid Production Cost guarantee payment to the Customer pursuant to Section 18.10 of Attachment C of this ISO Services Tariff.

**4.6.6.10 Real-Time BPCG for Demand Side Resources Scheduled to Provide Synchronized Operating Reserves**

The ISO shall determine if a Supplier that bids Demand Side Resources committed by the ISO to provide synchronized Operating Reserves will not recover its real-time synchronized Operating Reserves Bid to provide the amount of synchronized Operating Reserves that it was scheduled to provide. Such Supplier shall be eligible under Section 18.11.1 of Attachment C to this ISO Services Tariff for a real-time Bid Production Cost guarantee payment. Such determination shall be made for an entire Dispatch Day, and such determination shall be made separately for each Demand Side Resource. On the basis of such determination, the ISO shall make a Bid Production Cost guarantee payment to the Customer pursuant to Section 18.11 of Attachment C of this ISO Services Tariff.

## **5      CONTROL AREA SERVICES: RIGHTS AND OBLIGATIONS**



## **5.12 Requirements Applicable to Installed Capacity Suppliers**

### **5.12.1 Installed Capacity Supplier Qualification Requirements**

In order to qualify as an Installed Capacity Supplier in the NYCA, each generator and merchant transmission facility interconnected to the New York State Transmission System must, commencing with the 2009 Summer Capability Period, have elected Capacity Resource Interconnection Service and been found deliverable, or must have been grandfathered as deliverable, pursuant to the applicable provisions of Attachment X, Attachment Z and Attachment S to the ISO OATT. In addition, to qualify as an Installed Capacity Supplier in the NYCA, Energy Limited Resources, Generators, Installed Capacity Marketers, Intermittent Power Resources, Limited Control Run-of-River Hydro Resources and System Resources rated 1 MW or greater, other than External System Resources and Control Area System Resources which have agreed to certain Curtailment conditions as set forth in the last paragraph of Section 5.12.1 below, and other than Special Case Resources, existing municipally-owned generation, Energy Limited Resources, and Intermittent Power Resources, to the extent those entities are subject to the requirements of Section 5.12.11 of this Tariff, shall:

- 5.12.1.1 provide information reasonably requested by the ISO including the name and location of Generators, and System Resources;
- 5.12.1.2 in accordance with the ISO Procedures, perform DMNC tests and submit the results to the ISO, or provide to the ISO appropriate historical production data;
- 5.12.1.3 abide by the ISO Generator maintenance coordination procedures;
- 5.12.1.4 provide the expected return date from any outages (including partial outages) to the ISO;
- 5.12.1.5 in accordance with the ISO Procedures,

- 5.12.1.5.1 provide documentation demonstrating that it will not use the same  
Unforced Capacity for more than one (1) buyer at the same time; and
- 5.12.1.5.2 in the event that the Installed Capacity Supplier supplies more Unforced  
Capacity than it is qualified to supply in any specific month (i.e., is short on  
Capacity), documentation that it has procured sufficient Unforced Capacity to  
cover this shortfall.
- 5.12.1.6 except for Installed Capacity Marketers and Intermittent Power Resources  
that depend upon wind as their fuel, Bid into the Day-Ahead Market, unless the  
Energy Limited Resource, Generator, Limited Control Run-of-River Hydro  
Resource or System Resource is unable to do so due to an outage as defined in the  
ISO Procedures or due to temperature related de-ratings. Generators may also  
enter into the MIS an upper operating limit that would define the operating limit  
under normal system conditions. The circumstances under which the ISO will  
direct a Generator to exceed its upper operating limit are described in the ISO  
Procedures;
- 5.12.1.7 provide Operating Data in accordance with Section 5.12.5 of this Tariff;
- 5.12.1.8 provide notice to the ISO, prior to the commencement of the Annual  
Transmission Reliability Assessment on March 1, of any transfers of  
deliverability rights to be carried out pursuant to Sections 25.9.4 - 25.9.6 of  
Attachment S to the ISO OATT;
- 5.12.1.9 comply with the ISO Procedures;
- 5.12.1.10 when the ISO issues a Supplemental Resource Evaluation request (an  
SRE), Bid into the in-day market unless the entity has a bid pending in the Real-

Time Market when the SRE request is made or is unable to bid in response to the SRE request due to an outage as defined in the ISO Procedures, or due to other operational issues, or due to temperature related deratings; and

5.12.1.11 Installed Capacity Suppliers located East of Central-East shall Bid in the Day-Ahead and Real-Time Markets all Capacity available for supplying 10-Minute Non-Synchronized Reserve (unless the Generator is unable to meet its commitment because of an outage as defined in the ISO Procedures), except for the Generators described in Subsections 5.12.1.11.1, 5.12.1.11.2 and 5.12.1.11.3 below:

5.12.1.11.1 Generators providing Energy under contracts executed and effective on or before November 18, 1999 (including PURPA contracts) in which the power purchasers do not control the operation of the supply source but would be responsible for penalties for being off-schedule, with the exception of Generators under must-take PURPA contracts executed and effective on or before November 18, 1999, who have not provided telemetering to their local TO and historically have not been eligible to participate in the NYPP market, which will continue to be treated as TO Load modifiers under the ISO-administered markets;

5.12.1.11.2 Existing topping turbine Generators and extraction turbine Generators producing Energy resulting from the supply of steam to the district steam system located in New York City (LBMP Zone J) in operation on or before November 18, 1999 and/or topping or extraction turbine Generators used in replacing or repowering steam supplies from such units (in accordance with good engineering

and economic design) that cannot follow schedules, up to a maximum total of 499 MW of such units; and

5.12.1.11.3 Units that have demonstrated to the ISO that they are subject to environmental, contractual or other legal or physical requirements that would otherwise preclude them from providing 10-Minute NSR.

The ISO shall inform each potential Installed Capacity Supplier that is required to submit DMNC data of its approved DMNC ratings for the Summer Capability Period and the Winter Capability Period in accordance with the ISO Procedures.

Requirements to qualify as Installed Capacity Suppliers for External System Resources and Control Area System Resources located in External Control Areas that have agreed not to Curtail the Energy associated with such Installed Capacity or to afford it the same Curtailment priority that it affords its own Control Area Load shall be established in the ISO Procedures.

Not later than 30 days prior to each ICAP Spot Market Auction, each Market Participant that may make offers to sell Unforced Capacity in such auction shall submit information to the ISO, in accordance with ISO Procedures and in the format specified by the ISO that identifies each Affiliated Entity, as that term is defined in Section 23.2.1 of Attachment H of the Services Tariff, of the Market Party or with which the Market Party is an Affiliated Entity. The names of entities that are Affiliated Entities shall not be treated as Confidential Information, but such treatment may be requested for the existence of an Affiliated Entity relationship. The information submitted to the ISO shall identify the nature of the Affiliated Entity relationship by the applicable category specified in the definition of “Affiliated Entity” in Section 23.2.1 of Attachment H of the Services Tariff.

## **5.12.2 Additional Provisions Applicable to External Installed Capacity Suppliers**

### **5.12.2.1 Provisions Addressing the Applicable External Control Area.**

External Generators, External System Resources, and Control Area System Resources qualify as Installed Capacity Suppliers if they demonstrate to the satisfaction of the NYISO that the Installed Capacity Equivalent of their Unforced Capacity is deliverable to the NYCA or, in the case of an entity using a UDR to meet a Locational Minimum Installed Capacity Requirement, to the NYCA interface associated with that UDR transmission facility and will not be recalled or curtailed by an External Control Area to satisfy its own Control Area Loads, or, in the case of Control Area System Resources, if they demonstrate that the External Control Area will afford the NYCA Load the same curtailment priority that they afford their own Control Area Native Load Customers. The amount of Unforced Capacity that may be supplied by such entities qualifying pursuant to the alternative criteria may be reduced by the ISO, pursuant to ISO Procedures, to reflect the possibility of curtailment. External Installed Capacity associated with Import Rights or UDRs is subject to the same deliverability requirements applied to Internal Installed Capacity Suppliers associated with UDRs.

### **5.12.2.2 Additional Provisions Addressing Internal Deliverability and Import Rights.**

In addition to the provisions contained in Section 5.12.2.1 above, External Installed Capacity not associated with UDRs or External CRIS Rights will be subject to the deliverability test in Section 25.7.8 and 25.7.9 of Attachment S to the ISO OATT. The deliverability of External Installed Capacity not associated with UDRs or External CRIS Rights will be evaluated annually as a part of the process that sets import rights for the upcoming Capability Year, to determine the amount of External Installed Capacity that can be imported to the New York Control Area across any individual External Interface and across all of those External Interfaces,

taken together. The External Installed Capacity deliverability test will be performed using the ISO's forecast, for the upcoming Capability Year, of New York Control Area CRIS resources, transmission facilities, and load. Under this process (i) Grandfathered External Installed Capacity Agreements listed in Attachment E of the ISO Installed Capacity Manual, and (ii) the Existing Transmission Capacity for Native Load listed for New York State Electric & Gas Corporation in Table 3 of Attachment L to the ISO OATT, will be considered deliverable. Additionally, 1090 MW of imports made over the Quebec (via Chateauguay) Interface will be considered to be deliverable until the end of the 2010 Summer Capability Period.

The import limit set for External Installed Capacity not associated with UDRs or External CRIS Rights will be set no higher than the amount of imports that (i) would not increase the LOLE as determined in the upcoming Capability Year IRM consistent with Section 2.7 of the NYISO Installed Capacity Manual, "Limitations on Unforced Capacity Flow in External Control Areas," (ii) are deliverable within the Capacity Region where the External Interface is located when evaluated with the New York Control Area CRIS resources and External CRIS Rights forecast for the upcoming Capability Year, and (iii) would not degrade the transfer capability of any Other Interface by more than the threshold identified in Section 25.7.9 of Attachment S to the ISO OATT. Import limits set for External Installed Capacity will reflect the modeling of awarded External CRIS rights, but the awarded External CRIS rights will not be adjusted as part of import limit-setting process. Procedures for qualifying selling, and delivery of External Installed Capacity are detailed in the Installed Capacity Manual.

Until the grandfathered import rights over the Quebec (via Chateauguay) Interface expire at the end of the 2010 Summer Capability Period, the 1090 MW of grandfathered import rights will be made available on a first-come, first-served basis pursuant to ISO Procedures. Any of the

grandfathered import rights over the Quebec (via Chateauguay) Interface not utilized for a Capability Period will be made available to other external resources for that Capability Period, pursuant to ISO Procedures, to the extent the unutilized amount is determined to be deliverable.

Additionally, any of the Existing Transmission Capacity for Native Load listed for New York State Electric & Gas Corporation not utilized by New York State Electric & Gas Corporation for a Capability Period will be made available to other external resources for that Capability Period, pursuant to ISO procedures, to the extent the unutilized amount is determined to be deliverable.

LSEs with External Installed Capacity as of the effective date of this Tariff will be entitled to designate External Installed Capacity at the same NYCA Interface with another Control Area, in the same amounts in effect on the effective date of this Tariff. To the extent such External Installed Capacity corresponds to Existing Transmission Capacity for Native Load as reflected in Table 3 of Attachment L to the ISO OATT, these External Installed Capacity rights will continue without term and shall be allocated to the LSE's retail access customers in accordance with the LSE's retail access program on file with the PSC and subject to any necessary filings with the Commission. External Installed Capacity rights existing as of September 17, 1999 that do not correspond to Table 3 of Attachment L to the ISO OATT shall survive for the term of the relevant External Installed Capacity contract or until the relevant External Generator is retired.

#### **5.12.2.3 One-Time Conversion of Grandfathered Quebec (via Chateauguay) Interface Rights.**

An entity can request to convert a specified number of MW, up to 1090 MW over the Quebec External Interface (via Chateauguay), into External CRIS Rights by making either a Contract Commitment or Non-Contract Commitment that satisfies the requirements of

Section 25.7.11.1 of Attachment S to the ISO OATT. The converted number of MW will not be subject to further evaluation for deliverability within a Class Year Deliverability Study under Attachment S to the ISO OATT, as long as the External CRIS Rights are in effect.

5.12.2.3.1 The External CRIS Rights awarded under this conversion process will first become effective for the 2010-2011 Winter Capability Period.

5.12.2.3.2 Requests to convert these grandfathered rights must be received by the NYISO on or before 5:00 pm Eastern Time on February 1, 2010, with the following information: (a) a statement that the entity is electing to convert by satisfying the requirements of a Contract Commitment or a Non-Contract Commitment in accordance with Section 25.7.11.1 of Attachment S to the ISO OATT; (b) the length of the commitment in years; (c) for the Summer Capability Period, the requested number of MW; (d) for the Winter Capability Period, the Specified Winter Months, if any, and the requested number of MW; and (e) a minimum number of MW the entity will accept if granted (“Specified Minimum”) for the Summer Capability Period and for all Specified Winter Months, if any.

5.12.2.3.3 An entity cannot submit one or more requests to convert in the aggregate more than 1090 MW in any single month.

5.12.2.3.4 If requests to convert that satisfy all other requirements stated herein are equal to or less than the 1090 MW limit, all requesting entities will be awarded the requested number of MW of External CRIS Rights. If conversion requests exceed the 1090 MW limit, the NYISO will prorate the allocation based on the weighted average of the requested MW times the length of the



contract/commitment (*i.e.*, number of Summer Capability Periods) in accordance with the following formula:

$$\text{Rights allocated to entity } i = 1090 * \frac{(\text{MW}_i * \text{contract/commitment length}_i)}{\sum_j (\text{MW}_j * \text{contract/commitment length}_j)}$$

$j = 1, \dots, \# \text{ entities requesting import rights}$

In the formula, contract/commitment length means the lesser of the requested contract/commitment length and twenty (20) years. The NYISO will perform separate calculations for the Summer and Winter Capability Periods. The NYISO will determine whether the prorated allocated number of MW for any requesting entity is less than the entity's Specified Minimum. If any allocation is less, the NYISO will remove such request(s) and recalculate the prorated allocations among the remaining requesting entities using the above formula. This process will continue until the prorated allocation meets or exceeds the specified minimum for all remaining requests.

5.12.2.3.5 Any portion of the previously grandfathered 1090 MW not converted through this process will no longer be grandfathered from deliverability.

Previously grandfathered rights converted to External CRIS Rights but then terminated will no longer be grandfathered from deliverability.

#### **5.12.2.4 Offer Cap Applicable to Certain External CRIS Rights.**

Notwithstanding any other capacity mitigation measures or obligations that may apply, the offers of External Installed Capacity submitted pursuant to a Non-Contract Commitment, as described in Section 25.7.11.1.2 of Attachment S of the ISO OATT, will be subject to an offer

cap in each month of the Summer Capability Period and for all Specified Winter Months. This offer cap will be determined as the higher of:

5.12.2.4.1 1.1 times the price corresponding to all available Unforced Capacity determined from the Demand Curve for that Period and for the Capacity Region in which the Interface of entry is located; and

5.12.2.4.2 The most recent auction clearing price (a) in the External market supplying the External Installed Capacity, if any, and if none, then the most recent auction clearing price in an External market to which the capacity may be wheeled, less (b) any transmission reservation costs in the External market associated with providing the Installed Capacity, in accordance with ISO Procedures.

### **5.12.3 Installed Capacity Supplier Outage Scheduling Requirements**

All Installed Capacity Suppliers, except for Control Area System Resources, and Special Case Resources, that intend to supply Unforced Capacity to the NYCA shall submit a confidential notification to the ISO of their proposed outage schedules in accordance with the ISO Procedures. Transmission Owners will be notified of these and subsequently revised outage schedules. Based upon a reliability assessment, if Operating Reserve deficiencies are projected to occur in certain weeks for the upcoming calendar year, the ISO will request voluntary rescheduling of outages. In the case of Generators actually supplying Unforced Capacity to the NYCA, if voluntary rescheduling is ineffective, the ISO will invoke forced rescheduling of their outages to ensure that projected Operating Reserves over the upcoming year are adequate.

A Generator that refuses a forced rescheduling of its outages for any unit shall be prevented from supplying Unforced Capacity in the NYCA with that unit during any month where it undertakes such outages. The rescheduling process is described in the ISO Procedures.

A Generator that intends to supply Unforced Capacity in a given month that did not qualify as an Installed Capacity Supplier prior to the beginning of the Capability Period must notify the ISO in accordance with the ISO Procedures so that it may be subject to forced rescheduling of its proposed outages in order to qualify as an Installed Capacity Supplier. A Supplier that refuses the ISO's forced rescheduling of its proposed outages shall not qualify as an Installed Capacity Supplier for that unit for any month during which it schedules or conducts an outage.

Outage schedules for External System Resources and Control Area System Resources shall be coordinated by the External Control Area and the ISO in accordance with the ISO Procedures.

#### **5.12.4 Required Certification for Installed Capacity**

- (a) Each Installed Capacity Supplier must confirm to the ISO, in accordance with ISO Procedures that the Unforced Capacity it has certified has not been sold for use in an External Control Area.
- (b) Each Installed Capacity Supplier holding rights to UDRs from an External Control Area must confirm to the ISO, in accordance with ISO Procedures, that it will not use as self-supply or offer, and has not sold, Installed Capacity associated with the quantity of MW for which it has not made its one time capability adjustment year election pursuant to Section 5.11.4.

### **5.12.5 Operating Data Reporting Requirements**

To qualify as Installed Capacity Suppliers in the NYCA, Resources shall submit to the ISO Operating Data in accordance with this Section 5.12.5 and the ISO Procedures. Resources that do not submit Operating Data in accordance with the following subsections and the ISO Procedures shall be subject to the sanctions provided in Section 5.12.12.1 of this Tariff.

Resources that were not in operation on January 1, 2000 shall submit Operating Data to the ISO no later than one month after such Resources commence commercial operation, and in accordance with the ISO Procedures and the following subsections as applicable.

#### **5.12.5.1 Generators, System Resources, Energy Limited Resources, Special Case Resources, Intermittent Power Resources, Limited Control Run-of-River Hydro Resources and Municipally Owned Generation**

To qualify as Installed Capacity Suppliers in the NYCA, Generators, External Generators, System Resources, External System Resources, Energy Limited Resources, Special Case Resources, Intermittent Power Resources, Limited Control Run-of-River Hydro Resources and municipally owned generation or the purchasers of Unforced Capacity associated with those Resources shall submit GADS Data, data equivalent to GADS Data, or other Operating Data to the ISO in accordance with the ISO Procedures. Prior to the successful implementation of a software modification that allows gas turbines to submit multiple bid points, these units shall not be considered to be forced out for any hours that the unit was available at its base load capability in accordance with the ISO Procedures. This section shall also apply to any Installed Capacity Supplier, External or Internal, using UDRs to meet Locational Minimum Installed Capacity Requirements.

#### **5.12.5.2 Control Area System Resources**

To qualify as Installed Capacity Suppliers in the NYCA, Control Area System Resources, or the purchasers of Unforced Capacity associated with those Resources, shall submit CARL Data and actual system failure occurrences data to the ISO each month in accordance with the ISO Procedures.

#### **5.12.5.3 Transmission Projects Granted Unforced Capacity Deliverability Rights**

An owner of a transmission project that receives UDRs must, among other obligations, submit outage data or other operational information in accordance with the ISO procedures to allow the ISO to determine the number of UDRs associated with the transmission facility.

### **5.12.6 Operating Data Default Value and Collection**

#### **5.12.6.1 UCAP Calculations**

The ISO shall calculate for each Resource the amount of Unforced Capacity that each Installed Capacity Supplier is qualified to supply in the NYCA in accordance with formulae provided in the ISO Procedures.

The amount of Unforced Capacity that each Generator, System Resource, Energy Limited Resource, Special Case Resource, and municipally-owned generation is authorized to supply in the NYCA shall be based on the ISO's calculations of individual Equivalent Demand Forced Outage Rates. The amount of Unforced Capacity that each Control Area System Resource is authorized to supply in the NYCA shall be based on the ISO's calculation of each Control Area System Resource's availability. The amount of Unforced Capacity that each Intermittent Power Resource is authorized to supply in the NYCA shall be based on the NYISO's calculation of the amount of capacity that the Intermittent Power Resource can reliably provide during system peak Load hours in accordance with ISO Procedures. The amount of

Unforced Capacity that each Limited Control Run-of-River Hydro Resource is authorized to provide in the NYCA shall be determined separately for Summer and Winter Capability Periods as the rolling average of the hourly net Energy provided by each such Resource during the 20 highest NYCA integrated real-time load hours in each of the five previous Summer or Winter Capability Periods, as appropriate, stated in megawatts.

The ISO shall calculate separate Summer and Winter Capability Period Unforced Capacity values for each Generator, System Resource, Special Case Resource, Energy Limited Resource, and municipally owned generation and update them periodically using a twelve-month calculation in accordance with formulae provided in the ISO Procedures.

The ISO shall calculate separate Summer and Winter Capability Period Unforced Capacity values for Intermittent Power Resources and update them seasonally as described in ISO Procedures.

#### **5.12.6.2 Default Unforced Capacity**

In its calculation of Unforced Capacity, the ISO shall deem a Resource to be completely forced out for each month for which the Resource has not submitted its Operating Data in accordance with Section 5.12.5 of this Tariff and the ISO Procedures. A Resource that has been deemed completely forced out for a particular month may submit new Operating Data, for that month, to the ISO at any time. The ISO will use such new Operating Data when calculating, in a timely manner in accordance with the ISO Procedures, a Unforced Capacity value for the Resource.

Upon a showing of extraordinary circumstances, the ISO retains the discretion to accept at any time Operating Data which have not been submitted in a timely manner, or which do not fully conform with the ISO Procedures.

### **5.12.6.3 Exception for Certain Equipment Failures**

When a Generator, Special Case Resource, Energy Limited Resource, or System Resource is forced into an outage by an equipment failure that involves equipment located on the high voltage side of the electric network beyond the step-up transformer, and including such step-up transformer, the outage will not be counted for purposes of calculating that Resource's Equivalent Demand Forced Outage Rate.

### **5.12.7 Availability Requirements**

Subsequent to qualifying, each Installed Capacity Supplier shall, except as noted in Section 5.12.11 of this Tariff, on a daily basis: (i) schedule a Bilateral Transaction; (ii) Bid Energy in each hour of the Day-Ahead Market in accordance with the applicable provisions of Section 5.12.1 of this Tariff; or (iii) notify the ISO of any outages. The total amount of Energy that an Installed Capacity Supplier schedules, bids, or declares to be unavailable on a given day must equal or exceed the Installed Capacity Equivalent of the Unforced Capacity it supplies.

### **5.12.8 Unforced Capacity Sales**

Each Installed Capacity Supplier will, after satisfying the deliverability requirements set forth in the applicable provisions of Attachment X, Attachment Z and Attachment S to the ISO OATT, be authorized to supply an amount of Unforced Capacity during each Obligation Procurement Period, based on separate seasonal Unforced Capacity calculations performed by the ISO for the Summer and Winter Capability Periods. Unforced Capacity may be sold in six-month strips, or in monthly, or multi-monthly segments.

If an Energy Limited Resource's, Generator's, System Resource's or Control Area System Resource's DMNC rating is determined to have increased during an Obligation Procurement Period, pursuant to testing procedures described in the ISO Procedures, the amount

of Unforced Capacity that it shall be authorized to supply in that or future Obligation Procurement Periods shall also be increased on a prospective basis in accordance with the schedule set forth in the ISO Procedures provided that it first has satisfied the deliverability requirements set forth in the applicable provisions of Attachment X, Attachment Z and Attachment S to the ISO OATT.

New Generators and Generators that have increased their Capacity since the previous Summer Capability Period due to changes in their generating equipment may, after satisfying the deliverability requirements set forth in the applicable provisions of Attachment X, Attachment Z and Attachment S to the ISO OATT, qualify to supply Unforced Capacity on a foregoing basis during the Summer Capability Period based upon a DMNC test that is performed and reported to the ISO after March 1 and prior to the beginning of the Summer Capability Period DMNC Test Period. The Generator will be required to verify the claimed DMNC rating by performing an additional test during the Summer DMNC Test Period. Any shortfall between the amount of Unforced Capacity supplied by the Generator for the Summer Capability Period and the amount verified during the Summer DMNC Test Period will be subject to deficiency charges pursuant to Section 5.14.2 of this Tariff. The deficiency charges will be applied to no more than the difference between the Generator's previous Summer Capability Period Unforced Capacity and the amount of Unforced Capacity equivalent the Generator supplied for the Summer Capability Period.

New Generators and Generators that have increased their Capacity since the previous Winter Capability Period due to changes in their generating equipment may, after satisfying the deliverability requirements set forth in the applicable provisions of Attachment X, Attachment Z and Attachment S to the ISO OATT, qualify to supply Unforced Capacity on a foregoing basis



during the Winter Capability Period based upon a DMNC test that is performed and reported to the ISO after September 1 and prior to the beginning of the Winter Capability Period DMNC Test Period. The Generator will be required to verify the claimed DMNC rating by performing an additional test during the Winter Capability Period DMNC Test Period. Any shortfall between the amount of Unforced Capacity certified by the Generator for the Winter Capability Period and the amount verified during the Winter Capability Period DMNC Test Period will be subject to deficiency charges pursuant to Section 5.14.2 of this Tariff. The deficiency charges will be applied to no more than the difference between the Generator's previous Winter Capability Period Unforced Capacity and the amount of Unforced Capacity equivalent the Generator supplied for the Winter Capability Period.

Any Installed Capacity Supplier, except as noted in Section 5.12.11 of this ISO Services Tariff, which fails on a daily basis to schedule, Bid, or declare to be unavailable in the Day-Ahead Market an amount of Unforced Capacity, expressed in terms of Installed Capacity Equivalent, that it certified for that day, rounded down to the nearest whole MW, is subject to sanctions pursuant to Section 5.12.12.2 of this Tariff. If an entity other than the owner of an Energy Limited Resource, Generator, System Resource, or Control Area System Resource that is providing Unforced Capacity is responsible for fulfilling bidding, scheduling, and notification requirements, the owner and that entity must designate to the ISO which of them will be responsible for complying with the scheduling, bidding, and notification requirements. The designated bidding and scheduling entity shall be subject to sanctions pursuant to Section 5.12.12.2 of this ISO Services Tariff.

#### **5.12.9 Sales of Unforced Capacity by System Resources**

Installed Capacity Suppliers offering to supply Unforced Capacity associated with Internal System Resources shall submit for each of their Resources the Operating Data and DMNC testing data or historical data described in Sections 5.12.1 and 5.12.5 of this ISO Services Tariff in accordance with the ISO Procedures. Such Installed Capacity Suppliers will be allowed to supply the amount of Unforced Capacity that the ISO determines pursuant to the ISO Procedures to reflect the appropriate Equivalent Demand Forced Outage Rate. Installed Capacity Suppliers offering to sell the Unforced Capacity associated with System Resources may only aggregate Resources in accordance with the ISO Procedures.

#### **5.12.10 Curtailment of External Transactions In-Hour**

All Unforced Capacity that is not out of service, or scheduled to serve the Internal NYCA Load in the Day-Ahead Market may be scheduled to supply Energy for use in External Transactions provided, however, that such External Transactions shall be subject to Curtailment within the hour, consistent with ISO Procedures. Such Curtailment shall not exceed the Installed Capacity Equivalent committed to the NYCA.

If an Installed Capacity Supplier's Exports are Curtailed in-hour to resolve a New York reserves shortage, the Transmission Customer scheduling such Exports shall be paid, for the remainder of the hour, the higher of the Real-Time LBMP at the New York proxy bus associated with the Exports, or the real-time price at the relevant proxy bus used by the External Control Area for Transactions with New York.

## **5.12.11 Special Case Resources, Municipally-Owned Generation, Energy Limited Resources and Intermittent Power Resources**

### **5.12.11.1 Special Case Resources**

Special Case Resources may qualify as Installed Capacity Suppliers, without having to comply with the daily bidding, scheduling, and notification requirements set forth in Section 5.12.7 of this Tariff, if: (i) they are available to operate for a minimum of four (4) consecutive hours each day, at the direction of the ISO, except for those subject to operating limitations established by environmental permits, which will not be required to operate in excess of two (2) hours and which will be derated by the ISO pursuant to ISO Procedures to account for the Load serving equivalence of the hours actually available, following notice of the potential need to operate twenty-one (21) hours in advance if notification is provided by 3:00 P.M. ET, or twenty-four (24) hours in advance otherwise, and a notification to operate two (2) hours ahead; and (ii) they were not operated as a Load modifier coincident with the peak upon which the LSE Unforced Capacity Obligation of the LSE that serves that customer is based, unless that LSE's LSE Unforced Capacity Obligation is adjusted upwards to prevent double-counting.

Special Case Resources supplying Unforced Capacity cannot offer the Demand Reduction associated with such Unforced Capacity in the Emergency Demand Response Program. A Resource with sufficient metering to distinguish MWs of Demand Reduction may participate as a Special Case Resource and in the Emergency Demand Response Program provided that the same MWs are not committed both as Unforced Capacity and to the Emergency Demand Response Program.

The ISO will have discretion, pursuant to ISO Procedures, to exempt distributed Generators that are incapable of starting in two (2) hours from the requirement to operate on two (2) hours notification. Distributed Generators and Loads capable of being interrupted upon

demand, that are not available on certain hours or days will be derated by the ISO, pursuant to ISO Procedures, to reflect the Load serving equivalence of the hours they are actually available.

Special Case Resources must submit a Minimum Payment Nomination, in accordance with ISO Procedures. The ISO may request Special Case Resource performance from less than the total number of Special Case Resources within the NYCA or a Load Zone in accordance with ISO Procedures.

Distributed Generators and Loads capable of being interrupted upon demand will be required to comply with verification and validation procedures set forth in the ISO Procedures. Such procedures will not require metering other than interval billing meters on customer Load or testing other than DMNC or sustained disconnect, as appropriate, unless agreed to by the customer, except that Special Case Resources not called to supply Energy in a Capability Period will be required to run a test once every Capability Period in accordance with the ISO Procedures.

Unforced Capacity supplied in a Bilateral Transaction by a Special Case Resource pursuant to this subsection may only be resold if the purchasing entity or the Installed Capacity Marketer has agreed to comply with the ISO notification requirements for Special Case Resources. LSEs and Installed Capacity Marketers may aggregate Special Case Resources and sell the Unforced Capacity associated with them in an ISO-administered auction if they comply with ISO notification requirements for Special Case Resources.

Special Case Resources that were requested to reduce Load in any month shall submit performance data to the NYISO, within 75 days of each called event or test, in accordance with ISO Procedures. Failure to submit performance data for any Special Case Resources required to respond to the event or test within the 75-day limit will result in zero performance attributed to

those Special Case Resources for purposes of satisfying the Special Case Resource's capacity obligation as well as for determining energy payments. All performance data are subject to audit by the NYISO and its market monitoring unit. If the ISO determines that it has made an erroneous payment to a Special Case Resource it shall have the right to recover it either by reducing other payments to that Special Case Resource or by resolving the issue pursuant to other provisions of this Services Tariff or other lawful means.

Provided the Special Case Resource supplies evidence of such reductions in 75 days, the ISO shall pay Suppliers that schedule Special Case Resources that cause a verified Load reduction in response to (i) an ISO request to perform due to a Forecast Reserve Shortage (ii) an ISO declared Major Emergency State, (iii) an ISO request to perform made in response to a request for assistance for Load relief purposes or as a result of a Local Reliability Rule, or (iv) a test called by the ISO, for such Load reduction, in accordance with ISO Procedures. Subject to performance evidence and verification, in the case of a response pursuant to clauses (i), (ii), of (iii) of this subsection, Suppliers that schedule Special Case Resources shall be paid the zonal Real-Time LBMP for the period of requested performance or four (4) hours, whichever is greater, in accordance with ISO Procedures, provided, however, Special Case Resource Capacity shall settle Demand Reductions, in the interval and for the capacity for which Special Case Resource Capacity has been scheduled Day-Ahead to provide Operating Reserves, Regulation Service or Energy, as being provided by a Supplier of Operating Reserves, Regulation Service or Energy.

A Supplier that bids a Special Case Resource may be eligible for a Bid Production Cost guarantee payment pursuant to Section 4.6.6 and Attachment C of this ISO Services Tariff. Subject to performance evidence and verification, in the case of a response pursuant to

clause (iv) of this subsection, payment for participation in tests called by the NYISO shall be equal to the zonal Real Time LBMP for the MWh of Energy reduced within the test period.

Transmission Owners that require assistance from distributed Generators larger than 100 kW and Loads capable of being interrupted upon demand for Load relief purposes or as a result of a Local Reliability Rule, shall direct their requests for assistance to the ISO for implementation consistent with the terms of this section. Within Load Zone J, participation in response to an ISO request to perform made as a result of a request for assistance from a Transmission Owner for less than the total number of Special Case Resources, for Load relief purposes or as a result of a Local Reliability Rule, in accordance with ISO Procedures, shall be voluntary and the responsiveness of the Special Case Resource shall not be taken into account for performance measurement.

#### **5.12.11.2 Existing Municipally-Owned Generation**

A municipal utility that owns existing generation in excess of its Unforced Capacity requirement, net of NYPA-provided Capacity may, consistent with the deliverability requirements set forth in Attachment X and Attachment S to the ISO OATT, offer the excess Capacity for sale as Installed Capacity provided that it is willing to operate the generation at the ISO's request, and provided that the Energy produced is deliverable to the New York State Power System. Such a municipal utility shall not be required to comply with the requirement of Section 5.12.7 of this Tariff that an Installed Capacity Supplier bid into the Energy market or enter into Bilateral Transactions. Municipal utilities shall, however, be required to submit their typical physical operating parameters, such as their start-up times, to the ISO. This subsection is only applicable to municipally-owned generation in service or under construction as of December 31, 1999.

### **5.12.11.3 Energy Limited Resources**

An Energy Limited Resource may, consistent with the deliverability requirements set forth in Attachment X and Attachment S to the ISO OATT, qualify as an Installed Capacity Supplier if it Bids its Installed Capacity Equivalent into the Day-Ahead Market each day and if it is able to provide the Energy equivalent of the Unforced Capacity for at least four (4) consecutive hours each day. Energy Limited Resources shall also Bid a Normal Upper Operating Limit or Emergency Upper Operating Limit, as applicable, designating their desired operating limits. Energy Limited Resources that are not scheduled in the Day-Ahead Market to operate at a level above their bid-in upper operating limit, may be scheduled in the RTC, or may be called in real-time pursuant to a manual intervention by ISO dispatchers, who will account for the fact that Energy Limited Resource may not be capable of responding.

### **5.12.11.4 Intermittent Power Resources**

Intermittent Power Resources that depend upon wind as their fuel may qualify as Installed Capacity Suppliers, without having to comply with the daily bidding and scheduling requirements set forth in Section 5.12.7 of this Tariff, and may, consistent with the deliverability requirements set forth in Attachment X and Attachment S to the ISO OATT, claim up to their nameplate Capacity as Installed Capacity. To qualify as Installed Capacity Suppliers, such Intermittent Power Resources shall comply with the requirements of Section 5.12.1 and the outage notification requirements of 5.12.7 of this Tariff.

### **5.12.12 Sanctions Applicable to Installed Capacity Suppliers and Transmission Owners**

Pursuant to this section, the ISO may impose financial sanctions on Installed Capacity Suppliers and Transmission Owners that fail to comply with certain provisions of this Tariff. The

ISO shall notify Installed Capacity Suppliers and Transmission Owners prior to imposing any sanction and shall afford them a reasonable opportunity to demonstrate that they should not be sanctioned and/or to offer mitigating reasons why they should be subject to a lesser sanction.

The ISO may impose a sanction lower than the maximum amounts allowed by this section at its sole discretion. Installed Capacity Suppliers and Transmission Owners may challenge any sanction imposed by the ISO pursuant to the ISO Dispute Resolution Procedures.

Any sanctions collected by the ISO pursuant to this section will be applied to reduce the Rate Schedule 1 charge under this Tariff.

#### **5.12.12.1 Sanctions for Failing to Provide Required Information**

If (i) an Installed Capacity Supplier fails to provide the information required by Sections 5.12.1.1, 5.12.1.2, 5.12.1.3, 5.12.1.4, or 5.12.1.8 of this Tariff in a timely fashion, or (ii) a Supplier of Unforced Capacity from External System Resources located in an External Control Area or from a Control Area System Resource that has agreed not to Curtail the Energy associated with such Installed Capacity, or to afford it the same Curtailment priority that it affords its own Control Area Load, fails to provide the information required for certification as an Installed Capacity Supplier established in the ISO Procedures, the ISO may take the following actions: On the first day that required information is late, the ISO shall notify the Installed Capacity Supplier that required information is past due and that it reserves the right to impose financial sanctions if the information is not provided by the end of the following day. Starting on the third day that the required information is late, the ISO may impose a daily financial sanction of up to the higher of \$500 or \$5 per MW of Installed Capacity that the Generator, System Resource, or Control Area System Resource in question is capable of providing. Starting on the tenth day that the required information is late, the ISO may impose a daily financial sanction of



up to the higher of \$1000 or \$10 per MW of Installed Capacity that the Generator, System Resource, or Control Area System Resource in question is capable of providing.

If an Installed Capacity Supplier fails to provide the information required by Subsection 5.12.1.5 of this Tariff in a timely fashion, the ISO may take the following actions: On the first calendar day that required information is late, the ISO shall notify the Installed Capacity Supplier that required information is past due and that it reserves the right to impose financial sanctions if the information is not provided by the end of that first calendar day. Starting on the second calendar day that the required information is late, the ISO may impose a daily financial sanction up to the higher of \$500 or \$5 per MW of Installed Capacity that the Generator, System Resource, or Control Area System Resource in question is capable of providing.

If a TO fails to provide the information required by Subsection 5.11.3 of this Tariff in a timely fashion, the ISO may take the following actions: On the first day that required information is late, the ISO shall notify the TO that required information is past due and that it reserves the right to impose financial sanctions if the information is not provided by the end of the following day. Starting on the third day that the required information is late, the ISO may impose a daily financial sanction up to \$5,000 a day. Starting on the tenth day that required information is late, the ISO may impose a daily financial sanction up to \$10,000.

#### **5.12.12.2 Sanctions for Failing to Comply with Scheduling, Bidding, and Notification Requirements**

On any day in which an Installed Capacity Supplier fails to comply with the scheduling, bidding, or notification requirements of Sections 5.12.1.6, 5.12.1.7, or 5.12.1.10, or with Section 5.12.7 of this Tariff, or in which a Supplier of Installed Capacity from External System Resources or Control Area System Resources located in an External Control Area that has agreed not to Curtail the Energy associated with such Installed Capacity, or to afford it the same

Curtailment priority that it affords its own Control Area Load, fails to comply with scheduling, bidding, or notification requirements for certification as an Installed Capacity Supplier established in the ISO Procedures, the ISO may impose a financial sanction up to the product of a deficiency charge (pro-rated on a daily basis) and the maximum number of MWs that the Installed Capacity Supplier failed to schedule or Bid in any hour in that day provided, however, that no financial sanction shall apply to any Installed Capacity Supplier who demonstrates that the Energy it schedules, bids, or declares to be unavailable on any day is not less than the Installed Capacity that it supplies for that day rounded down to the nearest whole MW. The deficiency charge may be up to one and one-half times the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction for each month in which the Installed Capacity Supplier is determined not to have complied with the foregoing requirements.

In addition, if an Installed Capacity Supplier fails to comply with the scheduling, bidding, or notification requirements of Sections 5.12.1.6, 5.12.1.7, or 5.12.1.10, or with Section 5.12.7 of this Tariff, or if an Installed Capacity Supplier of Unforced Capacity from External System Resources or from a Control Area System Resource located in an External Control Area that has agreed not to curtail the Energy associated with such Unforced Capacity, or to afford it the same curtailment priority that it affords its own Control Area Load, fails to comply with the scheduling, bidding, or notification requirements for certification as an Installed Capacity Supplier established in the ISO Procedures during an hour in which the ISO curtails Transactions associated with NYCA Installed Capacity Suppliers, the ISO may impose an additional financial sanction equal to the product of the number of MWs the Installed Capacity Supplier failed to schedule during that hour and the corresponding Real-Time LBMP at the applicable Proxy Generator Bus.

**15      ISO Market Administration and Control Area Service Tariff Rate Schedules**

### **15.3 Rate Schedule 3 - Payments for Regulation Service**

This Rate Schedule applies to Suppliers that provide Regulation Service to the ISO.

Transmission Customers will purchase Regulation Service from the ISO under the ISO OATT.

#### **15.3.1 Obligations of the ISO and Suppliers**

##### **15.3.1.1 The ISO shall:**

- (a) Establish Regulation Service criteria and requirements in the ISO Procedures to ensure that Suppliers follow changes in Load consistent with the Reliability Rules;
- (b) Provide RTD Base Point Signals and AGC Base Point Signals to Suppliers providing Regulation Service to direct their output;
- (c) Establish criteria in the ISO Procedures that Suppliers must meet to qualify, or re-qualify, to supply Regulation Service;
- (d) Establish minimum metering requirements and telecommunication capability required for a Supplier to be able to respond to AGC Base Point Signals and RTD Base Point Signals sent by the ISO;
- (e) Select Suppliers to provide Regulation Service in the Day-Ahead Market and Real-Time Market, as described in Section 15.3.2 of this Rate Schedule;
- (f) Pay Suppliers for providing Regulation Service as described in Sections 15.3.4, 15.3.5, 15.3.6 and 15.3.7 of this Rate Schedule; and
- (g) Monitor Suppliers' performance to ensure that they provide Regulation Service as required, as described in Section 15.3.3 of this Rate Schedule.

##### **15.3.1.2 Each Supplier shall:**

- (a) Register with the ISO the capacity its resources are qualified to bid in the Regulation Services market;

- (b) Offer only Resources that are; (i) ISO-Committed Flexible or Self-Committed Flexible, provided however that Demand Side Resources shall be offered as ISO-Committed Flexible; within the dispatchable portion of their operating range, and; (ii) able to respond to AGC Base Point Signals sent by the ISO pursuant to the ISO Procedures, to provide Regulation Service;
- (c) Not use, contract to provide, or otherwise commit Capability that is selected by the ISO to provide Regulation Service to provide Energy or Operating Reserves to any party other than the ISO;
- (d) Pay any charges imposed under this Rate Schedule including, if they are re-instituted the charges described in Section 15.3.8 of this Rate Schedule;
- (e) Ensure that all of its Resources that are selected to provide Regulation Service comply with Base Point Signals issued by the ISO at all times pursuant to the ISO Procedures; and ensure that all of its Resources that are selected to provide Regulation Service comply with all criteria and ISO Procedures that apply to providing Regulation Service.

#### **15.3.2 Selection of Suppliers in the Day-Ahead Market and the Real-Time Market**

- (a) The ISO shall select Suppliers, in the Day-Ahead Market, to provide Regulation Service for each hour in the following Dispatch Day, from those that have Bid to provide Regulation Service from Resources that meet the qualification standards and criteria established in Section 15.3.1 of this Rate Schedule and in the ISO Procedures.
- (b) Real-Time Market: The ISO shall establish a Real-Time Market for Regulation Service and will establish a real-time Regulation Service market clearing price in

each interval. During any period when the ISO suspends Resources' obligation to follow the AGC Base Point Signals sent to Regulation Service providers, pursuant to Section 15.3.9 of this Rate Schedule, the Real-Time Market clearing price for Regulation Service shall automatically be set at zero, which shall be the price used for real-time balancing and settlement purposes. The ISO shall select Suppliers for Regulation Service from those that have Bid to provide Regulation Service from Resources that meet the qualification standards and criteria established in the ISO Procedures.

- (c) The ISO shall establish separate market clearing prices for Regulation Service in the Day-Ahead Market and the Real-Time Market under Sections 15.3.4, 15.3.5 and 15.3.7 of this Rate Schedule. The ISO shall also compute Regulation Revenue Adjustment Payments and Regulation Revenue Adjustment Charges under Section 15.3.6 of this Rate Schedule.

#### **15.3.2.1 Bidding Process**

- (a) A Supplier may submit a Bid in the Day- Ahead Market or the Real-Time Market to provide Regulation Service from eligible Resources, provided, however, that Bids submitted by Suppliers that are attempting to re-qualify to provide Regulation Service, after being disqualified pursuant to Section 15.3.3 of this Rate Schedule 3, may be limited by the ISO pursuant to ISO Procedures.
- (b) Bids rejected by the ISO may be modified and resubmitted by the Supplier to the ISO in accordance with the terms of the ISO Tariff.
- (c) Each Bid shall contain the following information: (i) the maximum amount of Capability (in MW) that the Resource is willing to provide for Regulation Service; (ii) the Resource's regulation response rate (in MW/Minute) which must

be sufficient to permit that Resource to provide the offered amount of Regulation Service within an RTD interval provided, however, that the regulation response rate for Demand Side Resources shall be at least equal to its energy response rate; (iii) the Supplier's Availability Bid Price (in \$/MW); and (iv) the physical location and name or designation of the Resource.

- (d) Regulation Service Offers from Limited Energy Storage Resources: The ISO may reduce the real-time Regulation Service offer (in MWs) from a Limited Energy Storage Resource to account for the Energy storage capacity of such Resource.

### **15.3.3 Monitoring Regulation Service Performance and Performance Related Payment Adjustments**

- (a) The ISO shall establish (i) Resource performance measurement criteria; (ii) procedures to disqualify Suppliers whose Resources consistently fail to meet those criteria; and (iii) procedures to re-qualify disqualified Suppliers, which may include a requirement to first demonstrate acceptable performance for a time.
- (b) The ISO shall establish and implement a Performance Tracking System to monitor the performance of Suppliers that provide Regulation Service. The ISO shall develop performance indices, which may vary with Control Performance, as part of the ISO Procedures. The Performance Tracking System shall compute the difference between the Energy actually supplied and the Energy scheduled by the ISO for all Suppliers serving Load within the NYCA as set forth in the ISO Procedures. The ISO shall use these values to reduce Regulation Service payments pursuant to Section 15.3.5.5 of this Rate Schedule.
- (c) Resources that consistently fail to perform adequately may be disqualified by the ISO, pursuant to ISO Procedures.

#### **15.3.4 Regulation Service Settlements - Day-Ahead Market**

##### **15.3.4.1 Calculation of Day-Ahead Market Clearing Prices**

The ISO shall calculate a Day-Ahead Market clearing price for Regulation Service each hour of the following day. The Day-Ahead Market clearing price for each hour shall equal the Day-Ahead Shadow Price of the ISO's Regulation Service constraint for that hour, which shall be established under the ISO Procedures. Day-Ahead Shadow Prices will be calculated by the ISO's SCUC. Each hourly Day-Ahead Shadow Price shall equal the marginal Bid cost of scheduling Resources to provide additional Regulation Service in that hour, including any impact on the Bid Production Cost of procuring Energy or Operating Reserves that would result from procuring an increment of Regulation Service in that hour, as calculated during the fifth SCUC pass described in Section 17.1.2 of Attachment B to this ISO Services Tariff, and Section 16.1.2 of Attachment J to the ISO OATT. As a result, the Shadow Price shall include the Day-Ahead Regulation Service Bid of the marginal Resource selected to provide Regulation Service (or in the applicable price on the Regulation Service Demand Curve during shortage conditions), plus any margins on the sale of Energy or Operating Reserves in the Day-Ahead Market that the Resource would forego if scheduling it to provide additional Regulation Service would lead to it being scheduled to provide less Energy or Operating Reserves. Shadow Prices shall also be consistent with the Regulation Service Demand Curves described in Section 15.3.7 of this Rate Schedule, which will ensure that Regulation Service is not scheduled by SCUC at a cost greater than the Regulation Service Demand Curve indicates should be paid. Each Supplier that is scheduled Day-Ahead to provide Regulation Service shall be paid the Day-Ahead Market clearing price in each hour, multiplied by the amount of Regulation Service that it is scheduled to provide in that hour.



#### **15.3.4.2 Other Day-Ahead Payments**

A Supplier that bids on behalf of a Generator that provides Regulation Service may be eligible for a Day-Ahead Bid Production Cost guarantee payment pursuant to Section 4.6.6 and Attachment C of this ISO Services Tariff.

No payments shall be made to any Supplier providing Regulation Service in excess of the amount of Regulation Service scheduled by the ISO in the Day-Ahead Market, except to the extent that a Supplier is directed to provide the excess amount by the ISO.

#### **15.3.5 Regulation Service Settlements - Real-Time Market**

##### **15.3.5.1 Calculation of Real-Time Market Clearing Prices**

The ISO shall calculate a Real-Time Market clearing price for Regulation Service for every RTD interval, except as noted in Section 15.3.9 of this Rate Schedule. Except when the circumstances described below in Section 15.3.5.2 apply, the Real-Time Market clearing price for each interval shall equal the real-time Shadow Price for the ISO's Regulation Service constraint for that RTD interval, which shall be established under the ISO Procedures. Real-time Shadow Prices will be calculated by the ISO's RTD. Each Real-Time Shadow Price in each RTD interval shall equal the marginal Bid cost of scheduling Resources to provide additional Regulation Service in that interval, including any impact on the Bid Production Cost of procuring Energy or Operating Reserves that would result from procuring an increment of Regulation Service in that interval, as calculated during the third RTD pass described in Section 17.1.1.1.2.3 of Attachment B to this ISO Services Tariff, and Section 16.1.1.1.2.3 of Attachment J to the ISO OATT. As a result, the Shadow Price shall include the Real-Time Regulation Service Bid of the marginal Resource selected to provide Regulation Service (or the applicable price on the Regulation Service Demand Curve during shortage conditions), plus any margins on the sale of Energy or Operating Reserves in the Real-Time Market that Resource would forego if

scheduling it to provide additional Regulation Service would lead to it being scheduled to provide less Energy or Operating Reserves. Shadow Prices shall also be consistent with the Regulation Service Demand Curves described in Section 15.3.7 of this Rate Schedule, which will ensure that Regulation Service is not scheduled by RTC at a cost greater than the Demand Curve indicates should be paid.

#### **15.3.5.2 Calculation of Real-Time Market Clearing Prices for Regulation Service During EDRP/SCR Activations**

During any interval in which the ISO is using scarcity pricing rule “A” or “B” to calculate LBMPs under Sections 17.1.1.2 or 17.1.1.3 of Attachment B to this ISO Services Tariff, and Sections 16.1.1.2 or 16.1.1.3 of Attachment J to the ISO OATT, the real-time Regulation Service market clearing price may be recalculated in light of the Availability Bids of Suppliers and Lost Opportunity Costs of Generators scheduled to provide Regulation Service in real-time.

Specifically, when either scarcity pricing rule is applicable, the real-time Regulation Service clearing price shall be set to the higher of: (i) the highest total Availability Bid and Lost Opportunity Cost of any Regulation Service provider scheduled by RTD; and (ii) the market clearing price calculated under Section 15.3.5.1 of this Rate Schedule.

#### **15.3.5.3 Real-Time Regulation Service Balancing Payments**

Any deviation from a Supplier’s Day-Ahead schedule to provide Regulation Service shall be settled pursuant to the following rules.

- (a) When the Supplier’s real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule, the Supplier shall pay a charge for the imbalance equal to the product of: (i) the Real-Time Market clearing price for Regulation Service; and (ii) the difference between the Supplier’s Day-Ahead

Regulation Service schedule and its real-time Regulation Service schedule (subject to possible adjustments pursuant to Section 15.3.5.5 of this Rate Schedule.)

- (b) When the Supplier's real-time Regulation Service schedule is greater than its Day-Ahead Regulation Service schedule, the ISO shall pay the Supplier an amount to compensate it for the imbalance equal to the product of: (i) the Real-Time market clearing price for Regulation Service; and (ii) the difference between the Supplier's real-time Regulation Service schedule and its Day-Ahead Regulation Service schedule (subject to possible adjustments pursuant to Section 15.3.5.5 of this Rate Schedule.)

#### **15.3.5.4 Other Real-Time Regulation Service Payments**

A Supplier that bids on behalf of a Generator that provides Regulation Service may be eligible for a real-time Bid Production Cost guarantee payment pursuant to Section 4.6.6 and Attachment C of this ISO Services Tariff.

A Supplier that provides Regulation Service may also be eligible for a Day-Ahead Margin Assurance Payment pursuant to Section 4.6.5 and Attachment J of this ISO Services Tariff.

#### **15.3.5.5 Payments and Performance-Based Adjustments to Payments for Regulation Service Providers**

Each Supplier that is scheduled in real-time to provide Regulation Service shall be paid in accordance with the following formula. The amount paid to each Supplier for providing Regulation Service in each RTD interval  $i$  shall be reduced to reflect the Supplier's performance:

$$\text{Total Payment} = \sum_i (\text{Total Payment}_i * (s_i/3600))$$

Where:

$$\text{Total Payment}_i = (\text{DAMCPreg}_i \times \text{DARcap}_i) + ((\text{RTRcap}_i \times K_i) - \text{DARcap}_i) \times \text{RTMCPreg}_i$$

DAMCPreg<sub>i</sub> is the applicable market clearing price for Regulation Service (in \$/MW), in the Day-Ahead Market, as established by the ISO pursuant to Section 15.3.4.1 of this Rate Schedule for the hour that includes RTD interval i;

DARcap<sub>i</sub> is the Regulation Service Capability (in MW) offered by the Resource and selected by the ISO in the Day-Ahead Market in the hour that includes RTD interval i;

RTMCPreg<sub>i</sub> is the applicable market clearing price for Regulation Service (in MW), in the Real-Time Market as established by the ISO under Section 15.3.5.1 of this Rate Schedule in RTD interval i;

RTRcap<sub>i</sub> is the Regulation Service Capability (in MW) offered by the Resource and selected by the ISO in the Real-Time Market in RTD interval i;

s<sub>i</sub> is the number of seconds in interval i; and

K<sub>i</sub> is a factor, with a value between 0.0 and 1.0 inclusive, derived from each Supplier's Regulation Service performance, as measured by the performance indices set forth in the ISO Procedures and determined pursuant to the following equation:

$$K_i = (PI_i - PSF) / (1 - PSF)$$

Where:

PI<sub>i</sub> is the performance index of the Resource for interval i; and

PSF is the payment scaling factor, established pursuant to ISO Procedures. The PSF shall be set between 0 and the minimum performance index required for payment of Availability payments.

The PSF is established to reflect the extent of ISO compliance with the standards established by NERC, NPCC or Good Utility Practice for Control Performance and System Security. The PSF is set initially at zero. Should the ISO's compliance with these measures deteriorate, in a manner that can be improved if regulation performance improves, the PSF will be increased. Resources providing Regulation Service will be required to increase their performance index to obtain the same total Regulation Service payment as they received during

periods of good ISO performance, as measured by these standards. The factor  $K_{PI}$  shall initially be set at 1.0 for Limited Energy Storage Resources. No payments shall be made to any Supplier providing Regulation Service in excess of the amount of Regulation Service scheduled by the ISO in the Real Time Market, except to the extent that a Supplier is directed to provide the excess amount by the ISO.

### **15.3.6 Energy Settlement Rules for Generators Providing Regulation Service**

#### **15.3.6.1 Energy Settlements**

- A. For any interval in which a Generator is providing Regulation Service, it shall receive a settlement payment for Energy consistent with a real-time Energy injection equal to the lower of its actual generation or its AGC Base Point Signal. Demand Side Resources providing Regulation Service shall not receive a settlement payment for Energy.
- B. For any hour in which a Limited Energy Storage Resource has injected or withdrawn Energy, pursuant to an ISO schedule to do so, it shall receive a settlement payment (if the amount calculated below is positive) or charge (if the amount calculated below is negative) for Energy pursuant to the following formula:

$$\text{Energy Settlement}_h = \text{Net MWHR}_h * \text{LBMP}_h$$

Where:

$\text{Net MWHR}_h$  = the amount of Energy injected by the Limited Energy Storage Resource in hour h minus the amount of Energy withdrawn by that Limited Energy Storage Resource in hour h

$\text{LBMP}_h$  = the time-weighted average LBMP in hour h calculated for the location of that Limited Energy Storage Resource

#### **15.3.6.2 Additional Payments/Charges When AGC Base Point Signals Exceed RTD Base Point Signals**

For any interval in which a Generator that is providing Regulation Service receives an AGC Base Point Signal that is higher than its RTD Base Point Signal, it shall receive or pay a Regulation Revenue Adjustment Payment (“RRAP”) or Regulation Revenue Adjustment Charge (“RRAC”) calculated under the terms of this subsection, provided however no RRAP shall be payable and no RRAC shall be charged to a Limited Energy Storage Resource. If the Energy Bid Price of such a Generator is higher than the LBMP at its location in that interval, the Generator shall receive a RRAP. Conversely, for any interval in which such a Generator’s Energy Bid Price is lower than the LBMP at its location at that interval, the Generator shall be assessed a RRAC. RRAPs and RRACs shall be calculated using the following formula:

$$\text{Payment/Charge} = \frac{\max(\text{RTD Base Point Signal}, \min(\text{AGC Base Point Signal}, \text{Actual Output}))}{\text{RTD Base Point Signal}} \int \text{Bid} - \text{LBMP} \, dt * s/3600$$

Where:

s is the number of seconds in the RTD interval;

If the result of the calculation is positive then the Generator shall receive a RRAP. If it is negative then the Generator shall be subject to a RRAC. For purposes of applying this formula, whenever the Generator’s actual Bid exceeds the applicable LBMP the “Bid” term shall be set at a level equal to the lesser of the Generator’s actual Bid or its reference Bid plus \$100/MWh. Demand Side Resources providing Regulation Service shall not be eligible for a RRAP and not liable for an RRAC.

#### **15.3.6.3 Additional Charges/Payments When AGC Base Point Signals Are Lower than RTD Base Point Signals**

For any interval in which a Generator that is providing Regulation Service receives an AGC Base Point Signal that is lower than its RTD Base Point Signal, it shall receive or pay a

RRAP or RRAC calculated under the terms of this subsection. If the Energy Bid Price of such a Generator is higher than the LBMP at its location in that interval, the Generator shall be assessed a RRAC. Conversely, for any interval in which such a Generator's Energy Bid Price is lower than the LBMP at its location in that interval, the Generator shall receive a RRAP. RRAPs and RRACs shall be calculated using the following formula:

$$\text{Payment/Charge} = \int_{\min(\text{RTD Base Point Signal}, \max(\text{AGC Base Point Signal}, \text{Actual Output}))}^{\text{RTD Base Point Signal}} [\text{Bid} - \text{LBMP}] \, \text{ * s/3600}$$

Where:

s is the number of seconds in the RTD interval;

If the result of the calculation is positive then the Generator shall receive a RRAP. If it is negative then the Generator shall be subject to a RRAC. For purposes of this formula, whenever the Generator's actual Bid is lower than the applicable LBMP the "Bid" term shall be set at a level equal to the higher of the Generator's actual Bid or its reference Bid minus \$100/MWh. Demand Side Resources providing Regulation Service shall not be eligible for a RRAP and not liable for an RRAC.

### **15.3.7 Regulation Service Demand Curve**

The ISO shall establish a Regulation Service Demand Curve that will apply to both the Day-Ahead and real-time Regulation Service markets. The market clearing prices for Regulation Service calculated pursuant to Sections 15.3.4.1 and 15.3.5.1 of this Rate Schedule shall take account of the demand curve established in this Section so that Regulation Service is not purchased by SCUC or RTC at a cost higher than the demand curve indicates should be paid in the relevant market.

The ISO shall establish and post a target level of Regulation Service for each hour, which will be the number of MW of Regulation Service that the ISO would seek to maintain in that hour. The ISO will then define a Regulation Service demand curve for that hour as follows:

For quantities of Regulation Service that are less than or equal to the target level of Regulation Service minus 25 MW, the price on the Regulation Service demand curve shall be \$300/MW.

For quantities of Regulation Service that are less than or equal to the target level of Regulation Service but that exceed the target level of Regulation Service minus 25 MW, the price on the Regulation Service demand curve shall be \$250/MW.

For all other quantities, the price on the Regulation Service demand curve shall be \$0/MW. However, the ISO shall not schedule more Regulation Service than the target level for the requirement for that hour.

In order to respond to operational or reliability problems that arise in real-time, the ISO may procure Regulation Service at a quantity and/or price point different than those specified above. The ISO shall post a notice of any such purchase as soon as reasonably possible and shall report on the reasons for such purchases at the next meeting of its Business Issues Committee. The ISO shall also immediately initiate an investigation to determine whether it is necessary to modify the quantity and price points specified above to avoid future operational or reliability problems. The ISO will consult with its Market Monitoring Unit when it conducts this investigation.

If the ISO determines that it is necessary to modify the quantity and/or price points specified above in order to avoid future operational or reliability problems it may temporarily modify them for a period of up to ninety days. If circumstances reasonably allow, the ISO will consult with its Market Monitoring Unit, the Business Issues Committee, the Commission, and



the PSC before implementing any such modification. In all circumstances, the ISO will consult with those entities as soon as reasonably possible after implementing a temporary modification.

Not later than 90 days after the implementation of the Regulation Service Demand Curve the ISO, in consultation with its Advisor, shall conduct an initial review in accordance with the ISO Procedures. The scope of the review shall be upward or downward in order to optimize the economic efficiency of any, or all, the ISO-Administered Markets. The ISO and the Market Advisor shall perform additional quarterly reviews, subject to the same scope requirement, during the remainder of the first year that this Section 15.3.7 is in effect. After the first year, the ISO shall perform periodic reviews, subject to the same scope requirement, and the Market Monitoring Unit shall be given the opportunity to review and comment on the ISO's periodic reviews of the Regulation Service Demand Curve.

The responsibilities of the Market Monitoring Unit that are addressed in the above section of Rate Schedule 3 to the Services Tariff are also addressed in Section 30.4.6.4.1 of Attachment O.

### **15.3.8 Reinstating Performance Charges**

The ISO will monitor, on a real-time hourly or daily basis, as appropriate, its compliance with the standards established by NERC and NPCC and with the standards of Good Utility Practice for Control Performance, area control error, disturbance control standards, reserve pickup performance and system security. Should it appear to the ISO that degradation in performance threatens compliance with one or more of the established standards for these criteria or compromises reliability, and that reinstating the performance charges that were originally part of the ISO's market design, would assist in improving compliance with established standards for these criteria, or would assist in re-establishing reliability, the ISO may require Suppliers of Regulation Service, as well as Suppliers not providing Regulation Service, to pay a performance

charge. Any reinstatement of Regulation penalties pursuant to this Section shall not override previous Commission-approved settlement agreements that exempt a particular unit from such penalties. The ISO shall provide notice of its decision to reinstate performance charges to the Commission, to each Customer and to the Operating Committee and the Business Issues Committee no less than seven days before it re-institutes the performance charges.

If the ISO determines that performance charges are necessary, Suppliers of Regulation Service shall pay a performance charge per interval to the ISO as follows:

$$\text{Performance Charge} = \text{Energy Deviation} \times \text{MCP}_{\text{reg}} \times (\text{Length of Interval}/60 \text{ minutes})$$

Where:

Energy Deviation (in MW) is the absolute difference between the actual Energy supplied by the Supplier and the Energy required by the AGC Base Point Signals, whether positive or negative, averaged over each RTD interval; and

$\text{MCP}_{\text{reg}}$  is the market clearing price (\$/MW) which applies to the RTD interval for this Service in the Real-Time Market or the Day-Ahead Market, if appropriate.

The method used by the ISO to calculate the Energy Deviation will permit Suppliers a certain period of time to respond to AGC Base Point Signals. Initially this time period will be thirty (30) seconds, although the ISO will have the authority to change its length. If the Supplier's output at any point in time is between the largest and the smallest of the AGC Base Points sent to that Supplier within the preceding thirty (30) seconds (or such other time period length as the ISO may define), the Supplier's Energy Deviation at that point in time will be zero. Otherwise, the Supplier may have a positive Energy Deviation. However, in cases in which responding to the AGC Base Point within that time period would require a Supplier to change output at a rate exceeding the amount of Regulation it has been scheduled to provide, the

Supplier will have a zero Energy Deviation if it changes output at the rate equal to the amount of Regulation it is scheduled to provide.

#### **15.3.9 Temporary Suspension of Regulation Service Markets During Reserve Pickups and Maximum Generation**

During any period in which the ISO has activated its RTD-CAM software and called for a “large event” or “small event” reserve or maximum generation pickup, as described in Article 4.4.4.1 of this ISO Services Tariff, the ISO will suspend Generators’ obligation to follow the AGC Base Point Signals sent to Regulation Service providers, freeing them to provide Energy and will suspend the real-time Regulation Service market. The ISO will not procure any Regulation Service and will establish a real-time Regulation Service market clearing price of zero for settlement and balancing purposes. The ISO will resume sending AGC Base Point Signals and restore the real-time Regulation Service market as soon as possible after the end of the reserve or maximum generation pickup.

## **15.4 Rate Schedule 4 - Payments for Supplying Operating Reserves**

This Rate Schedule applies to payments to Suppliers that provide Operating Reserves to the ISO. Transmission Customers will purchase Operating Reserves from the ISO under Rate Schedule 5 of the ISO OATT.

### **15.4.1 General Responsibilities and Requirements**

#### **15.4.1.1 ISO Responsibilities**

The ISO shall procure on behalf of its Customers a sufficient quantity of Operating Reserve products to comply with the Reliability Rules and with other applicable reliability standards. These quantities shall be established under Section 15.4.7 of this Rate Schedule. To the extent that the ISO enters into Operating Reserve sharing agreements with neighboring Control Areas its Operating Reserves requirements shall be adjusted as, and where, appropriate.

The ISO shall define requirements for Spinning Reserve, which may be met only by Suppliers that are eligible, under Section 15.4.1.2 of this Rate Schedule, to provide Spinning Reserve; 10-Minute Reserve, which may be met by Suppliers that are eligible to provide either Spinning Reserve or 10-Minute Non-Synchronized Reserve; and 30-Minute Reserve, which may be met by Suppliers that are eligible to provide any Operating Reserve product. The ISO shall also define locational requirements for Spinning Reserve, 10-Minute Reserve, and 30-Minute Reserve located East of Central-East and on Long Island. In addition to being subject to the preceding limitations on Suppliers that can meet each of these requirements, the requirements for Operating Reserve located East of Central-East may only be met by eligible Suppliers that are located East of Central-East, and requirements for Operating Reserve located on Long Island may only be met by eligible Suppliers located on Long Island. Each of these Operating Reserve requirements shall be defined consistent with the Reliability Rules and other applicable

reliability standards. The ISO shall select Suppliers of Operating Reserves products to meet these requirements, including the locational Operating Reserves requirements, as part of its overall co-optimization process.

The ISO shall select Operating Reserves Suppliers that are properly located electrically so that all locational Operating Reserves requirements determined consistently with the requirements of Section 15.4.7 of this Rate Schedule are satisfied, and so that transmission Constraints resulting from either the commitment or dispatch of Generators do not limit the ISO's ability to deliver Energy to Loads in the case of a Contingency. The ISO will ensure that Suppliers that are compensated for using Capacity to provide one Operating Reserve product are not simultaneously compensated for providing another Operating Reserve product, or Regulation Service, using the same Capacity (consistent with the additive market clearing price calculation formulae in Sections 15.4.5.1 and 15.4.6.1 of this Rate Schedule).

#### **15.4.1.2 Supplier Eligibility Criteria**

The ISO shall enforce the following criteria, which define which types of Suppliers are eligible to supply particular Operating Reserve products.

##### **15.4.1.2.1 Spinning Reserve:**

Suppliers that are ISO Committed Flexible or Self-Committed Flexible, are operating within the dispatchable portion of their operating range, are capable of responding to ISO instructions to change their output level within ten minutes, and that meet the criteria set forth in the ISO Procedures shall be eligible to supply Spinning Reserve (except for Demand Side Resources that are Local Generators).

#### **15.4.1.2.2 10-Minute Non-Synchronized Reserve:**

Off-line Generators that are capable of starting, synchronizing, and increasing their output level within ten (10) minutes and that meet the criteria set forth in the ISO Procedures, and, Demand Side Resources that are capable of reducing their Energy usage within ten (10) minutes and that meet the criteria set forth in the ISO Procedures, shall be eligible, to supply 10-Minute Non-Synchronized Reserve.

#### **15.4.1.2.3 30-Minute Reserve:**

(i) Generators that are ISO-Committed Flexible or Self-Committed Flexible and operating within the dispatchable portion of their operating range and Demand Side Resources, that are not Local Generators, that are capable of reducing their Energy usage within thirty (30) minutes shall be eligible to supply synchronized 30-Minute Reserves; (ii) Off-line Generators that are capable of starting, synchronizing, and increasing their output level within thirty (30) minutes and that meet the criteria set forth in the ISO Procedures, and Demand Side Resources that are capable of reducing their Energy usage within thirty (30) minutes and that meet the criteria set forth in the ISO Procedures, shall be eligible to supply non-synchronized 30-Minute Reserves.

#### **15.4.1.2.4 Self-Committed Fixed and ISO-Committed Fixed Generators:**

Shall not be eligible to provide any kind of Operating Reserve.

#### **15.4.1.3 Other Supplier Requirements**

All Suppliers of Operating Reserve must be located within the NYCA and must be under ISO Operational Control. Each Supplier bidding to supply Operating Reserve or reduce demand

must be able to provide Energy or reduce demand consistent with the Reliability Rules and the ISO Procedures when called upon by the ISO.

All Suppliers that are selected to provide Operating Reserves shall ensure that their Resources maintain and deliver the appropriate quantity of Energy, or reduce the appropriate quantity of demand, when called upon by the ISO during any interval in which they have been selected.

Generators or Demand Side Resources that are selected to provide Operating Reserve in the Day-Ahead Market or any supplemental commitment may not increase their Energy Bids or Demand Reduction Bids for portions of their Resources that have been scheduled through those processes, or reduce their commitments, in real-time except to the extent that they are directed to do so by the ISO. Generators and Demand Side Resources may enter into alternate sales arrangements utilizing any Capacity that has not been scheduled to provide Operating Reserve.

## **15.4.2 General Day-Ahead Market Rules**

### **15.4.2.1 Bidding and Bid Selection**

Resources capable of providing Spinning Reserve, 10-Minute Non-Synchronized Reserve and/or 30-Minute Reserve in the Day-Ahead commitment may submit Availability Bids for each hour of the upcoming day. If a Supplier offers Resources that are capable, based on their indicated commitment status, of providing Operating Reserves but does not submit an Availability Bid, its Day-Ahead Bid will be rejected in its entirety. A Supplier may resubmit a complete Day-Ahead Bid, provided that the new bid is timely.

The ISO may schedule Suppliers that make themselves available to provide Operating Reserves up to the following maximum Operating Reserve levels: (i) for Spinning Reserves, the Resource's emergency response rate multiplied by ten; (ii) for 10-Minute Non-Synchronized

Reserves, or for non-synchronized 30-Minute Reserves, the Resource's UOLN or UOLE, whichever is applicable at the relevant time (the Resource may offer one product or the other depending on the time required for it to start-up and synchronize to the grid; and (iii) for synchronized 30-Minute Reserves, the Resource's emergency response rate multiplied by twenty.

However, the sum of the amount of Energy or Demand Reduction each Resource is scheduled to provide, the amount of Regulation Service it is scheduled to provide, and the amount of each Operating Reserves product it is scheduled to provide shall not exceed its UOLN or UOLE, whichever is applicable.

The ISO shall select Operating Reserve Suppliers for each hour of the upcoming day through a co-optimized Day-Ahead commitment process that minimizes the total bid cost of Energy, Operating Reserves and Regulation Service, using Bids submitted pursuant to Article 4.2 of, and Attachment D to, this ISO Services Tariff. As part of the co-optimization process, the ISO shall determine how much of each Operating Reserves product particular Suppliers will be required to provide in light of the Reliability Rules and other applicable reliability standards, including the locational Operating Reserves requirements specified above.

#### **15.4.2.2 ISO Notice Requirement**

The ISO shall notify each Operating Reserve Supplier that has been selected in the Day-Ahead Market of the amount of each Operating Reserve product that it has been scheduled to provide.

#### **15.4.2.3 Real-Time Market Responsibilities of Suppliers Scheduled to Provide Operating Reserves in the Day-Ahead Market**

Suppliers that are scheduled Day-Ahead to provide Operating Reserves shall either provide Operating Reserve, Energy or Demand Reductions in real-time when scheduled by the



ISO in all hours for which they have been selected to provide Operating Reserve and are physically capable of doing so. However, Suppliers that are scheduled Day-Ahead to provide Operating Reserves and have startup periods of two hours or less may advise the ISO no later than three hours prior to the first hour of their Day-Ahead schedule that they will not be available to provide Operating Reserves or Energy in real-time under normal conditions. Such Suppliers will be required to settle their Day-Ahead schedule at real-time prices pursuant to Section 15.4.6.3 of this Rate Schedule. The only restriction on Suppliers' ability to exercise this option is that all Suppliers with Day-Ahead Operating Reserves schedules must make the scheduled amount of Capacity available to the ISO for dispatch in the RTD if the ISO initiates a Supplemental Resource Evaluation.

### **15.4.3 General Real-Time Market Rules**

#### **15.4.3.1 Bid Selection**

The ISO will automatically select Operating Reserves Suppliers in real-time from eligible Resources, that submit Real-Time Bids pursuant to Section 4.4 of, and Attachment D to, this ISO Services Tariff. Each Supplier will automatically be assigned a real-time Operating Reserves Availability bid of \$0/MW for the quantity of Capacity that it makes available to the ISO in its Real-Time Bid. The ISO may schedule Suppliers that make themselves available to provide Operating Reserves up to the following maximum Operating Reserve levels: (i) for Spinning Reserves, the Resource's emergency response rate multiplied by ten; (ii) for 10-Minute Non-Synchronized Reserves, or for non-synchronized 30-Minute Reserves, the Resource's  $UOL_N$  or  $UOL_E$ , whichever is applicable at the relevant time (the Resource may offer one product or the other depending on the time required for it to start-up and synchronize to the grid); and (iii) for synchronized 30-Minute Reserves, the Resource's emergency response rate multiplied by

twenty. However, the sum of the amount of Energy or Demand Reduction, that each Resource is scheduled to provide, the amount of Regulation Service it is scheduled to provide, and the amount of each Operating Reserves product it is scheduled to provide shall not exceed its  $UOL_N$  or  $UOL_E$ , whichever is applicable.

Suppliers will thus be selected on the basis of their response rates, their applicable upper operating limits, and their Energy Bids (which will reflect their opportunity costs) through a co-optimized real-time commitment process that minimizes the total bid cost of Energy, or Demand Reduction, Regulation Service, and Operating Reserves. As part of the process, the ISO shall determine how much of each Operating Reserves product particular Suppliers will be required to provide in light of the Reliability Rules and other applicable reliability standards, including the locational Operating Reserves requirements specified above.

#### **15.4.3.2 ISO Notice Requirement**

The ISO shall notify each Supplier of Operating Reserve that has been scheduled by RTD of the amount of Operating Reserve that it must provide.

#### **15.4.3.3 Obligation to Make Resources Available to Provide Operating Reserves**

Any Resource that is eligible to supply Operating Reserves and that is made available to ISO for dispatch in Real-Time must also make itself available to provide Operating Reserves.

#### **15.4.3.4 Activation of Operating Reserves**

All Resources that are selected by the ISO to provide Operating Reserves shall respond to the ISO's directions to activate in real-time.

#### **15.4.3.5 Performance Tracking and Supplier Disqualifications**

When a Supplier committed to supply Operating Reserves is activated, the ISO shall measure and track its actual Energy production or its Demand Reduction against its expected performance in real-time. The ISO may disqualify Suppliers that consistently fail to provide Energy or Demand Reduction when called upon to do so in real-time from providing Operating Reserves in the future. If a Resource has been disqualified, the ISO shall require it to pass a re-qualification test before accepting any additional Bids to supply Operating Reserves from it. Disqualification and re-qualification criteria shall be set forth in the ISO Procedures.

### **15.4.4 Operating Reserves Settlements - General Rules**

#### **15.4.4.1 Establishing Locational Reserve Prices**

Except as noted below, the ISO shall calculate separate Day-Ahead Market and Real-Time Market prices for each of the products of three locations: (i) West of Central-East (“West” or “Western”); (ii) East of Central-East excluding Long Island; and (iii) Long Island (“L.I.”). The ISO will thus calculate nine different locational Operating Reserve prices in both the Day-Ahead Market and the Real-Time Market. Day-Ahead locational reserve prices shall be calculated pursuant to Section 15.4.5 of this Rate Schedule. Real-Time locational reserve prices shall be calculated pursuant to Section 15.4.6 of this Rate Schedule.

#### **15.4.4.2 Settlements Involving Suppliers of Operating Reserves Located on Long Island**

Suppliers of Operating Reserves located on Long Island shall receive settlement payments as if they were providing Operating Reserves located in the East. The ISO will

calculate separate locational Long Island Operating Reserves prices but will not post them or use them for settlement purposes.

#### **15.4.4.3 “Cascading” of Operating Reserves**

The ISO will deem Spinning Reserve to be the “highest quality” Operating Reserve, followed by 10-Minute Non-Synchronized Reserve and by 30-Minute Reserve. The ISO shall substitute higher quality Operating Reserves in place of lower quality Operating Reserves, when doing so lowers the total as-bid cost, i.e., when the marginal cost for the higher quality Operating Reserve product is lower than the marginal cost for the lower quality Operating Reserve product, and the substitution of a higher quality for the lower quality product does not cause locational Operating Reserve requirements to be violated. To the extent, however, that reliability standards require the use of higher quality Operating Reserves, substitution cannot be made in the opposite direction.

The market clearing price of higher quality Operating Reserves will not be set at a price below the market clearing price of lower quality Operating Reserves in the same location. Thus, the market clearing price of Spinning Reserves will not be below the price for 10-Minute Non-Synchronized Reserves or 30-Minute Reserves and the market clearing price for 10-Minute Non-Synchronized Reserves will not be below the market clearing price for 30-Minute Reserves.

#### **15.4.5 Operating Reserve Settlements – Day-Ahead Market**

##### **15.4.5.1 Calculation of Day-Ahead Market Clearing Prices**

The ISO shall calculate hourly Day-Ahead Market clearing prices for each Operating Reserve product at each location. Each Day-Ahead Market clearing price shall equal the sum of the relevant Day-Ahead locational Shadow Prices for that product in that hour, subject to the restriction described in Section 15.4.4.3 of this Rate Schedule.

The Day-Ahead Market clearing price for a particular Operating Reserve product in a particular location shall reflect the Shadow Prices associated with all of the ISO-defined Operating Reserve requirements, including locational requirements, that a particular Operating Reserves product from a particular location may be used to satisfy in a given hour. The ISO shall calculate Day-Ahead Market clearing prices using the following formulae:

$$\text{Market clearing price for Western 30-Minute Reserves} = \text{SP1}$$

$$\text{Market clearing price for Western 10-Minute-Non-Synchronized Reserves} = \text{SP1} + \text{SP2}$$

$$\text{Market clearing price for Western Spinning Reserves} = \text{SP1} + \text{SP2} + \text{SP3}$$

$$\text{Market clearing price for Eastern 30-Minute Reserves} = \text{SP1} + \text{SP4}$$

$$\begin{aligned} \text{Market clearing price for Eastern 10-Minute Non-Synchronized Reserves} = & \text{SP1} + \text{SP2} \\ & + \text{SP4} + \\ & \text{SP5} \end{aligned}$$

$$\begin{aligned} \text{Market clearing price for Eastern Spinning Reserves} = & \text{SP1} + \text{SP2} + \text{SP3} + \text{SP4} + \text{SP5} + \\ & \text{SP6} \end{aligned}$$

$$\text{Market clearing price for L.I. 30-Minute Reserves} = \text{SP1} + \text{SP4} + \text{SP7}$$

$$\begin{aligned} \text{Market clearing price for L.I. 10-Minute Non-Synchronized Reserves} = & \text{SP1} + \text{SP2} + \\ & \text{SP4} + \text{SP5} + \\ & \text{SP7} + \text{SP8} \end{aligned}$$

$$\begin{aligned} \text{Market clearing price for L.I. Spinning Reserves} = & \text{SP1} + \text{SP2} + \text{SP3} + \text{SP4} + \text{SP5} + \text{SP6} \\ & + \text{SP7} + \text{SP8} + \text{SP9} \end{aligned}$$

Where:

SP1 = Shadow Price for total 30-Minute Reserve requirement constraint for the hour

SP2 = Shadow Price for total 10-Minute Reserve requirement constraint for the hour

SP3 = Shadow Price for total Spinning Reserve requirement constraint for the hour

SP4 = Shadow Price for Eastern or L.I. 30-Minute Reserve requirement constraint for the hour

SP5 = Shadow Price for Eastern or L.I. 10-Minute Reserve requirement constraint for the hour

SP6 = Shadow Price for Eastern or L.I. Spinning Reserve requirement constraint for the hour

SP7 = Shadow Price for Long Island 30-Minute Reserve requirement constraint for the hour

SP8 = Shadow Price for Long Island 10-Minute Reserve requirement constraint for the hour

SP9 = Shadow Price for Long Island Spinning Reserve requirement constraint for the hour

Day-Ahead locational Shadow Prices will be calculated by SCUC. Each hourly Day-Ahead Shadow Price for each Operating Reserves requirement shall equal the marginal Bid cost of scheduling Resources to provide additional Operating Reserves to meet that requirement in that hour, including any impact on the Bid Production Cost of procuring Energy or Regulation Service that would result from procuring an increment of Operating Reserve to meet the requirement in that hour, as calculated during the fifth SCUC pass described in Section 17.1.2 of Attachment B to this Services Tariff, and Section 16.1.2 of Attachment J to the ISO OATT. As a result, the Shadow Price for each Operating Reserves requirement shall include the Day-Ahead Availability Bid of the marginal Resource selected to meet that requirement (or the applicable price on the Operating Reserve Demand Curve for that requirement during shortage conditions), plus any margins on the sale of Energy or Regulation Service in the Day-Ahead Market that that Resource would forego if scheduling it to provide additional Operating Reserve to meet that requirement would lead to it being scheduled to provide less Energy or Regulation Service. Shadow Prices will also be consistent with the Operating Reserve Demand Curves described in Section 15.4.7 of this Rate Schedule, which will ensure that Operating Reserves are not scheduled by SCUC at a cost greater than the relevant Operating Reserve Demand Curve indicates should be paid. If more Operating Reserve of a particular quality than is needed is

scheduled to meet a particular locational Operating Reserve requirement, the Shadow Price for that Operating Reserve requirement constraint shall be set at zero.

Each Supplier that is scheduled Day-Ahead to provide Operating Reserve shall be paid the applicable Day-Ahead Market clearing price, based on its location and the quality of Operating Reserve scheduled, multiplied by the amount of Operating Reserve that the Supplier is scheduled to provide in each hour.

#### **15.4.5.2 Other Day-Ahead Payments**

A Supplier that bids on behalf of (i) a Generator that provides Operating Reserves or (ii) a Demand Side Resource that provides Operating Reserves may be eligible for a Day-Ahead Bid Production Cost guarantee payment pursuant to Section 4.6.6 and Attachment C of this ISO Services Tariff.

### **15.4.6 Operating Reserve Settlements – Real-Time Market**

#### **15.4.6.1 Calculation of Real-Time Market Clearing Prices**

The ISO shall calculate Real-Time Market clearing prices for each Operating Reserve product for each location in every interval. Except when the circumstances described below in Section 15.4.6.2 apply, each real-time market-clearing price shall equal the sum of the relevant real-time locational Shadow Prices for a given product, subject to the restriction described in Section 15.4.4.3 of this Rate Schedule.

The Real-Time Market clearing price for a particular Operating Reserve product for a particular location shall reflect the Shadow Prices associated with all of the ISO-defined Operating Reserve requirements, including locational requirements, that a particular Operating Reserves product from that location may be used to satisfy in a given interval. The ISO shall calculate the Real-Time Market clearing prices using the following formulae:

Market clearing price for Western 30-Minute Reserves = SP1

Market clearing price for Western 10-Minute-Non-Synchronized Reserves = SP1 + SP2

Market clearing price for Western Spinning Reserves = SP1 + SP2 + SP3

Market clearing price for Eastern 30-Minute Reserves = SP1 + SP4

Market clearing price for Eastern 10-Minute Non-Synchronized Reserves = SP1 + SP2  
+ SP4 +  
SP5

Market clearing price for Eastern Spinning Reserves = SP1 + SP2 + SP3 + SP4 + SP5 +  
SP6

Market clearing price for L.I. 30-Minute Reserves = SP1 + SP4 + SP7

Market clearing price for L.I. 10-Minute Non-Synchronized Reserves = SP1 + SP2 +  
SP4 + SP5 +  
SP7 + SP8

Market clearing price for L.I. Spinning Reserves = SP1 + SP2 + SP3 + SP4 + SP5 + SP6  
+ SP7 + SP8 + SP9

Where:

SP1 = Shadow Price for total 30-Minute Reserve requirement constraint for the  
interval

SP2 = Shadow Price for total 10-Minute Reserve requirement constraint for the  
interval

SP3 = Shadow Price for total Spinning Reserve requirement constraint for the interval

SP4 = Shadow Price for Eastern or L.I. 30-Minute Reserve requirement constraint for  
the interval

SP5 = Shadow Price for Eastern or L.I. 10-Minute Reserve requirement constraint for  
the interval

SP6 = Shadow Price for Eastern or L.I. Spinning Reserve requirement constraint for  
the interval

SP7 = Shadow Price for Long Island 30-Minute Reserve requirement constraint for the  
interval

SP8 = Shadow Price for Long Island 10-Minute Reserve requirement constraint for the  
interval



SP9 = Shadow Price for Long Island Spinning Reserve requirement constraint for the interval

Real-time locational Shadow Prices will be calculated by the ISO's RTD. Each Real-Time Shadow Price for each Operating Reserves requirement in each RTD interval shall equal the marginal Bid cost of scheduling Resources to provide additional Operating Reserves to meet that requirement in that interval, including any impact on the Bid Production Cost of procuring Energy or Regulation Service that would result from procuring an increment of Operating Reserve to meet the requirement in that interval, as calculated during the third RTD pass described in Section 17.1.1.1.2.3 of Attachment B to this ISO Services Tariff, and Section 16.1.1.1.2.3 of Attachment J to the ISO OATT. As a result, the Shadow Price for each Operating Reserves requirement shall include the Real-Time Availability Bid of the marginal Resource selected to meet that requirement (or the applicable price on the Operating Reserve Demand Curve for that requirement during shortage conditions), plus any margins on the sale of Energy or Regulation Service in the Real-Time Market that that Resource would forego if scheduling it to provide additional Operating Reserve to meet that requirement would lead to it being scheduled to provide less Energy or Regulation Service. Shadow Prices will also be consistent with the Operating Reserve Demand Curves described in Section 15.4.7 of this Rate Schedule, which will ensure that Operating Reserves are not scheduled by RTC at a cost greater than the relevant Operating Reserve Demand Curve indicates should be paid. If there is more Operating Reserve of the required quality than is needed to meet a particular locational Operating Reserve requirement then the Shadow Price for that Operating Reserve requirement constraint shall be zero.

Each Supplier that is scheduled in real-time to provide Operating Reserve shall be paid the applicable Real-Time Market clearing price, based on its location and the quality of

Operating Reserve scheduled, multiplied by the amount of Operating Reserve that the Supplier is scheduled to provide in each interval that was not scheduled Day-Ahead.

#### **15.4.6.2 Calculation of Real-Time Market Clearing Prices for Operating Reserves During EDRP/SCR Activations**

##### **15.4.6.2.1 During Intervals When Scarcity Pricing Rule “A” Applies**

During any interval in which the ISO is using scarcity pricing rule “A” to calculate LBMPs under Section 17.1.1.2 of Attachment B to this ISO Services Tariff, and Section 16.1.1.2 of Attachment J to the ISO OATT, the real-time market clearing prices for some Operating Reserves products may be recalculated by in light of the Lost Opportunity Costs of Resources that are scheduled to provide Spinning Reserves and synchronized 30-Minute Reserves in the manner described below. The ISO shall also consider the Lost Opportunity Costs of Resources providing lower quality Operating Reserves to ensure that the requirements of Section 15.4.4.3 of this Rate Schedule are not violated. Specifically:

The Eastern Spinning Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of Spinning Reserve or synchronized 30-Minute Reserve that is scheduled by RTD and is not located on Long Island; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Eastern 10-Minute Non-Synchronized Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of synchronized 30-Minute Reserve that is scheduled by RTD and is not located on Long Island; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Eastern 30-Minute Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of synchronized 30-Minute Reserve that is

scheduled by RTD and is not located on Long Island; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Western Spinning Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of Western Spinning Reserve or Western synchronized 30- Minute Reserves that is scheduled by RTD; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Western 10-Minute Non-Synchronized Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of Western synchronized 30 Minute-Reserve that is scheduled by RTD; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Western 30-Minute Reserve market clearing price shall be the higher of: i) the highest Lost Opportunity Cost of any provider of Western synchronized 30-Minute Reserve that is scheduled by RTD; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

#### **15.4.6.2.2 During Intervals When Scarcity Pricing Rule “B” Applies**

During any interval in which the ISO is using scarcity pricing rule “B” to calculate LBMPs under Section 17.1.1.3 of Attachment B to this ISO Services Tariff, and Section 16.1.1.3 of Attachment J to the ISO OATT, the real-time market clearing prices for some Operating Reserves products may be recalculated in light of the Lost Opportunity Costs of Resources scheduled to provide Spinning Reserve and synchronized 30-Minute Reserve in order to satisfy Eastern Operating Reserve requirements in the manner described below. The ISO shall also consider the Lost Opportunity Costs of Resources providing lower quality Operating Reserves to

ensure that the requirements of Section 15.4.4.3 of this Rate Schedule are not violated.

Specifically:

The Eastern Spinning Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of Eastern Spinning Reserve or Eastern synchronized 30-Minute Reserve that is scheduled by RTD and is not located on Long Island; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Eastern 10-Minute Non-Synchronized Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of Eastern synchronized 30-Minute Reserve that is scheduled by RTD and is not located on Long Island; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

The Eastern 30-Minute Reserve market clearing price shall be the higher of: (i) the highest Lost Opportunity Cost of any provider of Eastern synchronized 30-Minute Reserve that is scheduled by RTD and is not located on Long Island; and (ii) the original market clearing price calculated under Section 15.4.6.1 above.

Real-Time Market clearing prices for Western Reserve shall not be affected under scarcity pricing rule “B”.

#### **15.4.6.3 Operating Reserve Balancing Payments**

Any deviation in performance from a Supplier’s Day-Ahead schedule to provide Operating Reserves, including deviations that result from schedule modifications made by the ISO, shall be settled pursuant to the following rules.

- (a) When the Supplier’s real-time Operating Reserves schedule is less than its Day-Ahead Operating Reserves schedule, the Supplier shall pay a charge for the imbalance equal to the product of: (i) the Real-Time Market clearing price for the

relevant Operating Reserves Product in the relevant location; and (ii) the difference between the Supplier's Day-Ahead and real-time Operating Reserves schedules.

- (b) When the Supplier's real-time Operating Reserves schedule is greater than its Day-Ahead Operating Reserves schedule, the ISO shall pay the Supplier an amount to compensate it for the imbalance equal to the product of: (i) the Real-Time Market clearing price for the relevant Operating Reserve product in the relevant location; and (ii) the difference between the Supplier's Day-Ahead and real-time Operating Reserves schedules.

#### **15.4.6.4 Other Real-Time Payments**

The ISO shall pay Generators that are selected to provide Operating Reserves Day-Ahead, but are directed to convert to Energy production in real-time, the applicable Real-Time LBMP for all Energy they are directed to produce in excess of their Day-Ahead Energy schedule.

A Supplier that bids on behalf of (i) a Generator that provides Operating Reserves or (ii) a Demand Side Resource that provides Operating Reserves may be eligible for a Bid Production Cost guarantee payment pursuant to Section 4.6.6 and Attachment C of this ISO Services Tariff.

A Supplier that provides Operating Reserves may also be eligible for a Day-Ahead Margin Assurance Payment pursuant to Section 4.6.5 and Attachment J of this ISO Services Tariff.

#### **15.4.7 Operating Reserve Demand Curves**

The ISO shall establish nine Operating Reserve Demand Curves, one for each Operating Reserves requirement. Specifically, there shall be a demand curve for: (i) Total Spinning Reserves; (ii) Eastern or Long Island Spinning Reserves; (iii) Long Island Spinning Reserves;

(iv) Total 10-Minute Non-Synchronized Reserves; (v) Eastern or Long Island 10-Minute Non-Synchronized Reserves; (vi) Long Island 10-Minute Non-Synchronized Reserves; (vii) Total 30-Minute Reserves; (viii) Eastern or Long Island 30-Minute Reserves; and (ix) Long Island 30-Minute Reserves. Each Operating Reserve Demand Curve will apply to both the Day-Ahead Market and the Real-Time Market for the relevant product and location.

The market clearing pricing for Operating Reserves shall be calculated pursuant to Sections 15.4.5.1 and 15.4.6.1 of this Rate Schedule and in a manner consistent with the demand curves established in this Section so that Operating Reserves are not purchased by SCUC or RTC at a cost higher than the relevant demand curve indicates should be paid.

The ISO Procedures shall establish and post a target level for each Operating Reserves requirement for each hour, which will be the number of MW of Operating Reserves meeting that requirement that the ISO would seek to maintain in that hour. The ISO will then define an Operating Reserves demand curve for that hour corresponding to each Operating Reserves requirement as follows:

- (a) Total Spinning Reserves: For quantities of Operating Reserves meeting the total Spinning Reserves requirement that are less than or equal to the target level for that requirement, the price on the total Spinning Reserves demand curve shall be \$500/MW. For all other quantities, the price on the total Spinning Reserves demand curve shall be \$0/MW.
- (b) Eastern or Long Island Spinning Reserves: For quantities of Operating Reserves meeting the Eastern or Long Island Spinning Reserves requirement that are less than or equal to the target level for that requirement, the price on the Eastern or Long Island Spinning Reserves demand curve shall be \$25/MW. For all other

quantities, the price on the Eastern or Long Island Spinning Reserves demand curve shall be \$0/MW.

- (c) Long Island Spinning Reserves. For quantities of Operating Reserves meeting the Long Island Spinning Reserves requirement that are less than or equal to the target level for that requirement, the price on the Long Island Spinning Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Long Island Spinning Reserves demand curve shall be \$0/MW.
- (d) Total 10-Minute Reserves. For quantities of Operating Reserves meeting the total 10-minute reserves requirement that are less than or equal to the target level for that requirement, the price on the total 10-minute reserves demand curve shall be \$150/MW. For all other quantities, the price on the total 10-minute reserves demand curve shall be \$0/MW.
- (e) Eastern or Long Island 10-Minute Reserves. For quantities of Operating Reserves meeting the Eastern or Long Island 10-minute reserves requirement that are less than or equal to the target level for that requirement, the price on the Eastern or Long Island 10-minute reserves demand curve shall be \$500/MW. For all other quantities, the price on the Eastern or Long Island 10-Minute Reserves demand curve shall be \$0/MW.
- (f) Long Island 10-Minute Reserves. For quantities of Operating Reserves meeting the Long Island 10-minute reserves requirement that are less than or equal to the target level for that requirement, the price on the Long Island 10-minute reserves demand curve shall be \$25/MW. For all other quantities, the price on the Long Island 10-minute reserves demand curve shall be \$0/MW.

- (g) Total 30-Minute Reserves. For quantities of Operating Reserves meeting the total 30-Minute Reserves requirement that are less than or equal to the target level for that requirement minus 400 MW, the price on the total 30-Minute Reserves demand curve shall be \$200/MW. For quantities of Operating Reserves meeting the total 30-Minute Reserves requirement that are less than or equal to the target level for that requirement minus 200 MW but that exceed the target level for that requirement minus 400 MW, the price on the total 30-Minute Reserves demand curve shall be \$100/MW. For quantities of Operating Reserves meeting the total 30-Minute Reserves requirement that are less than or equal to the target level for that requirement but that exceed the target level for that requirement minus 200 MW, the price on the total 30-Minute Reserves demand curve shall be \$50/MW. For all other quantities, the price on the total 30-Minute Reserves demand curve shall be \$0/MW. However, the ISO will not schedule more total 30-Minute Reserves than the level defined by the requirement for that hour.
- (h) Eastern or Long Island 30-Minute Reserves. For quantities of Operating Reserves meeting the Eastern or Long Island 30-Minute Reserves requirement that are less than or equal to the target level for that requirement, the price on the Eastern or Long Island 30-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Eastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.
- (i) Long Island 30-Minute Reserves. For quantities of Operating Reserves meeting the Long Island 30-Minute Reserves requirement that are less than or equal to the target level for that requirement, the price on the Long Island 30-Minute Reserves



demand curve shall be \$300/MW. For all other quantities, the price on the Long Island 30-Minute Reserves demand curve shall be \$0/MW.

In order to respond to operational or reliability problems that arise in real-time, the ISO may procure any Operating Reserve product at a quantity and/or price point different than those specified above. The ISO shall post a notice of any such purchase as soon as reasonably possible and shall report on the reasons for such purchases at the next meeting of its Business Issues Committee. The ISO shall also immediately initiate an investigation to determine whether it is necessary to modify the quantity and price points specified above to avoid future operational or reliability problems. The ISO will consult with its Market Monitoring Unit when it conducts this investigation.

If the ISO determines that it is necessary to modify the quantity and/or price points specified above in order to avoid future operational or reliability problems it may temporarily modify them for a period of up to ninety days. If circumstances reasonably allow, the ISO will consult with its Market Monitoring Unit, the Business Issues Committee, the Commission, and the PSC before implementing any such modification. In all circumstances, the ISO will consult with those entities as soon as reasonably possible after implementing a temporary modification.

Not later than 90 days after the implementation of the Operating Reserves Demand Curves the ISO, in consultation with its Market Advisor, shall conduct an initial review of them in accordance with the ISO Procedures. The scope of the review shall include, but not be limited to, an analysis of whether any Operating Reserve Demand Curve should be adjusted upward or downward in order to optimize the economic efficiency of any, or all, of the ISO Administered Markets. The ISO and the Market Advisor shall perform additional quarterly reviews, subject to the same scope requirement, during the remainder of the first year that this Section 15.4.7 is in

effect. After the first year, the ISO shall perform periodic reviews, subject to the same scope requirement, and the Market Monitoring Unit shall be given the opportunity to review and comment on the ISO's periodic reviews of the Operating Reserve Demand Curves.

The responsibilities of the Market Monitoring Unit that are addressed in the above section of Rate Schedule 4 to the Services Tariff are also addressed in Section 30.4.6.4.2 of Attachment O.

#### **15.4.8 Self-Supply**

Transactions may be entered into to provide for Self-Supply of Operating Reserves. Except as noted in the next paragraph, Customers seeking to Self-Supply Operating Reserves must place the Generator(s) supplying any one of the Operating Reserves under ISO control. The Generator(s) must meet ISO rules for acceptability. The amount that any such Customer will be charged for Operating Reserves will be reduced by the market value of the services provided by the specified Generator(s) as determined in the ISO Services Tariff.

Alternatively, Customers, including LSEs, may enter into Day-Ahead Bilateral financial Transactions, *e.g.*, contracts-for-differences, in order to hedge against price volatility in the Operating Reserves markets.

**18      Attachment C -Formulas For Determining Bid Production Cost Guarantee  
Payments**

## **18.1 Introduction**

Ten Bid Production Cost Guarantee (BPCG) payments for eligible Suppliers are described in this attachment: (i) a Day-Ahead BPCG for Generators; (ii) a Day-Ahead BPCG for Imports; (iii) areal-time BPCG for Generators in RTD intervals other than Supplemental Event Intervals ; (iv) a BPCG for Generators for Supplemental Event Intervals; (v) a real-time BPCG for Imports; (vi) a BPCG for long start-up time Generators (i.e., Generators that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) whose start is aborted by the ISO prior to their dispatch; (vii) a BPCG for Demand Reduction in the Day-Ahead Market; (viii) a Special Care Resources BPCG; (ix) a BPCG for Demand Side Resources providing synchronized Operating Reserves in the Day-Ahead Market; and (x) a BPCG for Demand Side Resources providing synchronized Operating Reserves in the Real-Time Market. Suppliers shall be eligible for these payments in accordance with the eligibility requirements and formulas established in this Attachment C.

The Bid Production Cost guarantee payments described in this Attachment C are each calculated and paid independently from each other. A Customer's eligibility to receive one type of Bid Production Cost guarantee payment shall have no impact on the Customer's eligibility to be considered to receive another type of Bid Production Cost guarantee payment, in accordance with the rule set forth in this Attachment C.

## **18.2 Day-Ahead BPCG For Generators**

### **18.2.1 Eligibility to Receive a Day-Ahead BPCG for Generators**

#### **18.2.1.1 Eligibility.**

A Supplier that bids on behalf of an ISO-Committed Fixed Generator or an ISO Committed Flexible Generator that is committed by the ISO in the Day-Ahead Market shall be eligible to receive a Day-Ahead Bid Production Cost guarantee payment.

#### **18.2.1.2 Non-Eligibility (includes both partial and complete exclusions).**

Notwithstanding Section 18.2.1.1:

18.2.1.2.1 a Supplier that bids on behalf of a Limited Energy Storage Resource shall not be eligible to receive a Day-Ahead Bid Production Cost guarantee payment; and

18.2.1.2.2 A Supplier that bids on behalf of an ISO-Committed Fixed Generator or an ISO-Committed Flexible Generator that is committed by the ISO in the Day-Ahead Market shall not be eligible to receive a Day-Ahead Bid Production Cost guarantee payment if that Generator has been committed in the Day-Ahead Market for any other hour of the day as a result of a Self-Committed Fixed or Self-Committed Flexible bid.

### **18.2.2 Formulas for Determining Day-Ahead BPCG for Generators**

#### **18.2.2.1 Applicable Formula. A Supplier's BPCG for a Generator "g" shall be as follows:**

Day-Ahead Bid Production Cost Guarantee for Generator g =

$$\max \left[ \sum_{h=1}^N \left( \begin{aligned} &EH_{gh}^{DA} \\ &\int C_{gh}^{DA} + MGC_{gh}^{DA} MGH_{gh}^{DA} + SUC_{gh}^{DA} NSUH_{gh}^{DA} \\ &MGH_{gh}^{DA} \\ &- LBMP_{gh}^{DA} EH_{gh}^{DA} - NASR_{gh}^{DA} \end{aligned} \right), 0 \right]$$

**18.2.2.2 Variable Definitions. The terms used in this Section 18.2.2 shall be defined as follows:**

- N = number of hours in the Day-Ahead Market day;
- $EH_{gh}^{DA}$  = Energy scheduled Day-Ahead to be produced by Generator g in hour h expressed in terms of MWh;
- $MGH_{gh}^{DA}$  = Energy scheduled Day-Ahead to be produced by the minimum generation segment of Generator g in hour h expressed in terms of MWh;
- $C_{gh}^{DA}$  = Bid cost submitted by Generator g, or when applicable the mitigated Bid cost curve for Generator g, in the Day-Ahead Market for hour h expressed in terms of \$/MWh;
- $MGC_{gh}^{DA}$  = Minimum Generation Bid by Generator g, or when applicable the mitigated Minimum Generation Bid for Generator g, for hour h in the Day-Ahead Market, expressed in terms of \$/MWh.

If Generator g was committed in the Day-Ahead Market, or in the Real-Time Market via Supplemental Resource Evaluation (“SRE”), on the day prior to the Dispatch Day and Generator g has not yet completed the minimum run time reflected in the accepted Bid for the hour in which it was scheduled to start on the day before the Dispatch Day (as mitigated, where appropriate), then Generator g shall have its minimum generation cost set equal to the revenues received for energy produced at its minimum operating level for purposes of calculating a Day-Ahead Bid Production Cost guarantee until Generator g completes the minimum run time reflected in the accepted Bid for the hour in which it was scheduled to start on the day before the Dispatch Day;

- $SUC_{gh}^{DA}$  = Start-Up Bid by Generator g in hour h, or when applicable the mitigated Start-Up Bid for Generator g, in hour h into the Day-Ahead Market expressed in terms of \$/start; *provided, however*, that the Start-Up Bid for Generator g in hour h or, when applicable, the mitigated Start-Up Bid, for

Generator  $g$  in hour  $h$ , may be subject to *pro rata* reduction in accordance with the rules set forth in Section 18.12 of this Attachment C. Bases for *pro rata* reduction include, but are not limited to, failure to be scheduled, and to operate in real-time to produce, in each hour, the MWh specified in the accepted Minimum Generation Bid that was submitted for the first hour of Generator  $g$ 's Day-Ahead or SRE schedule, and failure to operate for the minimum run time specified in the Bid submitted for the first hour of Generator  $g$ 's Day-Ahead or SRE schedule.

If Generator  $g$  was committed in the Day-Ahead Market, or in the Real-Time Market via SRE, on the day prior to the Dispatch Day, *and* Generator  $g$  has not yet completed the minimum run time reflected in the accepted Bid for the hour in which it was scheduled to start on the day before the Dispatch Day (as mitigated, where appropriate) plus the contiguous hour that follows the conclusion of such minimum run time, *then* Generator  $g$  shall have its Start-Up Bid set to zero for purposes of calculating a Day-Ahead Bid Production Cost guarantee.

For a long start-up time Generator (*i.e.*, a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) that is committed by the ISO and runs in real-time, the Start-Up Bid for Generator  $g$  in hour  $h$  shall be the Generator's Start-Up Bid, or when applicable the mitigated Start-Up Bid for Generator  $g$ , for the hour (as determined at the point in time in which the ISO provided notice of the request for start-up):

$NSUH_{gh}^{DA}$	=	number of times Generator $g$ is scheduled Day-Ahead to start up in hour $h$ ;
$LBMP_{gh}^{DA}$	=	Day-Ahead LBMP at Generator $g$ 's bus in hour $h$ expressed in \$/MWh;
$NASR_{gh}^{DA}$	=	Net Ancillary Services revenue, expressed in terms of \$, paid to Generator $g$ as a result of having been committed to produce Energy for the LBMP Market and/or Ancillary Services Day-Ahead in hour $h$ is computed by summing the following: (1) Voltage Support Service payments received by that Generator for that hour, if it is not a Supplier of Installed Capacity and has been scheduled to operate in that hour; (2) Regulation Service payments made to that Generator for all Regulation Service it is scheduled Day-Ahead to provide in that hour, less that Generator's Day-Ahead Bid to provide that amount of Regulation Service in that hour (unless the Bid exceeds the payments that Generator receives for providing Regulation Service that was committed to produce Energy for the LBMP Market and/or Ancillary Services Day-Ahead, in which case this component shall be zero); and (3) payments made to that Generator for providing Spinning Reserve and synchronized 30-Minute Reserve in that hour if it is committed Day-Ahead to provide such reserves in that hour, less that

Generator's Day-Ahead Bid to provide Spinning Reserve and  
synchronized 30-Minute Reserve in that hour.



### **18.3 Day-Ahead BPCG For Imports**

#### **18.3.1 Eligibility to Receive a Day-Ahead BPCG for Imports**

A Supplier that bids an Import sale to the LBMP Market that is committed by the ISO in the Day-Ahead Market shall be eligible to receive a Day-Ahead Bid Production Cost guarantee payment.

#### **18.3.2 BPCG Calculated by Transaction ID**

For purposes of calculating a Day-Ahead Bid Production Cost guarantee payment for an Import under this Section 18.3, the ISO shall treat the Import as being from a single Resource for all hours of the Day-Ahead Market day in which the same Transaction ID is used, and the ISO shall treat the Import as being from a different Resource for all hours of the Day-Ahead Market day in which a different Transaction ID is used.

#### **18.3.3 Formula for Determining Day-Ahead BPCG for Imports**

Day-Ahead Bid Production Cost guarantee for Import t by Supplier =

$$\max \left[ \sum_{h=1}^N \left( \text{DecBid}_{th}^{\text{DA}} - \text{LBMP}_{th}^{\text{DA}} \right) \bullet \text{SchImport}_{th}^{\text{DA}}, 0 \right]$$

Where;

N = number of hours in the Day-Ahead Market day;

$\text{DecBid}_{th}^{\text{DA}}$  = Decremental Bid, in \$/MWh, supplied for Import t for hour h;

$\text{LBMP}_{th}^{\text{DA}}$  = Day-Ahead LBMP, in \$/MWh, for hour h at the Proxy Generator Bus that is the source of the Import t and

$\text{SchImport}_{th}^{\text{DA}}$  = total Day-Ahead schedule, in MWh, for Import t in hour h.

## **18.4 Real-Time BPCG For Generators In RTD Intervals Other Than Supplemental Event Intervals**

### **18.4.1 Eligibility for Receiving Real-Time BPCG for Generators in RTD Intervals Other Than Supplemental Event Intervals**

#### **18.4.1.1 Eligibility.**

A Supplier shall be eligible to receive a real-time Bid Production Cost guarantee payment for intervals (excluding Supplemental Event Intervals) if it bids on behalf of:

18.4.1.1.1 an ISO-Committed Flexible Generator or an ISO-Committed Fixed

Generator that is committed by the ISO in the Real-Time Market; or

18.4.1.1.2 a Self-Committed Flexible Generator if the Generator's minimum

generation MW level does not exceed its Day-Ahead schedule at any point during the Dispatch Day; or

18.4.1.1.3 a Generator committed via SRE, or committed or dispatched by the ISO as

Out-of-Merit generation to ensure NYCA or local system reliability for the hours

of the day that it is committed via SRE or is committed or dispatched by the ISO

as Out-of-Merit generation to meet NYCA or local system reliability without

regard to the Bid mode(s) employed during the Dispatch Day, except as provided

in Sections 18.4.2 and 18.12, below.

#### **18.4.1.2 Non-Eligibility (includes both partial and complete exclusions).**

Notwithstanding Section 18.4.1.1:

18.4.1.2.1 a Supplier that bids on behalf of a Limited Energy Storage Resource shall

not be eligible to receive a real-time Bid Production Cost guarantee payment;

18.4.1.2.2 a Supplier that bids on behalf of an ISO-Committed Fixed Generator or an

ISO-Committed Flexible Generator that is committed by the ISO in the real-time

market shall not be eligible to receive a real-time Bid Production Cost guarantee payment if that Generator has been committed in real-time, in any other hour of the day, as the result of a Self-Committed Fixed bid, or a Self-Committed Flexible bid with a minimum operating level that exceeds its Day-Ahead schedule, *provided however*, a Generator that has been committed in real time as a result of a Self-Committed Fixed bid, or a Self-Committed Flexible bid with a minimum operating level that exceeds its Day-Ahead schedule will not be precluded from receiving a real-time Bid Production Cost guarantee payment for other hours of the Dispatch Day, in which it is otherwise eligible, due to these Self-Committed mode Bids if such bid mode was used for: (i) an ISO authorized Start-Up, Shutdown or Testing Period, or (ii) for hours in which such Generator was committed via SRE or committed or dispatched by the ISO as Out-of-Merit to meet NYCA or local system reliability.

#### 18.4.2 Formula for Determining Real-Time BPCG for Generators in RTD Intervals Other Than Supplemental Event Intervals

Real-Time Bid Production Cost Guarantee for Generator g =

$$\max \left[ \sum_{i \in M} \left[ \left( \frac{\max \{I_{gi}^{RT}, MGI_{gi}^{RT}\}}{\max \{I_{gi}^{DA}, MGI_{gi}^{RT}\}} \cdot \int_{C_{gi}^{RT}}^{RT} + MGC_{gi}^{RT} \cdot (MGI_{gi}^{RT} - MGI_{gi}^{DA}) - LBMP_{gi}^{RT} \cdot (EI_{gi}^{RT} - EI_{gi}^{DA})}{3600} \right) \cdot \frac{S_i}{3600} \right], 0 \right].$$

$$+ \sum_{j \in L} SUC_{gj}^{RT} \cdot (NSUI_{gj}^{RT} - NSUI_{gj}^{DA})$$

where:

$s_i$  = number of seconds in RTD interval  $i$ ;

$C_{gi}^{RT}$  = Bid cost submitted by Generator  $g$ , or when applicable the mitigated Bid cost for Generator  $g$ , in the RTD for the hour that includes RTD interval  $i$  expressed in terms of \$/MWh, except in intervals in which the dispatch of the Generator is constrained by its downward ramp rate for that interval, unless that Generator was scheduled to provide Regulation Service in that interval and its RTD basepoint was less than its AGC basepoint, and except in hours in which the NYISO has increased Generator  $g$ 's minimum operating level, either (i) at the Generator's request, or (ii) in order to reconcile the ISO's dispatch with the Generator's actual output or to address reliability concerns that arise because the Generator is not following Base Point Signals, in which case  $C_{gi}^{RT}$  shall be deemed to be zero;

$MGI_{gi}^{RT}$  = metered Energy produced by minimum generation segment of Generator  $g$  in RTD interval  $i$  expressed in terms of MW;

$MGI_{gi}^{DA}$  = Energy scheduled Day-Ahead to be produced by minimum generation segment of Generator  $g$  in RTD interval  $i$  expressed in terms of MW;

$MGC_{gi}^{RT}$  = Minimum Generation Bid by Generator  $g$ , or when applicable the mitigated Minimum Generation Bid for Generator  $g$ , in the Real-Time Market for the hour that includes RTD interval  $i$ , expressed in terms of \$/MWh.

If Generator  $g$  was committed in the Day-Ahead Market, or in the Real-Time Market via Supplemental Resource Evaluation ("SRE"), on the day prior to the Dispatch Day *and* Generator  $g$  has not yet completed the minimum run time reflected in the accepted Bid for the hour in which it was scheduled to start on the day before the Dispatch Day (as mitigated, where appropriate), *then* Generator  $g$  shall have its minimum generation cost set equal to the revenues received for energy produced at its minimum operating level for purposes of calculating a Real-Time Bid Production Cost guarantee until Generator  $g$  completes the minimum run time reflected in the accepted Bid for the hour in which it was scheduled to start on the day before the Dispatch Day;

$SUC_{gj}^{RT}$  = Start-Up Bid by Generator  $g$ , or when applicable the mitigated Start-Up Bid for Generator  $g$ , for hour  $j$  into RTD expressed in terms of \$/start;

provided, however,

(i) the Start-Up Bid shall be deemed to be zero for (1) Self-Committed Fixed and Self-Committed Flexible Generators, (2) Generators that are economically committed by RTC or RTD that have 10-minute start-up times that are not synchronized and producing Energy within 20 minutes

after their scheduled start time, and (3) Generators that are economically committed by RTC that have greater than 10-minute start-up times that are not synchronized and producing Energy within 45 minutes after their scheduled start time;

(ii) if a Generator has been committed via SRE and its SRE schedule immediately precedes or follows a real-time commitment that did not result from a Day-Ahead commitment, the Generator's Start-Up Bid included in its daily real-time Bid Production Cost guarantee calculation for this contiguous real-time commitment period shall be the Start-Up Bid submitted in response to the SRE request (subject to mitigation, where appropriate);

(iii) if a Generator has been committed via SRE and its SRE schedule immediately precedes or follows a real-time schedule that resulted from a Day-Ahead commitment, then the Generator's Start-Up Bid included in its daily real-time Bid Production Cost guarantee calculation for this contiguous real-time commitment period shall be set to zero;

(iv) the real-time Start-Up Bid for Generator  $g$  for hour  $j$  or, when applicable, the mitigated real-time Start-Up Bid, for Generator  $g$  for hour  $j$ , may be subject to *pro rata* reduction in accordance with the rules set forth in Section 18.12 of this Attachment C. Bases for *pro rata* reduction include, but are not limited to, failure to be scheduled and operate in real-time to produce, in each hour, the MWh specified in the accepted Minimum Generation Bid that was submitted for the first hour of Generator  $g$ 's Day-Ahead or SRE schedule, and failure to operate for the minimum run time specified in the Bid submitted for the first hour of Generator  $g$ 's Day-Ahead or SRE schedule; and

(v) if Generator  $g$  was committed in the Day-Ahead Market, or in the Real-Time Market via SRE, on the day prior to the Dispatch Day, *and* Generator  $g$  has not yet completed the minimum run time reflected in the accepted Bid for the hour in which it was scheduled to start on the day before the Dispatch Day (as mitigated, where appropriate) plus the contiguous hour that follows the conclusion of such minimum run time, *then* Generator  $g$  shall have its Start-Up Bid set to zero for purposes of calculating a Real-Time Bid Production Cost guarantee.

$NSUI_{gj}^{RT}$  = number of times Generator  $g$  started up in hour  $j$ ;

$NSUI_{gj}^{DA}$  = number of times Generator  $g$  is scheduled Day-Ahead to start up in the hour that includes RTD interval  $j$ ;

$LBMP_{gi}^{RT}$  = Real-Time LBMP at Generator  $g$ 's bus in RTD interval  $i$  expressed in terms of \$/MWh;

$M$  = the set of eligible RTD intervals in the Dispatch Day consisting of all of the RTD intervals in the Dispatch Day except:

(i) Supplemental Event Intervals (which are addressed separately in Section 18.5 below);

(ii) intervals during authorized Start-Up Periods, Shutdown Periods, or Testing Periods for Generator  $g$ ;

$L$  = the set of all hours in the Dispatch Day

$EI_{gi}^{RT}$  = either, as the case may be:

(i) if  $EOP_{ig} > AEI_{ig}$  then  $\min(\max(AEI_{ig}, RTSen_{ig}), EOP_{ig})$ ; or

(ii) if otherwise, then  $\max(\min(AEI_{ig}, RTSen_{ig}), EOP_{ig})$ .

$EI_{gi}^{DA}$  = Energy scheduled in the Day-Ahead Market to be produced by Generator  $g$  in the hour that includes RTD interval  $i$  expressed in terms of MW;

$RTSen_{ig}$  = Real-time Energy scheduled for Generator  $g$  in interval  $i$ , and calculated as the arithmetic average of the 6-second AGC Base Point Signals sent to Generator  $g$  during the course of interval  $i$  expressed in terms of MW;

$AEI_{ig}$  = average Actual Energy Injection by Generator  $g$  in interval  $i$  but not more than  $RTSen_{ig}$  plus any Compensable Overgeneration expressed in terms of MW;

$EOP_{ig}$  = the Economic Operating Point of Generator  $g$  in interval  $i$  expressed in terms of MW;

$NASR_{gi}^{TOT}$  = Net Ancillary Services revenue, expressed in terms of \$, paid to Generator  $g$  as a result of either having been committed Day-Ahead to operate in the hour that includes RTD interval  $i$  or having operated in interval  $i$  which is computed by summing the following: (1) Voltage Support Service payments received by that Generator for that RTD interval, if it is not a Supplier of Installed Capacity; (2) Regulation Service payments that would be made to that Generator for that hour based on a Performance Index of 1, less the Bid(s) placed by that Generator to provide Regulation Service in that hour at the time it was committed to produce Energy for the LBMP Market and/or Ancillary Services to do so (unless the Bid(s) exceeds the payments that Generator receives for providing Regulation Service, in which case this component shall be zero); (3) payments made to that Generator for providing Spinning Reserve or synchronized 30-Minute Reserve in that hour, less the Bid placed by that Generator to provide such reserves in that hour at the time it was scheduled to do so; and (4) Lost Opportunity Cost payments made to that Generator in that

hour as a result of reducing that Generator's output in order for it to provide Voltage Support Service.

$NASR_{gi}^{DA}$  = The proportion of the Day-Ahead net Ancillary Services revenue, expressed in terms of \$, that is applicable to interval i calculated by multiplying the  $NASR_{gh}^{DA}$  for the hour that includes interval i by  $s_i/3600$ .

$RRAP_{gi}$  = Regulation Revenue Adjustment Payment for Generator g in RTD interval i expressed in terms of \$.

$RRAC_{gi}$  = Regulation Revenue Adjustment Charge for Generator g in RTD interval i expressed in terms of \$.

### **18.4.3 Bids Used For Intervals at the End of the Hour**

For RTD intervals in an hour that start 55 minutes or later after the start of that hour, a Bid used to determine real-time BPCG in Section 18.4.2 will be the Bid for the next hour in accordance with ISO Procedures. For RTD-CAM intervals in an hour that start 50 minutes or later after the start of that hour, a Bid used to determine real-time BPCG in Section 18.4.2 will be the Bid for the next hour, in accordance with ISO Procedures.

## **18.5 BPCG For Generators In Supplemental Event Intervals**

### **18.5.1 Eligibility for BPCG for Generators in Supplemental Event Intervals**

#### **18.5.1.1 Eligibility**

For intervals in which the ISO has called a large event reserve pick-up, as described in Section 4.4.4.1.1 of this ISO Services Tariff, or an emergency under Section 4.4.4.1.2 of this ISO Services Tariff, any Supplier who meets the eligibility requirements for a real-time Bid Production Cost guarantee payment described in subsection 18.4.1.1 of this Attachment C, shall be eligible to receive a BPCG under this Section 18.5.

#### **18.5.1.2 Non-Eligibility**

Notwithstanding subsection 18.5.1.1, a Supplier shall not be eligible to receive a Bid Production Cost guarantee payment for Supplemental Event Intervals if the Supplier is not eligible for a real-time Bid Production Cost guarantee payment for the reasons described in Section 18.4.1.2 of this Attachment C.

#### **18.5.1.3 Exception to Non-Eligibility**

Notwithstanding Sections 18.5.1.1 and 18.5.1.2, units using a Self-Committed fixed or Self-Committed Flexible bid mode shall be eligible to receive a Bid Production Cost guarantee payment under this section for intervals in which the ISO has called an emergency under Section 4.4.4.1.2 of this ISO Services Tariff.

### **18.5.2 Formula for Determining BPCG for Generators in Supplemental Event Intervals**

Real-Time Bid Production Cost Guarantee Payment for Generator  $g$  =



$$\sum_{i \in P} \left( \max \left( \begin{aligned} & \left( \int_{\max(EI_{gi}^{DA}, MGI_{gi}^{RT})}^{\max(EI_{gi}^{RT}, MGI_{gi}^{RT})} C_{gi}^{RT} + MGC_{gi}^{RT} \cdot (MGI_{gi}^{RT} - MGI_{gi}^{DA}) \right) \cdot \frac{S_i}{3600}, 0 \\ & - LBMP_{gi}^{RT} \cdot (EI_{gi}^{RT} - EI_{gi}^{DA}) \\ & - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) \cdot RRAP_{gi} + RRAC_{gi} \end{aligned} \right) \right)$$

where:

$P$  = the set of Supplemental Event Intervals in the Dispatch Day but excluding any intervals in which there are maximum generation pickups or large event reserve pickups where  $EI_{gi}^{RT}$  is less than or equal to  $EI_{gi}^{DA}$ ; and

$EI_{gi}^{RT}$  = (i) for any intervals in which there are maximum generation pickups, and the three intervals following, for Generators in the location for which the maximum generation pickup has been called -- the average Actual Energy Injections, expressed in MWh, for Generator  $g$  in interval  $i$ , and for all other Generators  $EI_{gi}^{RT}$  is as defined in Section 18.4.2 above.

(ii) for any intervals in which there are large event reserve pickups and the three intervals following,  $EI_{gi}^{RT}$  is as defined in Section 18.4.2 above.

$C_{gi}^{RT}$  = Bid cost submitted by Generator  $g$ , or when applicable the mitigated Bid cost for Generator  $g$ , in the RTD for the hour that includes RTD interval  $i$  expressed in terms of \$/MWh, except in hours in which the NYISO has increased Generator  $g$ 's minimum operating level, either (i) at the Generator's request, or (ii) in order to reconcile the ISO's dispatch with the Generator's actual output or to address reliability concerns that arise because the Generator is not following Base Point Signals, in which case  $C_{gi}^{RT}$  shall be deemed to be zero;

The definition of all other variables is identical to those defined in Section 18.4 above.

In the event that the ISO re-institutes penalties for poor Regulation Service performance under Section 15.3.8 of Rate Schedule 3 such penalties will not be taken into account when calculating supplemental payments under this Attachment C.

## **18.6 Real-Time BPCG For Imports**

### **18.6.1 Eligibility for Receiving Real-Time BPCG for Imports**

#### **18.6.1.1 Eligibility.**

A Supplier that bids an Import to sell Energy to the LBMP Market that is committed by the ISO in the Real-Time Market shall be eligible to receive a real-time Bid Production Cost guarantee payment for all intervals.

#### **18.6.1.2 Non-Eligibility.**

Notwithstanding Section 18.6.1.1:

18.6.1.2.1 when a Non-Competitive Proxy Generator Bus or the Interface between the NYCA and the Control Area in which the Non-Competitive Proxy Generator Bus is located is export constrained due to limits on available Interface Capacity or Ramp Capacity limits for that Interface in an hour, External Generators and other Suppliers scheduling an Import at such Non-Competitive Proxy Generator Bus in that hour shall not be eligible for a real-time Bid Production Cost guarantee payment for this Transaction; and

18.6.1.2.2 when a Proxy Generator Bus that is associated with a designated Scheduled Line is export constrained due to limits on available Interface Capacity in an hour, External Generators and other Suppliers scheduling an Import at such Proxy Generator Bus in that hour will not be eligible for a real-time Bid Production Cost guarantee payment for this Transaction.

### **18.6.2 BPCG Calculated by Transaction ID**

For purposes of calculating a real-time Bid Production Cost guarantee payment for an Import under this Section 18.6, the ISO shall treat the Import as being from a single Resource for

all hours of the Dispatch Day in which the same Transaction ID is used, and the ISO shall treat the Import as being from a different Resource for all hours of the Dispatch Day in which a different Transaction ID is used.

### 18.6.3 Formula for Determining Real-Time BPCG for Imports

Real-Time Bid Production Cost Guarantee for Import t by a Supplier =

$$\text{Max} \left( \sum_{i=1}^Q \left[ \left( \text{DecBid}_{ti}^{\text{RT}} - \text{LBMP}_{ti}^{\text{RT}} \right) \max \left( \text{SchImport}_{ti}^{\text{RT}} - \text{SchImport}_{ti}^{\text{DA}}, 0 \right) \cdot S_i / 3600 \right], 0 \right)$$

Where:

Q = number of intervals in the Dispatch Day;

$\text{DecBid}_{ti}^{\text{RT}}$  = Decremental Bid, in \$/MWh, supplied for Import t for interval i;

$\text{LBMP}_{ti}^{\text{RT}}$  = real-time LBMP, in \$/MWh, for interval i at Proxy Generator Bus-p which is the source of the Import t;

$\text{SchImport}_{ti}^{\text{RT}}$  = total real-time schedule, in MW, for Import t in interval i; and

$\text{SchImport}_{ti}^{\text{DA}}$  = total Day-Ahead schedule, in MW, for Import t in hour that contains interval i.

$S_i$  = number of seconds in RTD interval i.

**18.7. BPCG for Long Start-Up Time Generators Whose Starts are Aborted by the ISO Prior to their dispatch**

**18.7.1 Eligibility for BPCG for Long Start-Up Time Generators Whose Starts Are Aborted by the ISO Prior to their Dispatch**

A Supplier that bids on behalf of a long start-up time Generator (i.e., a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) that is committed by the ISO for reliability purposes as a result of a Supplemental Resource Evaluation and whose start is aborted by the ISO prior to its dispatch, as described in Section 4.2.5 of the ISO Services Tariff, shall be eligible to receive a Bid Production Cost guarantee payment under this Section 18.7.

**18.7.2 Methodology for Determining BPCG for Long Start-Up Time Generators Whose Starts are Aborted by the ISO Prior to their Dispatch**

A Supplier whose long start-up time Generator's start-up is aborted shall receive a prorated portion of its Start-Up Bid submitted for the hour in which the ISO requested that the Generator begin its start-up sequence, based on the portion of the start-up sequence that it has completed prior to the signal to abort the start-up (*e.g.*, if a long start-up time Generator with a seventy-two (72) hour start-up time has its start-up sequence aborted after forty-eight (48) hours, it would receive two-thirds ( $2/3$ ) of its Start-Up Bid).

## 18.8 BPCG For Demand Reduction In The Day-Ahead Market

### 18.8.1 Eligibility for BPCG for Demand Reduction in the Day-Ahead Market

A Demand Reduction Provider that bids a Demand Side Resource that is committed by the ISO in the Day-Ahead Market to provide Demand Reduction shall be eligible to receive a Bid Production Cost guarantee payment under this Section 18.8.

### 18.8.2 Formula for Determining BPCG for Demand Reduction in the Day-Ahead Market

Day-Ahead BPCG for Demand Reduction Provider d =

$$\text{Max} \left[ \sum_{h=1}^N (\text{MinCurCost}_d^h + \text{IncrCurCost}_d^h - \text{CurRev}_d^h) + \text{CurInitCost}_d, 0 \right]$$

where:

$$\text{CurInitCost}_d = \left( \sum_{h=1}^N (\text{Min}(\text{ActCur}_d^h, \text{SchdCur}_d^h)) / \left( \sum_{h=1}^N \text{SchdCur}_d^h \right) \right) * \text{CurCost}_d$$

$$\text{MinCurCost}_d^h = \text{Min} \left[ (\max(\text{ActCur}_d^h, 0), \text{MinCur}_d^h) \right] * \text{MinCurBid}_d^h$$

$$\text{IncrCurCost}_d^h = \int_{\text{MinCur}_d^h}^{\max(\text{MinCur}_d^h, \min(\text{SchdCur}_d^h, \text{ActCur}_d^h))} \text{IncrCurBid}_d^h$$

$$\text{CurRev}_d^h = \text{LBMP}_{dh}^{DA} * \min(\max(\text{ActCur}_d^h, 0), \text{SchdCur}_d^h)$$

N = number of hours in the Day-Ahead Market day.

CurInitCost<sub>d</sub> = daily Curtailment Initiation Cost credit for Day-Ahead Demand Reduction Provider d;

$\text{MinCurCost}_d^h$	=	minimum Curtailment cost credit for Day-Ahead Demand Reduction Provider d in hour h;
$\text{IncrCurCost}_d^h$	=	incremental Curtailment cost credit for Day-Ahead Demand Reduction Provider d for hour h;
$\text{CurCost}_d$	=	total bid Curtailment Initiation Costs for Day-Ahead Demand Reduction Provider d for the day;
$\text{CurRev}_d^h$	=	actual revenue for Day-Ahead Demand Reduction Provider d in hour h;
$\text{ActCur}_d^h$	=	actual Energy curtailed by Day-Ahead Demand Reduction Provider d in hour h expressed in terms of MWh;
$\text{SchdCur}_d^h$	=	Energy scheduled Day-Ahead to be curtailed by Day-Ahead Demand Reduction Provider d in hour h expressed in terms of MWh;
$\text{MinCurBid}_d^h$	=	minimum Curtailment initiation Bid submitted by Day-Ahead Demand Reduction Provider d for hour h expressed in terms of \$/MWh;
$\text{IncrCurBid}_d^h$	=	Bid cost submitted by Day-Ahead Demand Reduction Provider d for hour h expressed in terms of \$/MWh;
$\text{MinCur}_d^h$	=	Energy scheduled Day-Ahead to be produced by the minimum Curtailment segment of Day-Ahead Demand Reduction Provider d for hour h expressed in terms of MWh; and
$\text{LBMP}_{dh}^{\text{DA}}$	=	Day-Ahead LBMP for Day-Ahead Demand Reduction Provider d for hour h expressed in \$/MWh.

## **18.9 BPCG For Special Case Resources**

### **18.9.1 Eligibility for Special Case Resources BPCG**

Any Supplier that bids a Special Case Resource that is committed by the ISO for an event in the Real-Time Market shall be eligible to receive a Bid Production Cost guarantee payment under this Section 18.9. Suppliers shall not be eligible for a Special Case Resource Bid Production Cost guarantee payment for the period over which a Special Case Resource is performing a test.

### **18.9.2 Methodology for Determining Special Case Resources BPCG**

A Special Case Resource Bid Production Cost guarantee payment shall be made when the Minimum Payment Nomination for any Special Case Resource committed by the ISO over the period of requested performance or four (4) hours, whichever is greater, exceeds the LBMP revenue received for performance by that Special Case Resource; provided, however, that the ISO shall set to zero the Minimum Payment Nomination for Special Case Resource Capacity in each interval in which such capacity was scheduled Day-Ahead to provide Operating Reserves, Regulation Service or Energy.

## **18.10 BPCG For Demand Side Resources Providing Synchronized Operating Reserves In The Day-Ahead Market**

### **18.10.1 Eligibility for BPCG for Demand Side Resources Providing Synchronized Operating Reserves in the Day-Ahead Market**

Any Supplier that bids a Demand Side Resource that is committed by the ISO to provide synchronized Operating Reserves in the Day-Ahead Market shall be eligible to receive a Bid Production Cost guarantee payment under this Section 18.10.

### **18.10.2 Formula for Determining BPCG for Demand Side Resources Providing Synchronized Operating Reserves in the Day-Ahead Market**

A Bid Production Cost guarantee payment to a Demand Side Resource with a synchronized Operating Reserves schedule in the Day-Ahead Market shall be calculated as follows:

BPCG for Demand Side Resource d Providing synchronized Operating Reserves Day-Ahead =

$$\max\left[\left(-\sum_{h=1}^N NASR_{dh}^{DA}\right), 0\right]$$

where:

N = number of hours in the Day-Ahead Market day.

$NASR_{dh}^{DA}$  = Net Ancillary Services revenue, in \$, paid to Demand Side Resource d as a result of having been committed to provide Ancillary Services Day-Ahead in hour h which is computed by summing the following: (1) Regulation Service payments made to that Demand Side Resource for all Regulation Service it is scheduled Day-Ahead to provide in that hour, less Demand Side Resource d's Day-Ahead Bid to provide that amount of Regulation Service in that hour (unless the Bid exceeds the payments that the Demand Side Resource receives for providing Regulation Service that was committed to provide Ancillary Services Day-Ahead, in which case this component shall be zero); and (2) payments made to Demand Side Resource d for providing Spinning Reserve and synchronized 30-Minute Reserve in that hour if it is committed Day-Ahead to provide such reserves in that hour, less Demand Side Resource d's Day-Ahead Bid to provide Spinning Reserve and synchronized 30-Minute Reserve in that hour.





## **18.11 BPCG For Demand Side Resources Providing Synchronized Operating Reserves In The Real-Time Market**

### **18.11.1 Eligibility for BPCG for Demand Side Resources Providing Synchronized Operating Reserves in the Real-Time Market**

Any Supplier that bids a Demand Side Resource that is committed by the ISO to provide synchronized Operating Reserves in the Real-Time Market shall be eligible to receive a Bid Production Cost guarantee payment under this Section 18.11.

### **18.11.2 Formula for Determining BPCG for Demand Side Resources Providing Synchronized Operating Reserves in the Real-Time Market**

A Bid Production Cost guarantee payment to a Demand Side Resource with a synchronized Operating Reserves schedule in the real-time Market shall be calculated as follows:  
BPCG for Demand Side Resource d Providing synchronized Operating Reserves in Real-Time =

$$\max \left[ - \sum_{i \in L} \langle NASR_{di}^{TOT} - NASR_{di}^{DA} \rangle, 0 \right]$$

where:

L = set of RTD intervals in the Dispatch Day;

$NASR_{di}^{TOT}$  = Net Ancillary Services revenue, in \$, paid to Demand Side Resource d as a result of either having been scheduled Day-Ahead in the hour that includes RTD interval i or having been scheduled in real-time interval i which is computed by summing the following: (1) Regulation Service payments that would be made to Demand Side Resource d for that hour based on a Performance Index of 1, less the Bid(s) placed by Demand Side Resource d to provide Regulation Service in that hour at the time it was committed to provide Ancillary Services (unless the Bid(s) exceeds the payments that Demand Side Resource d receives for providing Regulation Service, in which case this component shall be zero); and (2) payments made to Demand Side Resource d for providing Spinning Reserve or synchronized 30-Minute Reserve in that hour, less the Bid placed by Demand Side Resource d to provide such reserves in that hour at the time it was scheduled to do so; and

$NASR_{di}^{DA}$  = The proportion of the Day-Ahead net Ancillary Services revenue, in \$, that is applicable to interval i calculated by multiplying the  $NASR_{dh}^{DA}$  for the hour that includes interval i by the quotient of the number of seconds in RTD interval i divided by 3600.

## **18.12 Proration Of Start-Up Bid For Generators That Are Committed In The Day-Ahead Market, Or Via Supplemental Resource Evaluation**

### **18.12.1 Eligibility to Recover Operating Costs and Resulting Obligations**

Generators committed in the Day-Ahead Market or via SRE that are not able to complete their minimum run time within the Dispatch Day in which they are committed are eligible to include in their Start-Up Bid expected net costs of operating on the day following the dispatch day at the minimum operating level specified for the hour in which the Generator is committed, for the hours necessary to complete the Generator's minimum run time.

Generators that receive Day-Ahead or SRE schedules that are not scheduled to operate in real-time, or that do not operate in real-time, at the MW level included in the Minimum Generation Bid for the first hour of the Generator's Day-Ahead or SRE schedule, for the longer of (a) the duration of the Generator's Day-Ahead or SRE schedule, or (b) the minimum run time specified in the Bid that was accepted for the first hour of the Generator's Day-Ahead or SRE schedule, will have the start-up cost component of the Bid Production Cost guarantee calculation prorated in accordance with the formula specified in Section 18.12.2, below. The rules for prorating the start-up cost component of the Bid Production Cost guarantee calculation apply both to operation within the Dispatch Day and to operation on the day following the Dispatch Day to satisfy the minimum run time specified for the hour in which the Generator was scheduled to start-up on the Dispatch Day.

Rules for calculating the reference level that the NYISO uses to test Start-Up Bids for possible mitigation are included in the Market Power Mitigation Measures that are set forth in Attachment H to the ISO Services Tariff. Proration of the start-up cost component of a Generator's Bid Production Cost guarantee based on the Generator's operation in real-time is different/distinct from the mitigation of a Start-Up Bid.

### 18.12.2 Proration of Eligible Start-Up Cost when a Generator Is Not Scheduled, or Does Not Operate to Meet the Schedule Specified in the Accepted Day-Ahead or SRE Start-Up Bid.

The start-up costs included in the Bid Production Cost guarantee calculation may be reduced *pro rata* based on a comparison of the actual MWs delivered in real-time to an hourly minimum MW requirement. The hourly MWh requirement is determined based on the MW component of the Minimum Generation Bid submitted for the Generator's accepted start hour (as mitigated, where appropriate).

#### 18.12.2.1 Total Energy Required to be Provided in Order to Avoid Proration of a Generator's Start-Up Costs

$$\text{TotMWReq}_{g,s} = \text{MinOpMW}_{g,s} * n_{g,s},$$

Where:

$\text{TotMWReq}_{g,s}$  = Total amount of Energy that Generator g, when started in hour s, must provide for its start-up costs not to be prorated

$\text{MinOpMW}_{g,s}$  = Minimum operating level (in MW) specified by Generator g in its hour s Bid

$n_{g,s}$  = The last hour that Generator g must operate when started in hour s to complete both its minimum run time and its Day-Ahead schedule. The variable  $n_{g,s}$  is calculated as follows:

$$n_{g,s} = \max \left( \text{LastHrDASched}_{g,s}, \text{LastMinRunHr}_{g,s} \right)$$

Where:

$\text{LastHrDASched}_{g,s}$  = The last date/hour in a contiguous set of hours in the Dispatch Day, beginning with hour s, in which Generator g is scheduled to operate in the Day-Ahead Market

$\text{LastMinRunHr}_{g,s}$  = The last date/hour in a contiguous set of hours in which Generator g would need to operate to complete its minimum run time if it starts in hour s

### 18.12.2.2 Calculation of Prorated Start-Up Cost

$$ProratedSUC_{g,s} = SubmittedSUC_{g,s} \cdot \frac{\sum_{h=s}^{n_{g,s}} MinOpEnergy_{g,h,s}}{TotalMWReq_{g,s}},$$

Where:

$ProratedSUC_{g,s}$  = the prorated start-up cost used to calculate the Bid Production Cost guarantee for Generator  $g$  that is scheduled to start in hour  $s$

$SubmittedSUC_{g,s}$  = the Start-Up Bid submitted (as mitigated, where appropriate) for Generator  $g$  that is scheduled to start in hour  $s$

$MinOpEnergy_{g,h,s}$  = the amount of Energy produced during hour  $h$  by Generator  $g$  during the time required to complete both its minimum run time and its Day-Ahead schedule, if that generator is started in hour  $s$ .

$MinOpEnergy_{g,h,s}$  is calculated as follows:

$$MinOpEnergy_{g,h,s} = \min \left( MetActEnergy_{g,h}, MinOpMW_{g,s} \right)$$

Where:

$MetActEnergy_{g,h}$  = the metered amount of Energy produced by Generator  $g$  during hour  $h$

### 18.12.2.3 Additional Rules/Clarifications that Apply to the Calculation of Prorated Start-Up Cost

- For any hour that a Generator is derated below the minimum operating level specified in its accepted Start-Up Bid for reliability, either by the ISO or at the request of a Transmission Owner, the Generator will receive credit for that hour as if the Generator had produced metered actual MWh equal to its  $MinOpMW_{g,s}$ .
- A Generator must be scheduled and operate in real-time to produce Energy consistent with the  $MinOpMW_{g,s}$  specified in the accepted Start-Up Bid for each hour that it is expected to run. See Section 18.12.2.1, above. These rules do not specify or require any particular bidding construct that must be used to achieve the desired commitment.

However, submitting a self-committed Bid may preclude a Generator from receiving a BPCG. *See, e.g.*, Sections 18.2.1.2.2 and 18.4.1.2.3 of this Attachment C.

**23      Attachment H - ISO Market Power Mitigation Measures**



## **23.3 Criteria for Imposing Mitigation Measures**

### **23.3.1 Identification of Conduct Inconsistent with Competition**

Conduct that may potentially warrant the imposition of a mitigation measure includes the categories described in Section 23.2.4 above, which shall be detected through the use of indices and screens developed, adopted and made available as specified in Attachment O. The thresholds listed in Sections 23.3.1.1 to 23.3.1.3 below shall be used to identify substantial departures from competitive conduct indicative of an absence of workable competition.

#### **23.3.1.1 Thresholds for Identifying Physical Withholding**

23.3.1.1.1 The following initial thresholds will be employed by the ISO to identify physical withholding of a Generator or generation by a Market Party and its Affiliates:

23.3.1.1.1.1 Except for conduct addressed in Section 23.3.1.1.1.2: Withholding that exceeds (i) 10 percent of a Generator's capability, or (ii) 100 MW of a Generator's capability, or (iii) 5 percent of the total capability of a Market Party and its Affiliates, or (iv) 200 MW of the total capability of a Market Party and its Affiliates.

For a Generator or a Market Party in a Constrained Area for intervals in which an interface into the area in which the Generator or generation is located has a Shadow Price greater than zero, withholding that exceeds (i) 10 percent of a Generator's capability, or (ii) 50 MW of a Generator's capability, or (iii) 5 percent of the total capability of a Market Party and its Affiliates, or (iv) 100 MW of the total capability of a Market Party and its Affiliates.

23.3.1.1.1.2 Operating a Generator or generation in real-time at a lower output level than would have been expected had the Market Party's and its Affiliate's Generator or generation followed the ISO's dispatch instructions, resulting in a difference in output that exceeds (i) 15 minutes times a Generator's stated response rate per minute at the output level that would have been expected had the Generator followed the ISO's dispatch instructions, or (ii) 100 MW for a Generator, or (iii) 200 MW of the total capability of a Market Party and its Affiliates. For a Generator or a Market Party in a Constrained Area for intervals in which an interface into the area in which the generation is located has a Shadow Price greater than zero, operating a Generator or generation in real-time at a lower output level than would have been expected had the Market Party's and its Affiliate's Generator or generation followed the ISO's dispatch instructions, resulting in a difference in output that exceeds (i) 15 minutes times a Generator's stated response rate per minute at the output level that would have been expected had the Generator followed the ISO's dispatch instructions, or (ii) 50 MW of a Generator's capability, or (iii) 100 MW of the total capability of a Market Party and its Affiliates.

23.3.1.1.2 The amounts of generating capacity considered withheld for purposes of applying the thresholds in this Section 23.3.1.1 shall include unjustified deratings, and the portions of a Generator's output that is not bid or subject to economic withholding. The amounts deemed withheld shall not include generating output that is subject to a forced outage or capacity that is out of service for maintenance

in accordance with an ISO maintenance schedule, subject to verification by the ISO as may be appropriate that an outage was forced.

23.3.1.1.3 A transmission facility shall be deemed physically withheld if it is not operated in accordance with ISO instructions and such failure to conform to ISO instructions causes or contributes to transmission congestion. A transmission facility shall not be deemed withheld if it is subject to a forced outage or is out of service for maintenance in accordance with a ISO maintenance schedule.

#### **23.3.1.2 Thresholds for Identifying Economic Withholding**

23.3.1.2.1 The following thresholds shall be employed by the ISO to identify economic withholding that may warrant the mitigation of a Generator in an area that is not a Constrained Area, or in a Constrained Area during periods not subject to transmission constraints affecting the Constrained Area, and shall be determined with respect to a reference level determined as specified in Section 23.3.1.4:

23.3.1.2.1.1 Energy and Minimum Generation Bids: A 300 percent increase or an increase of \$100 per MWh, whichever is lower; provided, however, that Energy or Minimum Generation Bids below \$25 per MWh shall be deemed not to constitute economic withholding.

23.3.1.2.1.2 Operating Reserves and Regulation Service Bids: A 300 percent increase or an increase of \$50 per MW, whichever is lower; provided, however, that such bids below \$5 per MW shall be deemed not to constitute economic withholding.

23.3.1.2.1.3 Start-up costs Bids: A 200 percent increase.

23.3.1.2.1.4 Time-based bid parameters: An increase of 3 hours, or an increase of 6 hours in total for multiple time-based bid parameters. Time-based bid parameters include, but are not limited to, start-up times, minimum run times and minimum down times.

23.3.1.2.1.5 Bid parameters expressed in units other than time or dollars: A 100 percent increase for parameters that are minimum values, or a 50 percent decrease for parameters that are maximum values (including but not limited to ramp rates and maximum stops).

23.3.1.2.2 The following thresholds shall be employed by the ISO to identify economic withholding that may warrant the mitigation of a Generator in an area that is a Constrained Area, and shall be determined with respect to a reference level determined as specified in Section 23.3.1.4:

23.3.1.2.2.1 For Energy and Minimum Generation Bids for the Real-Time Market: for intervals in which an interface into the area in which a Generator is located has a Shadow Price greater than zero, the lower of the thresholds specified for areas that are not Constrained Areas or a threshold determined in accordance with the following formula:

$$\text{Threshold} = \frac{2 \% * \text{Average Price} * 8760}{\text{Constrained Hours}}$$

where:

Average Price = the average price in the Real-Time Market in the Constrained Area over the past 12 months, adjusted for fuel price changes, and adjusted for Out-of-Merit Generation dispatch as feasible and appropriate; and

Constrained Hours = the total number of minutes over the prior 12 months, converted to hours (retaining fractions of hours), in which the real-time Shadow

Price has been greater than zero on any Interface or facility leading into the Constrained Area in which the Generator is located. For the In-City area, “Constrained Hours” shall also include the number of minutes that a Storm Watch is in effect. Determination of the number of Constrained Hours shall be subject to adjustment by the ISO to account for significant changes in system conditions.

23.3.1.2.2.2 For so long as the In-City area is a Constrained Area, the thresholds specified in subsection 23.3.1.2.2.1 shall also apply: (a) in intervals in which the transmission capacity serving the In-City area is subject to Storm Watch limitations; (b) to an In-City Generator that is operating as Out-of-Merit Generation; and (c) to a Generator dispatched as a result of a Supplemental Resource Evaluation.

23.3.1.2.2.3 For Energy and Minimum Generation Bids for the Day-Ahead Market: for all Constrained Hours for the Generator being bid, a threshold determined in accordance with the formula specified in subsection 23.3.1.2.2.1 above, but where Average Price shall mean the average price in the Day-Ahead Market in the Constrained Area over the past twelve months, adjusted for fuel price changes, and where Constrained Hours shall mean the total number of hours over the prior 12 months in which the Shadow Price in the Day-Ahead Market has been greater than zero on any Interface or facility leading into the Constrained Area in which the Generator is located. Determination of the number of Constrained Hours shall be subject to adjustment by the ISO to account for significant changes in system conditions.

23.3.1.2.2.4 For Start-up costs Bids; a 50% increase.

23.3.1.2.2.5 The thresholds listed in Sections 23.3.1.2.1.2 and 23.3.1.2.1.4 through 23.3.1.2.1.5.

### **23.3.1.3 Thresholds for Identifying Uneconomic Production**

23.3.1.3.1 The following threshold will be employed by the ISO to identify uneconomic production that may warrant the imposition of a mitigation measure:

23.3.1.3.1.1 Energy scheduled at an LBMP that is less than 20 percent of the applicable reference level and causes or contributes to transmission congestion; or

23.3.1.3.1.2 Real-time output from a Generator or generation resulting in real-time operation at a higher output level than would have been expected had the Market Party's and the Affiliate's Generator or generation followed the ISO's dispatch instructions, if such failure to follow ISO dispatch instructions in real-time causes or contributes to transmission congestion, and it results in an output difference that exceeds (i) 15 minutes times a Generator's stated response rate per minute at the output level that would have been expected had the Generator followed the ISO's dispatch instructions, or (ii) 100 MW for a Generator, or (iii) 200 MW of the total capability of a Market Party and its Affiliates.

### **23.3.1.4 Reference Levels**

23.3.1.4.1 Except as provided in Sections 23.3.1.4.3 – 23.3.1.4.5 below, a reference level for each component of a Generator's Bid shall be calculated on the basis of the following methods, listed in the order of preference subject to the existence of sufficient data:

23.3.1.4.1.1 The lower of the mean or the median of a Generator's accepted Bids or Bid components, in hour beginning 6 to hour beginning 21 but excluding weekend and designated holiday hours, in competitive periods over the previous 90 days, adjusted for changes in fuel prices. To maintain appropriate reference

levels (i) the ISO shall exclude all Incremental Energy and Minimum Generation Bids below \$15/MWh from its development of Bid-based reference levels, (ii) the ISO shall exclude Minimum Generation Bids submitted for a Generator that was committed on the day prior to the Dispatch Day for the hours during the Dispatch Day that the Generator needs to operate in order to complete the minimum run time specified in the Bid it submitted for the hour in which it was committed, and (iii) the ISO may exclude other Bids that would cause a reference level to deviate substantially from a Generator's marginal cost when developing Bid-based reference levels;

23.3.1.4.1.2 The mean of the LBMP at the Generator's location during the lowest-priced 25 percent of the hours that the Generator was dispatched over the previous 90 days, adjusted for changes in fuel prices. To maintain appropriate reference levels (i) the ISO shall exclude all LBMPs below \$15/MWh from its development of LBMP-based reference levels, (ii) the ISO shall exclude LBMPs during hours when a Generator was scheduled via Supplemental Resource Evaluation or was Out-of-Merit Generation, from its development of that Generator's LBMP-based reference levels, (iii) for a Generator that was committed on the day prior to the Dispatch Day, the ISO shall exclude LBMPs for the hours during the Dispatch Day that the Generator needs to operate in order to complete the minimum run time specified in the Bid it submitted for the hour in which the Generator was committed from the ISO's development of that Generator's LBMP-based reference levels, and (iv) the ISO may exclude LBMPs that would cause a

reference level to deviate substantially below a Generator's marginal cost when developing LBMP-based reference levels; or

23.3.1.4.1.3 A level determined in consultation with the Market Party submitting the Bid or Bids at issue, provided such consultation has occurred prior to the occurrence of the conduct being examined by the ISO, and provided the Market Party has provided data on a Generator's operating costs in accordance with specifications provided by the ISO. The reference level for a Generator's Energy Bid is intended to reflect the Generator's marginal costs. The ISO's determination of a Generator's marginal costs shall include an assessment of the Generator's incremental operating costs in accordance with the following formula, and such other factors or adjustments as the ISO shall reasonably determine to be appropriate based on such data as may be furnished by the Market Party or otherwise available to the ISO:

$$((\text{heat rate} * \text{fuel costs}) + (\text{emissions rate} * \text{emissions allowance price}) + \text{other variable operating and maintenance costs})).$$

23.3.1.4.2 If sufficient data do not exist to calculate a reference level on the basis of either of the first two methods, or if the ISO determines that none of the three methods are applicable to a particular type of Bid component, or an attempt to determine a reference level in consultation with a Market Party has not been successful, the ISO shall determine a reference level on the basis of:

23.3.1.4.2.1 the ISO's estimate of the costs or physical parameters of an Electric Facility, taking into account available operating costs data, appropriate input from the Market Party, and the best information available to the ISO; or



23.3.1.4.2.2 an appropriate average of competitive bids of one or more similar Electric Facilities.

23.3.1.4.3 Notwithstanding the foregoing provisions, the reference level for Energy Bids for New Capacity for the three year period following commencement of its commercial operation shall be the higher of (i) the amount determined in accordance with the provision of Section 23.3.1.4.1 or 23.3.1.4.2, or (ii) the average of the peak LBMPs over the twelve months prior to the commencement of operation of the New Capacity in the zone in which the New Capacity is located during hours when Generators with operating characteristics similar to the New Capacity would be expected to run. For entities owning or otherwise controlling the output of capacity in the New York Control Area other than New Capacity, the provisions of this paragraph shall apply only to net additions of capacity during the applicable three year period.

23.3.1.4.4 Notwithstanding the foregoing provisions, a reference level for a Generator's start-up costs Bid shall be calculated on the basis of the following methods, listed in the order of preference subject to the existence of sufficient data:

23.3.1.4.4.1 If sufficient bidding histories under the applicable bidding rules for a given Generator's start-up costs Bids have been accumulated, the lower of the mean or the median of the Generator's accepted start-up costs Bids in competitive periods over the previous 90 days for similar down times, adjusted for changes in fuel prices. However, accepted Start-Up Bids that incorporate anticipated costs of operating on the day after the Dispatch Day in which the Generator is committed

in order to permit the Generator to satisfy its minimum run time shall not be used to develop Bid-based start-up reference levels;

23.3.1.4.4.2 A level determined in consultation with the Market Party submitting the Bid or Bids at issue and intended to reflect the costs incurred for a Generator to achieve its specified minimum operating level from an offline state, provided such consultation has occurred prior to the occurrence of the conduct being examined by the ISO, and provided the Market Party has provided data on the Generator's operating costs in accordance with specifications provided by the ISO; or

23.3.3.4.4.3 Generators committed in the Day-Ahead Market or via Supplemental Resource Evaluation that are not able to complete their minimum run time within the Dispatch Day in which they are committed are eligible to include in their Start-Up Bid expected net costs of operating on the day following the dispatch day at the minimum operating level (in MW) specified in the Generator's Bid for the commitment hour, for the hours necessary to complete the Generator's minimum run time. The NYISO will calculate a start-up reference level that incorporates the net costs the Generator is expected to incur on the day following the Dispatch Day as follows:

23.3.3.4.4.3.1 Calculation of a start-up reference level that includes expected net costs of operating on the day following the Dispatch Day

The NYISO will use the following calculation to develop a reference level that incorporates the costs that a Generator is expected to incur on the day following the Dispatch Day.

$$LateDayAdjusted_{g,i} = StrtUpRef_g + \max\left(0, MinGenRef_{g,i} \cdot BidMinGen_{g,i} \cdot \sum_{h=0}^{Z_{g,i}-1} SR_{g,h,i}\right),$$

Where:

$LateDayAdjusted_{g,i}$  = calculated start-up reference level for Generator g for hour i in \$ (reflects the applicable start-up reference level ( $StrtUpRef_g$ ), plus the expected net cost of operating on the day following the Dispatch Day)

$StrtUpRef_g$  = the start-up reference level for Generator g in \$ that is in effect at the time the calculation is performed (does not include the expected net cost of operating on the day following the Dispatch Day)

$MinGenRef_{g,i}$  = the minimum generation cost reference level for Generator g for hour i in \$/MW that is in effect at the time the calculation is performed

$BidMinGen_{g,i}$  = Generator g's Day-Ahead minimum operating level for hour i, in MW

$Z_{g,i}$  = the number of hours the Generator must operate during the day following the Dispatch Day in order to complete its minimum run time if it starts in hour i

$SR_{g,h,i}$  = shortfall ratio for Generator g that is bidding to start in hour i which must run during hour h in order to complete its minimum run time, calculated in accordance with Section 23.3.3.4.4.3.2, below

#### 23.3.3.4.4.3.2 Calculation of the shortfall ratio for use in Section

##### 23.3.3.4.4.3.1, above

$SR_{g,h,i}$  = the shortfall ratio calculated for Generator g that is bidding to start in hour i, and that must run during hour h to complete its minimum run time.

In all cases in which Generator g's Day-Ahead minimum operating level deviates from the average of the previous seven days' Day-Ahead minimum operating levels for the same hour by less than 5 MW (*i.e.*, if  $|AvgBidMinGen_{g,h,i} - BidMinGen_{g,i}| < 5$  MW) or by less

than 10% (*i.e.*, if both  $\text{BidMinGen}_{g,i} < 1.1 \times \text{AvgBidMinGen}_{g,h,i}$  and  $\text{BidMinGen}_{g,i} > 0.9 \times \text{AvgBidMinGen}_{g,h,i}$ ),

Where:

$\text{AvgBidMinGen}_{g,h,i}$  = The average minimum operating level submitted in the Day-Ahead Market for hour h on the seven days preceding the day containing hour i, in MW, excluding any days for which a minimum operating level was not submitted in the Day-Ahead Market for Generator g, for hour h; and

$\text{BidMinGen}_{g,i}$  = The minimum operating level submitted in the Day-Ahead Market for Generator g for hour i, in MW

and in all cases in which  $\text{AvgBidMinGen}_{g,h,i}$  cannot be calculated because minimum operating levels were not submitted for Generator g in the Day-Ahead Market for hour h on any of the seven days preceding the day containing hour i, the  $\text{SR}_{g,h,i}$  value will be calculated using the primary method. Otherwise, the  $\text{SR}_{g,h,i}$  value will be calculated using the alternative method.

#### *Primary Method of Calculating the Shortfall Ratio*

$$\text{SR}_{g,h,i} = 1 - \frac{1}{7} \cdot \sum_{d=1}^7 \frac{\text{LBMP}_{g,h,i,d}}{\text{MinGenRef}_{g,h,i,d}},$$

Where:

$\text{LBMP}_{g,h,i,d}$  = Day ahead LBMP at the location of Generator g in hour h of the Day-Ahead Market for the Dispatch Day that precedes the day containing hour i by d days, and

$\text{MinGenRef}_{g,h,i,d}$  = minimum generation cost reference level for Generator g in hour h of the Day-Ahead Market for the Dispatch Day that precedes the day containing hour i by d days

#### *Alternative Method of Calculating the Shortfall Ratio*

$$\text{SR}_{g,h,i} = 1 - \frac{\text{AvgLBMP}_{g,h,i}}{\left( \text{AvgRefRate}_{g,h,i} \cdot \frac{\text{RefRate2}_{g,i}}{\text{RefRate1}_{g,h,i}} \right)}$$

Where:

$AvgLBMP_{g,h,i}$  = The average of the Day-Ahead LBMPs at the location of Generator  $g$  for hour  $h$  on the seven days preceding the day containing hour  $i$ , in \$/MWh, excluding any days for which a minimum operating level was not submitted in the Day-Ahead Market for Generator  $g$  for hour  $h$

$AvgRefRate_{g,h,i}$  = The average of the minimum generation reference levels for Generator  $g$  in hour  $h$  on the seven days preceding the day containing hour  $i$ , in \$/MWh, excluding any days for which a minimum operating level was not submitted in the Day-Ahead Market for Generator  $g$  for hour  $h$

$RefRate1_{g,h,i}$  = The minimum generation cost reference level in \$/MWh for Generator  $g$  for hour  $i$ , calculated using the most current reference data, and assuming that the minimum operating level submitted in the Day-Ahead Market for Generator  $g$  in hour  $i$  corresponds to the MWs reflected in the  $AvgBidMinGen_{g,h,i}$

$RefRate2_{g,i}$  = The minimum generation cost reference level in \$/MWh for Generator  $g$  for hour  $i$ , calculated using the most current reference data, and incorporating the minimum operating level submitted in the Day-Ahead Market for Generator  $g$  in hour  $i$  that corresponds to the MWs reflected in the  $BidMinGen_{g,i}$

Notwithstanding the above, in all cases where the denominator of the equation for calculating  $SR_{g,h,i}$  is not greater than zero,  $SR_{g,h,i}$  shall be set to zero, under both the primary and alternative methods.

23.3.1.4.4.4 The methods specified in Section 23.3.1.4.2.

23.3.1.4.5 Notwithstanding the foregoing provisions, the reference level for 10-Minute Non-Synchronized reserves shall be the lower of (i) the amount determined in accordance with the provisions of Section 23.3.1.4.1.1, or (ii) \$2.52.

## **23.3.2 Material Price Effects or Changes in Guarantee Payments**

### **23.3.2.1 Market Impact Thresholds**

In order to avoid unnecessary intervention in the ISO Administered Markets, Mitigation Measures shall not be imposed unless conduct identified as specified above (i) causes or contributes to a material change in one or more prices in an ISO Administered Market, or (ii) substantially increases guarantee payments to participants in the New York Electric Market.

Initially, the thresholds to be used by the ISO to determine a material price effect or change in guarantee payments shall be:

- 23.3.2.1.1 an increase of 200 percent or \$100 per MWh, whichever is lower, in the hourly Day-Ahead or Real-Time Energy LBMP at any location, or of any other price in an ISO Administered Market; or
- 23.3.2.1.2 an increase of 200 percent, or 50 percent for Generators in a Constrained Area in guarantee payments to a Market Party for a day; or
- 23.3.2.1.3 for a Constrained Area Generator subject to either a Real-Time Market or Day-Ahead Market conduct threshold, as specified above in Sections 23.3.1.1.1, 23.3.1.2.2.1, or 23.3.1.2.2.3: for all Constrained Hours (as defined in Section 23.3.1.2.2.1 for the Real-Time Market and in Section 23.3.1.2.2.3 for the Day-Ahead Market) for the unit being bid, a threshold determined in accordance with the formula specified in Section 23.3.1.2.2.1 for the Real-Time Market or Section 23.3.1.2.2.3 for the Day-Ahead Market.

#### **23.3.2.2 Price Impact Analysis**

- 23.3.2.2.1 When it has the capability to do so, the ISO shall determine the effect on prices or guarantee payments of questioned conduct through the use of sensitivity analyses performed using the ISO's SCUC, RTC and RTD computer models, and such other computer modeling or analytic methods as the ISO shall deem appropriate following consultation with its Market Monitoring Unit. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.3 of Attachment O.

23.3.2.2.2 Pending development of the capability to use automated market models, the ISO, following consultation with its Market Monitoring Unit, shall determine the effect on prices or guarantee payments of questioned conduct using the best available data and such models and methods as they shall deem appropriate. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.4 of Attachment O.

23.3.2.2.3 The ISO shall implement automated procedures within the SCUC for Constrained Areas, and within RTC for Constrained Areas. Such automated procedures will: (i) determine whether any Day-Ahead or Real-Time Energy Bids, including start-up costs Bids and Minimum Generation Bids but excluding Ancillary Services Bids, that have not been adequately justified to the ISO exceed the thresholds for economic withholding specified in Section 23.3.1.2 above; and, if so, (ii) determine whether such bids would cause material price effects or changes in guarantee payments as specified in Section 23.3.2.1.

23.3.2.2.4 The ISO shall forgo performance of the additional SCUC and RTC passes necessary for automated mitigation of bids in a given Day-Ahead Market or Real-Time Market if evaluation of unmitigated bids results in prices at levels at which it is unlikely that the thresholds for bid mitigation will be triggered.

### **23.3.2.3 Section 205 Filings**

The ISO shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure to conduct that departs significantly from the conduct that would be expected under competitive market conditions but does not rise to the thresholds

specified in Sections 23.3.1.1 through 23.3.1.3 above if that conduct has a significant effect on market prices or guarantee payments as specified below, unless the ISO determines, from information provided by the Market Party or Parties, including a Demand Side Resource participating in the Operating Reserves or Regulation Service Markets, that would be subject to mitigation or other information available to the ISO that the conduct and associated price or guarantee payments are attributable to legitimate competitive market forces or incentives. For purposes of this section, conduct shall be deemed to have an effect on market prices or guarantee payments that is significant if it exceeds one of the following thresholds:

23.3.2.3.1 an increase of 100 percent in the hourly day-ahead or real-time energy LBMP at any location, or of any other price in an ISO Administered Market; or

23.3.2.3.2 an increase of 100 percent in guarantee payments to a Market Party for a day.

### **23.3.3 Consultation with a Market Party**

#### **23.3.3.1 Consultation Process**

If through the application of an appropriate index or screen or other monitoring of market conditions, conduct is identified that (i) exceeds an applicable threshold, and (ii) has a material effect, as specified above, on one or more prices or guarantee payments in an ISO Administered Market, the ISO shall, as and to the extent specified in Attachment O or in Section 23.3.3.2 of these Mitigation Measures, contact the Market Party engaging in the identified conduct to request an explanation of the conduct. If a Market Party anticipates submitting bids in a market administered by the ISO that will exceed the thresholds specified in Section 23.3.1 above for identifying conduct inconsistent with competition, the Market Party may contact the ISO to provide an explanation of any legitimate basis for any such changes in the Market Party's bids.



If a Market Party's explanation of the reasons for its bidding indicates to the satisfaction of the ISO that the questioned conduct is consistent with competitive behavior, no further action will be taken. A preliminary determination by the ISO shall be provided to the Market Monitoring Unit for its review and comment. Upon request, the ISO shall also consult with a Market Party with respect to the information and analysis used to determine reference levels under Section 23.3.1.4 for that Market Party. If cost data or other information submitted by a Market Party indicates to the satisfaction of the ISO that the reference levels for that Market Party should be changed, revised reference levels shall be determined by the ISO, reviewed by the Market Monitoring Unit and, following the ISO's consideration of the Market Monitoring Unit's recommendation, communicated to the Market Party, and implemented by the ISO as soon as practicable. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.5 of Attachment O.

### **23.3.3.2 Consultation Requirements**

23.3.3.2.1 The ISO shall make a reasonable attempt to contact and consult with the relevant Market Party about the Market Party's reference level(s) before imposing conduct and impact mitigation, other than conduct and impact mitigation imposed through the automated procedures described in Section 23.3.2.2.3 of these Mitigation Measures. The ISO shall keep records documenting its efforts to contact and consult with the Market Party.

23.3.3.2.2 Consultation regarding real-time guarantee payment mitigation is addressed in Section 23.3.3.3, below. Consultation regarding Day-Ahead guarantee payment mitigation of Generators, other than mitigation imposed through the automated procedures described in Section 23.3.2.2.3 of these

Mitigation Measures, shall be conducted in accordance with Sections 23.3.3.1 and 23.3.3.2 of these Mitigation Measures.

### **23.3.3.3 Consultation Rules for Real-Time Guarantee Payment Mitigation**

#### **23.3.3.3.1 Real-Time Guarantee Payment Consultation Process**

23.3.3.3.1.1 The ISO shall electronically post settlement results informing Market Parties of bid(s) that failed the real-time guarantee payment impact test. The settlement results posting shall include the adjustment to the guarantee payment and the mitigated bid(s). The initial posting of settlement results ordinarily occurs two days after the relevant real-time market day.

23.3.3.3.1.2 No more than two business days after new or revised real-time guarantee payment impact test settlement results are posted, the ISO will send an e-mail or other notification to all potentially impacted Market Parties that comply with Section 23.3.3.3.1.2.2 of these Mitigation Measures.

23.3.3.3.1.2.1 Although the ISO is authorized to take up to two business days to provide notification to all potentially impacted Market Parties that comply with Section 23.3.3.3.1.2.2 of these Mitigation Measures, the ISO shall undertake reasonable efforts to provide notification to such Market Parties within one business day after new or revised real-time guarantee payment impact test settlement results are posted.

23.3.3.3.1.2.2 A Market Party that desires to receive notification from the ISO must provide one e-mail address to the ISO for real-time guarantee payment mitigation notices. Each Market Party is responsible for maintaining and monitoring the e-mail address it provides, and informing the ISO of any change(s)

to that e-mail address in order to continue to receive e-mail notification. E-mail will be the ISOs primary method of providing notice to Market Parties.

23.3.3.3.1.2.3            Regardless of whether a Market Party chooses to receive notification from the ISO, each Market Party is responsible for reviewing its posted real-time guarantee payment impact test settlement results and for contacting the ISO to request a consultation if and when appropriate.

23.3.3.3.1.3    Market Parties that want to consult with the ISO regarding real-time guarantee payment impact test results for a particular market day must submit a written request to initiate the consultation process that specifies the market day and bid(s) for which consultation is being requested (for purposes of this Section 23.3.3.3.1, a “Consultation Request”).

23.3.3.3.1.3.1            Consultation Requests must be received by the ISO’s customer relations department within 15 business days after the ISO posts new or revised real-time guarantee payment impact test settlement results for the relevant market day. Consultation Requests received outside the 15 business day period shall be rejected by the ISO.

23.3.3.3.1.3.2            The ISO may send more than one notice informing a Market Party of the same instance of real-time guarantee payment mitigation. Notices that identify real-time guarantee payment impact test settlement results that are not new (for which the Market Party has already received a notice from the ISO) and that do not reflect revised mitigation (for which the dollar impact of the real-time guarantee payment mitigation has not changed) shall not present an additional

opportunity, or temporally extend the opportunity, for the Market Party to initiate consultation.

23.3.3.3.1.3.3 If consultation was timely requested and completed addressing a particular set of real-time guarantee payment impact test results, a Market Party may not again request consultation regarding the same real-time guarantee payment impact test results unless revised real-time guarantee payment impact test settlement results, that are not due to the previously completed consultation and that change the dollar impact of real-time guarantee payment mitigation, are posted.

23.3.3.3.1.4 The Consultation Request may include: (i) an explanation of the reason(s) why the Market Party believes some or all of the reference levels used by the ISO to determine the real-time guarantee payment impact test results for the market day(s) in question are inappropriate, or why some or all of the Market Party's bids on the market day(s) in question were otherwise consistent with competitive behavior; and (ii) supporting documents, data and other relevant information (collectively, for purposes of this Section 23.3.3.3.1, "Data"), including proof of any cost(s) claimed.

23.3.3.3.1.5 If the Market Party is not able to provide (i) an explanation of the reason(s) why the Market Party believes some or all of the reference levels used by the ISO to determine the real-time guarantee payment impact test results for the market day(s) in question are inappropriate, or why some or all of the Market Party's bids on the market day(s) in question were otherwise consistent with competitive behavior, or (ii) all supporting Data, at the time a Consultation

Request is submitted, the Market Party should specifically identify any additional explanation or Data it intends to submit in support of its Consultation Request and provide an estimate of the date by which it will provide the additional explanation or Data to the ISO.

23.3.3.3.1.6 Following the submission of a Consultation Request that satisfies the timing and bid identification requirements of Section 23.3.3.3.1.3, above, consultation shall be performed in accordance with Section 23.3.3.1 of these Mitigation Measures, as supplemented by the following rules:

23.3.3.3.1.6.1 The ISO shall consult with the Market Party to determine whether the information available to the ISO presents an appropriate basis for (i) modifying the reference levels used to perform real-time guarantee payment mitigation for the market day in question, or (ii) determining that the Market Party's bid(s) on the market day in question were consistent with competitive behavior. The ISO shall only modify the reference levels used to perform real-time guarantee payment mitigation, or determine that the Market Party's bid(s) on the market day that is the subject of the Consultation Request were consistent with competitive behavior, if the ISO has in its possession Data that is sufficient to support such a decision.

23.3.3.3.1.6.2 A preliminary determination by the ISO shall be provided to the Market Monitoring Unit for its review and comment, and the ISO shall consider the Market Monitoring Unit's recommendations in reaching its decision. The ISO shall inform the Market Party of its decision, in writing, as soon as reasonably practicable, but in no event later than 50 business days after the new or revised

real-time guarantee payment impact test settlement results for the relevant market day were posted. If the ISO does not affirmatively determine that it is appropriate to modify the bid(s) that are the subject of the Consultation Request within 50 business days after the new or revised real-time guarantee payment impact test settlement results for the relevant market day were posted, the bid(s) shall remain mitigated. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.6 of Attachment O.

23.3.3.3.1.6.3 The ISO may, as soon as practicable, but at any time within the consultation period, request Data from the Market Party. The Market Party is expected to undertake all reasonable efforts to provide the requested Data as promptly as possible, to inform the ISO of the date by which it expects to provide requested Data, and to promptly inform the ISO if the Market Party does not intend to, or cannot, provide Data that has been requested by the ISO.

23.3.3.3.1.7 This Section 23.3.3.3.1 addresses Consultation Requests. It is not intended to limit, alter or modify a Market Party's ability to submit or proceed with a billing dispute pursuant to Section 7.4 of the ISO Services Tariff or Section 2.7.4.1 of the ISO OATT.

**23.3.3.3.2 Revising Reference Levels of Certain Generators Committed Out-of-Merit or via Supplemental Resource Evaluation for Conducting Real-Time Guarantee Payment Conduct and Impact Test**

23.3.3.3.2.1 Consistent with and subject to all of the requirements of Section 23.3.3.3.1 of these Mitigation Measures, Generators that (i) are committed Out-of-Merit or via a Supplemental Resource Evaluation after the DAM has posted, and (ii) for

which the NYISO has posted real-time guarantee payment impact test settlement results, may contact the ISO within 15 business days after new or revised impact test settlement results are posted to request that the reference levels used to perform the conduct and impact tests for real-time guarantee payment mitigation be adjusted to include any of the following verifiable costs:

23.3.3.3.2.1.1 procuring fuel at prices that exceed the index prices used to calculate the Generator's reference level;

23.3.3.3.2.1.2 burning a type of fuel or blend of fuels that is not reflected in the Generator's reference level;

23.3.3.3.2.1.3 gas balancing penalties;

23.3.3.3.2.1.4 compliance with operational flow orders; and

23.3.3.3.2.1.5 purchasing additional emissions allowances that are necessary to satisfy the Generator's Supplemental Resource Evaluation or Out-of-Merit schedule.

23.3.3.3.2.2 The five categories of verifiable costs specified above shall be used to modify the requesting Generator's reference level(s) subject to the following prerequisites:

23.3.3.3.2.2.1 the Generator must specifically and accurately identify and document the extraordinary costs it has incurred to operate during the hours of its Supplemental Resource Evaluation or Out-of-Merit commitment; and

23.3.3.3.2.2.2 the costs must not already be reflected in the Generator's reference levels or be recovered from the ISO through other means.

As soon as practicable after the Market Party demonstrates to the ISO's reasonable satisfaction that one or more of the five categories of extraordinary costs have been incurred, but

in no event later than the deadline set forth in Section 23.3.3.3.1.6.2 of these Mitigation Measures, the ISO shall adjust the affected Generator's reference levels and re-perform the real-time guarantee payment conduct and impact tests for the affected day. Only the reference levels used to perform real-time guarantee payment mitigation will be adjusted.

23.3.3.3.2.3 If, at some point prior to the issuance of a Close-Out Settlement for the relevant service month, the ISO or the Commission determine that some or all of the costs claimed by the Market Party during the consultation process described above were not, in fact, incurred over the course of the Out-of-Merit or Supplemental Resource Evaluation commitment, or were recovered from the ISO through other means, the ISO shall re-perform the conduct and impact tests using reference levels that reflect the verifiable costs that the Generator incurred and shall apply real-time guarantee payment mitigation if the Generator's bids fail conduct and impact at the corrected reference levels.

23.3.3.3.2.4 Generators may contact the ISO to request the inclusion of costs other than the five types identified above in their reference levels. The ISO shall consider such requests in accordance with Sections 23.3.1.4, or 23.3.3.3.1 of these Mitigation Measures, as appropriate.



## **23.5 Other Mitigation Measures**

### **23.5.1 Facilitation of Real-Time Mitigation in Constrained Areas**

To facilitate the application of the Real-Time mitigation measures specified in this Attachment H for Constrained Areas, all Generators located in a Constrained Area that are capable of doing so shall respond to RTD Base Point Signals, unless such a Generator is subject to contractual obligations in existence prior to June 1, 2002 that would preclude such operation.

### **23.5.2 Market Power Mitigation Measures Applicable to In-City Unit Commitments for Local Reliability**

23.5.2.1 If an In-City Generator is scheduled in any hour in the Day-Ahead Market to meet the reliability needs of a local system, the ISO will set the In-City Generator's Start-Up Bid to the lower of the Bid or the applicable reference level, which may include a Start-Up reference level calculated in accordance with Section 23.3.1.4.4.3 of these Mitigation Measures. In each hour an In-City Generator is scheduled in the Day-Ahead Market to meet the reliability needs of a local system, the ISO will set the In-City Generator's Minimum Generation Bid to the lower of the Bid or the applicable reference level.

### **23.5.3 Market Power Mitigation Measures Applicable to Sales of Spinning Reserves**

23.5.3.1 Local reliability rules require that specified amounts of Spinning Reserves be provided by In-City Generators. The Spinning Reserve-capable portion of each Generator located in New York City must be made available to the ISO for purposes of meeting the New York City Spinning Reserve requirement.

23.5.3.2 The market power mitigation measures applicable to Spinning Reserves will be implemented when the ISO's least-cost dispatch requires that one or more

of the Generators located in New York City be committed to meet the In-City Spinning Reserve requirement. For any day that an In-City Generator is committed to meet the In-City Spinning Reserve requirement under circumstances where the Generator would not otherwise have been committed under the ISO's least-cost dispatch, the market power mitigation measures applicable to unit commitments, as described in Section 23.5.2, would apply.

23.5.3.3 In addition, In-City generators must bid zero (\$0) for the availability portion of Day-Ahead Spinning Reserves Bids. The implementation of this mitigation measure will have no effect on the ability of a Generator located in New York City to recover the market-clearing price established by the ISO for the sale of Spinning Reserves.

#### **23.5.4 FERC-Ordered Measures**

In addition to any mitigation measures specified above, the ISO shall administer, and apply when appropriate in accordance with their terms, such other mitigation measures as it may be directed to implement by order of the FERC.

#### **23.5.5 Redetermination of 10-Minute Non-Synchronized Reserves Prices**

The following provisions shall be in effect for a period of twelve months from July 8, 2003: (i) if any 10-Minute Non-Synchronized Reserves prices are determined by the ISO, with the concurrence of the ISO Market Advisor, to reflect a significant abuse of market power, the ISO shall so notify the Market Parties within 24 hours of the initial posting of such prices (such prices being hereinafter referred to as "flagged prices"); (ii) the ISO shall determine, with the concurrence of the Market Advisor, within five business days of such notification whether a filing seeking the reimposition of a bid cap or some other market power mitigation measure for 10-Minute Non-Synchronized Reserves is warranted, and if such a filing is not warranted the

ISO shall notify the Market Parties that the flagged prices are final, subject to price correction procedures for other reasons if applicable; and (iii) if the ISO determines, with the concurrence of the Market Advisor, that a filing seeking reimposition of a bid cap or some other market power mitigation measure for 10-Minute Non-Synchronized Reserves is appropriate, such filing will request authorization from the Commission to redetermine the flagged prices in accordance with such bid cap or other mitigation measure as may be approved by the Commission.

**25      Attachment J – Determination of Day-Ahead Margin Assurance Payments and  
Import Curtailment Guarantee Payments**

## **25.1 Introduction**

If a Supplier that is eligible pursuant to Section 25.2 of this Attachment J buys out of a Day-Ahead Energy, Regulation Service or Operating Reserve schedule in a manner that reduces its Day-Ahead Margin it shall receive a Day-Ahead Margin Assurance Payment, except as noted in Sections 25.4, and 25.5 of this Attachment J. The purpose of such payments is to protect Suppliers' Day-Ahead Margins associated with real-time reductions after accounting for: (I) any real-time profits associated with offsetting increases in real-time Energy, Regulation Service, or Operating Reserve schedules; and (ii) any Supplier-requested real-time de-rate granted by the ISO.

In addition, a Supplier may be eligible to receive an Import Curtailment Guarantee Payment if its Import is curtailed at the request of the ISO as determined pursuant to Section 25.6 of this Attachment J.

## **25.2 Eligibility for Receiving Day-Ahead Margin Assurance Payments**

### **25.2.1 General Eligibility Requirements for Suppliers to Receive Day-Ahead Margin Assurance Payments**

Subject to Section 25.2.2 of this Attachment J, the following categories of Resources bid by Suppliers shall be eligible to receive Day-Ahead Margin Assurance Payments: (i) all Self-Committed Flexible and ISO-Committed Flexible Generators that are online and dispatched by RTD; (ii) Demand Side Resources committed to provide Operating Reserves or Regulation Service; (iii) any Resource that is scheduled out of economic merit order by the ISO in response to an ISO or Transmission Owner system security need or to permit the ISO to procure additional Operating Reserves; (iv) any Resource internal to the NYCA that is derated or decommitted by the ISO in response to an ISO or Transmission Owner system security need or to permit the ISO to procure additional Operating Reserves; and (v) Energy Limited Resources with an ISO-approved real-time reduction in scheduled output from its Day-Ahead schedule.

### **25.2.2 Exceptions**

Notwithstanding Section 25.2.1 of this Attachment J, no Day-Ahead Margin Assurance Payment shall be paid to:

- 25.2.2.1 a Resource otherwise eligible for a Day-Ahead Margin Assurance Payment in hours in which the NYISO has increased the Resource's minimum operating level either: (i) at the Resource's request; or (ii) in order to reconcile the ISO's dispatch with the Resource's actual output or to address reliability concerns that arise because the Resource is not following Base Point Signals; or
- 25.2.2.2 an Intermittent Power Resource that depends on wind as its fuel.

## 25.3 Calculation of Day-Ahead Margin Assurance Payments

### 25.3.1 Formula for Day-Ahead Margin Assurance Payments for Generators, Except for Limited Energy Storage Resources

Subject to Sections 25.4 and 25.5 of this Attachment J, Day-Ahead Margin Assurance Payments for Generators, except for Limited Energy Storage Resources, shall be determined by applying the following equations to each individual Generator using the terms as defined in Section 25.3.4:

$$DMAP_{hu} = \max \left( 0, \sum_{i \in h} CDMAP_{iu} \right) \quad \text{where:}$$

$$CDMAP_{iu} = CDMAPen_{iu} + \sum_p CDMAPres_{iup} + CDMAPreg_{iu}$$

If the Generator's real-time Energy schedule is lower than its Day-Ahead Energy schedule then:

$$CDMAPen_{iu} = \left\{ \begin{array}{l} DASen_{hu} - LL_{iu} \times RTPen_{iu} \\ - \int_{LL_{iu}}^{DASen_{hu}} DABen_{hu} \end{array} \right\} * \frac{Seconds}{3600},$$

If the Generator's real-time Energy schedule is greater than or equal to its Day-Ahead Energy schedule then:

$$CDMAPen_{iu} = \min \left( \left\{ \begin{array}{l} DASen_{hu} - UL_{iu} \times RTPen_{iu} \\ + \int_{DASen_{hu}}^{UL_{iu}} RTBen_{iu} \end{array} \right\} * \frac{Seconds}{3600}, 0 \right)$$

If the Generator's real-time schedule for a given Operating Reserve product, p, is lower than its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left[ DASres_{hup} - RTSres_{iup} \right] * \left[ RTPres_{iup} - DABres_{hup} \right] * \frac{Seconds}{3600}$$

If the Generator's real-time schedule for a given Operating Reserve product, p, is greater than or equal to its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left[ \left( ASres_{hup} - RTSres_{iup} \right) \times \left( TP_{iup} - \right) \right] \frac{Seconds_i}{3600}$$

If the Generator's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left[ \left( ASreg_{hu} - RTSreg_{iu} \right) \times \left( TP_{iu} - DABreg_{hu} \right) \right] \frac{Seconds_i}{3600}$$

If the Generator's real-time Regulation Schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left[ \left( ASreg_{hu} - RTSreg_{iu} \right) \times \text{MAX} \left( TP_{iu} - RTBreg_{iu} \right) \right] \frac{Seconds_i}{3600}.$$

## 25.3.2 Formula for Day-Ahead Margin Assurance Payments for Demand Side Resources

### 25.3.2.1 Formula for Day-Ahead Margin Assurance Payment for Demand Side Resources

Subject to Section 25.5 of this Attachment J, Day-Ahead Margin Assurance Payments for Demand Side resources scheduled to provide Operating Reserves or Regulation Service shall be determined by applying the following equations to each individual Demand Side Resource using the terms as defined in Section 25.3.4, except for RPI<sub>iu</sub>, which is defined in Section 25.3.2.2:

$$DMAP_{hu} = \max \left( 0, \sum_{i \in h} CDMAP_{iu} \right) \text{ where:}$$

$$CDMAP_{iu} = \sum_p CDMAPres_{iup} + CDMAPreg_{iu},$$

If the Demand Side Resource's real-time schedule for a given Operating Reserve product, p, is lower than its Day-Ahead Operating Reserve schedule for that product then:



$$CDMAPres_{iup} = \left[ \left( ASres_{hup} - RTSres_{iup} \right) \times \left( RTPres_{iup} - DABres_{hup} \right) \right] * RPIiu * \frac{Seconds_i}{3600}$$

If the Demand Side Resource's real-time schedule for a given Operating Reserve product,  $p$ , is greater than or equal to its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left( PAsres_{iup} - RTsres_{iup} \right) \times \left( RTPres_{iup} \right)^{*} RPIiu * \frac{Seconds_i}{3600}$$

If the Demand Side Resource's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$\text{CDMAPreg}_{\text{iu}} = \left( \text{ASreg}_{\text{hu}} - \text{RTSreg}_{\text{iu}} \right) \times \left( \text{TPreg}_{\text{iu}} - \text{DABreg}_{\text{hu}} \right) \times \frac{\text{Seconds}_i}{3600}$$

If the Demand Side Resource's real-time Regulation Schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left( ASreg_{iu} - RTsreg_{iu} \right) \times \text{MAX} \left( RTPreg_{iu} - RTBreg_{iu} \right) \times \frac{\text{Seconds}_i}{3600}.$$

### 25.3.2.2 Reserve Performance Index for Demand Side Resource Suppliers of Operating Reserves

The ISO shall produce a Reserve Performance Index for purposes of calculating a Day Ahead Margin Assurance Payment for a Demand Side Resource providing Operating Reserves. The Reserve Performance Index shall take account of the actual Demand Reduction achieved by the Supplier of Operating Reserves following the ISO's instruction to convert Operating Reserves to Demand Reduction.

The Reserve Performance Index shall be a factor with a value between 0.0 and 1.0 inclusive. For each interval in which the ISO has not instructed the Demand Side Resource to convert its Operating Reserves to Demand Reduction, the Reserve Performance Index shall have a value of one. For each interval in which the ISO has instructed the Demand Side Resource to convert its Operating Reserves to Demand Reduction the Reserve Performance Index shall be

calculated pursuant to the following formula, provided however when UAGi is zero or less, the Reserve Performance Index shall be set to zero:

$$RPI_{iu} = \text{Min} \left[ (UAGi / ADGi + .1), 1 \right]$$

Where:

$RPI_{iu}$  = Reserve Performance Index in interval i for Demand Side Resource u;

UAGi = average actual Demand Reduction for interval i, represented as a positive generation value; and

ADGi = average scheduled Demand Reduction for interval i, represented as a positive generation base point.

### **25.3.3 Formula for Day-Ahead Margin Assurance Payments for Limited Energy Storage Resources**

Day-Ahead Margin Assurance Payments for Limited Energy Storage Resources scheduled to provide Regulation Service shall be determined by applying the following equations to each Resource using the terms as defined in Section 25.3.4; *provided, however*, that a Day-Ahead Margin Assurance Payment is payable only for intervals in which the NYISO has reduced the real-time Regulation Service offer (in MWs) of a Limited Energy Storage Resource and the NYISO is not pursuing LESR Energy Management for such Resource for such interval, pursuant to ISO Procedures:

If the LESR's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$CDMAP_{reg_{iu}} = \left[ (DAS_{reg_{iu}} - RTS_{reg_{iu}}) * (RTP_{reg_{iu}} - DAB_{reg_{iu}}) \right] * K_{rr} * \frac{\text{Seconds}_i}{3600}$$

If the LESR's real-time Regulation Service schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left[ DASreg_{hu} - RTSreg_{iu} \right] \times \text{MAX} \left( \left[ RTPreg_{iu} - RTBreg_{iu} \right] \right) \times \frac{\text{Seconds}_i}{3600}$$

#### 25.3.4 Terms Used in this Attachment J

The terms used in the formulas in this Attachment J shall be defined as follows:

$h$  is the hour that includes interval  $i$ ;

$DMAPh_u$	=	the Day-Ahead Margin Assurance Payment attributable in any hour $h$ to any Supplier $u$ ;
$CDMAP_{iu}$	=	the contribution of RTD interval $i$ to the Day-Ahead Margin Assurance Payment for Supplier $u$ ;
$CDMAPen_{iu}$	=	the Energy contribution of RTD interval $i$ to the Day-Ahead Margin Assurance Payment for Supplier $u$ ;
$CDMAPreg_{iu}$	=	the Regulation Service contribution of RTD interval $i$ to the Day-Ahead Margin Assurance Payment for Supplier $u$ ;
$CDMAPres_{iup}$	=	the Operating Reserve contribution of RTD interval $i$ to the Day-Ahead Margin Assurance Payment for Supplier $u$ determined separately for each Operating Reserve product $p$ ;
$DASen_{hu}$	=	Day-Ahead Energy schedule for Supplier $u$ in hour $h$ ;
$DASreg_{hu}$	=	Day-Ahead schedule for Regulation Service for Supplier $u$ in hour $h$ ;
$DASres_{hup}$	=	Day-Ahead schedule for Operating Reserve product $p$ , for Supplier $u$ in hour $h$ ;
$DABen_{hu}$	=	Day-Ahead Energy bid curve for Supplier $u$ in hour $h$ ;
$DABreg_{hu}$	=	Day-Ahead Availability Bid for Regulation Service for Supplier $u$ in hour $h$ ;
$DABres_{hup}$	=	Day-Ahead Availability Bid for Operating Reserve product $p$ for Supplier $u$ in hour $h$ ;
$RTSen_{iu}$	=	real-time Energy scheduled for Supplier $u$ in interval $i$ , and calculated as the arithmetic average of the 6-second AGC Base Point Signals sent to Supplier $u$ during the course of interval $i$ ;
$RTSreg_{iu}$	=	real-time schedule for Regulation Service for Supplier $u$ in interval $i$ .
$RTSres_{iup}$	=	real-time schedule for Operating Reserve product $p$ for Supplier $u$ in interval $i$ .

$RTBreg_{iu}$  = real-time Availability Bid for Regulation Service for Supplier  $u$  in interval  $i$ .

$RTBen_{iu}$  = real-time Energy bid curve for Supplier  $u$  in interval  $i$ .

$AEI_{iu}$  = average Actual Energy Injection by Supplier  $u$  in interval  $i$  but not more than  $RTSen_{iu}$  plus Compensable Overgeneration;

$RTPen_{iu}$  = real-time price of Energy at the location of Supplier  $u$  in interval  $i$ ;

$RTPreg_{iu}$  = real-time price of Regulation Service at the location of Supplier  $u$  in interval  $i$ ;

$RTPres_{iup}$  = real-time price of Operating Reserve product  $p$  at the location of Supplier  $u$  in interval  $i$ ;

$LL_{iu}$  = either, as the case may be:

(a) if  $RTSen_{iu} < EOP_{iu}$ , then  $LL_{iu} = \min(\max(RTSen_{iu}, \min(AEI_{iu}, EOP_{iu})), DASen_{hu})$ ; or

(b) if  $RTSen_{iu} \geq EOP_{iu}$ , then  $LL_{iu} = \min(RTSen_{iu}, \max(AEI_{iu}, EOP_{iu}), DASen_{hu})$ ,

$UL_{iu}$  = either, as the case may be:

(a) if  $RTSen_{iu} \geq EOP_{iu} \geq DASen_{hu}$ , then  $UL_{iu} = \max(\min(RTSen_{iu}, \max(AEI_{iu}, EOP_{iu})), DASen_{hu})$ ; or

(b) otherwise, then  $UL_{iu} = \max(RTSen_{iu}, \min(AEI_{iu}, EOP_{iu}), DASen_{hu}); EOP_{iu}$   
= the Economic Operating Point of Supplier  $u$  in interval  $i$   
calculated without regard to ramp rates;

$Seconds_i$  = number of seconds in interval  $i$

$K_{PI}$  = the factor derived from the Regulation Service Performance index for Resource  $u$  for interval  $i$  as defined in Rate Schedule 3 of this Services Tariff which shall initially be set at 1.0 for LESRs.

## **25.4 Exception for Generators Lagging Behind RTD Base Point Signals**

If an otherwise eligible Generator's average Actual Energy Injection in an RTD interval (*i.e.*, its Actual Energy Injections averaged over the RTD interval) is less than or equal to its penalty limit for under-generation value for that interval, as computed below, it shall not be eligible for Day-Ahead Margin Assurance Payments for that interval.

The penalty limit for under-generation value is the tolerance described in Section 15.3A.1 of Rate Schedule 3-A of this ISO Services Tariff, which is used in the calculation of the persistent under-generation charge applicable to Generators that are not providing Regulation Service.

## 25.5 Rules Applicable to Supplier Derates

Suppliers that request and are granted a derate of their real-time Operating Capacity, but that are otherwise eligible to receive Day-Ahead Margin Assurance Payments may receive a payment up to a Capacity level consistent with their revised Emergency Upper Operating Limit or Normal Upper Operating Limit, whichever is applicable. The foregoing rule shall also apply to a Generator otherwise eligible for a Day-Ahead Margin Assurance Payment in hours in which the ISO has derated the Generator's Operating Capacity in order to reconcile the ISO's dispatch with the Generator's actual output, or to address reliability concerns that arise because the Generator is not following Base Point Signals. If a Supplier's derated real-time Operating Capacity is lower than the sum of its Day-Ahead Energy Regulation Services and Operating Reserve schedules then when the ISO conducts the calculations described in Section 25.3 above, the DASen, DASEg and DASres<sub>p</sub> variables will be reduced by REDen, REDreg and REDres<sub>p</sub> respectively. REDen, REDreg and REDres<sub>p</sub> shall be calculated using the formulas below:

$$RED_{tot_{iu}} = \max( DASen_{hu} + DASreg_{hu} + \sum_p DASres_{hup} - RTUOL_{iu}, 0)$$

$$POTREDen_{iu} = \max(DASen_{hu} - RTSen_{iu}, 0)$$

$$POTREDreg_{iu} = \max(DASreg_{hu} - RTSreg_{iu}, 0)$$

$$POTREDres_{iup} = \max(DASres_{hup} - RTSres_{iup}, 0)$$

$$REDen_{iu} = ((POTREDen_{iu} / ( POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup} )) * RED_{tot_{iu}})$$

$$REDreg_{iu} = ((POTREDreg_{iu} / ( POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup} )) * RED_{tot_{iu}})$$

$$REDres_{iup} = ((POTREDres_{iup} / ( POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup} )) * RED_{tot_{iu}})$$

where:

$$RTUOL_{iu} = \text{The real-time Emergency Upper Operating Limit or Normal Upper Operating Limit whichever is applicable of Supplier u in interval i}$$

- $RED_{tot_{iu}}$  = The total amount in MW that Day-Ahead schedules need to be reduced to account for the derate of Supplier u in interval i;
- $RED_{en_{iu}}$  = The amount in MW that the Day-Ahead Energy schedule is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;
- $RED_{reg_{iu}}$  = The amount in MW that Supplier u's Day-Ahead Regulation Service schedule is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment in interval i;
- $RED_{res_{iup}}$  = The amount in MW that Supplier u's Day-Ahead Operating Reserve schedule for Operating Reserves product p is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment in interval i;
- $POTRED_{en_{iu}}$  = The potential amount in MW that Supplier u's Day-Ahead Energy schedule could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;
- $POTRED_{reg_{iu}}$  = The potential amount in MW that Supplier u's Day-Ahead Regulation Service schedule could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;
- $POTRED_{res_{iup}}$  = The potential amount in MW that Supplier u's Day-Ahead Operating Reserve Schedule for Operating Reserve product p could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier in interval;

All other variables are as defined above.

## 25.6 Import Curtailment Guarantee Payments

### 25.6.1 Eligibility for an Import Curtailment Guarantee Payment for an Import Curtailed by the ISO

In the event that the Energy injections scheduled by RTC<sub>15</sub> at a Proxy Generator Bus are Curtailed at the request of the ISO, then the Supplier or Transmission Customer that is subjected to the Curtailment, in addition to the charge for Energy Imbalance, shall be eligible for an Import Curtailment Guarantee Payment as determined in Section 25.6.2 of this Attachment J.

### 25.6.2 Formula for an Import Curtailment Guarantee Payment for a Supplier Whose Import Was Curtailed by the ISO

A Supplier eligible under Section 25.6.1 of this Attachment J shall receive an Import Curtailment Guarantee Payment for its curtailed Energy injections that is equal to the sum for each hour of the interval payments determined in the formula below.

Import Curtailment Guarantee Payment to Supplier u in association with Import t=

$$\max \left[ \left( \text{RTLBMP}_{t,i} - \max \left( \text{DecBid}_{t,i}, 0 \right) \right); \left( \text{RTCen}_{t,i} - \text{RTDen}_{t,i} \right); \frac{S_i}{3600}, 0 \right].$$

Where

i = the relevant interval;

S<sub>i</sub> = number of seconds in interval i;

RTLBMP<sub>t,i</sub> = the real-time LBMP, in \$/MWh, for interval i at the Proxy Generator Bus which is the source of the Import t.

DecBid<sub>t,i</sub> = the Decremental Bid, in \$/MWh, for Import t in hour h containing interval i;

RTCen<sub>t,i</sub> = the scheduled Energy injections, in MWh, for Import t in hour h containing interval i as determined by Real-Time Commitment (RTC<sub>15</sub>); and

RTDen<sub>t,i</sub> = the scheduled Energy injections, in MWh, for Import t in interval i as determined by Real-Time Dispatch (RTD).