

## Attachment II

## 2.2 Definitions - B

**Back-Up Operation:** The procedures for operating the NYCA in a safe and reliable manner when the ISO's normal communication or computer systems are not fully functional as set forth in Section 5.3 of this ISO Services Tariff and Article 2.12 of the ISO OATT.

**Balance-of-Period Auction:** As defined in the ISO OATT.

**Base Point Signals:** Electronic signals sent from the ISO and ultimately received by Generators or Demand Side Resources specifying the scheduled MW ~~output~~ [setpoint](#) for the Generator. Real-Time Dispatch ("RTD") Base Point Signals are typically sent to Generators or Demand Side Resources on a nominal five (5) minute basis. AGC Base Point Signals are typically sent to Generators or Demand Side Resources on a nominal six (6) second basis.

**Basis Amount:** The amount owed to the ISO for purchases of Energy and Ancillary Services excluding External Transactions in the Basis Month, after applying the Price Adjustment, as further adjusted by the ISO to reflect material changes in the extent of the Customer's participation in the ISO-administered Energy and Ancillary Services markets.

**Basis Month:** The month during the Prior Equivalent Capability Period in which the amount owed by the Customer for purchases of Energy and Ancillary Services excluding External Transactions, after applying the Price Adjustment, was greatest.

[Beginning Energy Level: For Energy Storage Resources, the total amount of Energy stored by the Resource at the beginning of a market interval. An Energy Storage Resource's Beginning Energy Level shall be estimated for the Day-Ahead Market. An ISO-Managed Energy Storage Resource shall submit an estimated Beginning Energy Level on each day that it submits a Day-Ahead Market Bid. The Beginning Energy Level shall be determined by 6-second telemetry data in real-time. If the ISO does not receive real-time telemetry from the Resource due to equipment failure or other reason, the ISO will use the last valid Energy Level value as modified to reflect subsequent schedules.](#)

**Behind-the-Meter Net Generation Resource ("BTM:NG Resource"):** A facility within a defined electrical boundary comprised of a Generator and a Host Load located at a single point identifier (PTID), where the Generator routinely serves, and is assigned to, the Host Load and has excess generation capability after serving that Host Load. The Generator of the BTM:NG Resource must be electrically located in the NYCA, have a minimum nameplate rating of 2 MW and a minimum net injection to the NYS Transmission System or distribution system of 1 MW. The Host Load of the BTM:NG Resource must also have a minimum ACHL of 1 MW. A facility that otherwise meets these eligibility requirements, but either (i) is an Intermittent Power ~~f~~Resource [or Energy Storage Resource](#), (ii) whose Host Load consists only of Station Power, or (iii) has made an election pursuant to Section 5.12.1.12, does not qualify to be a BTM:NG Resource. BTM:NG Resources cannot simultaneously participate as a BTM:NG Resource and in any ISO and/or Transmission Owner administered demand response or generation buy-back programs.

**Bid/Post System:** An electronic information system used to allow the posting of proposed transmission schedules and Bids for Energy and Ancillary Services by Market Participants for use by the ISO and to allow the ISO to post LBMPs and schedules.

**Bid:** Offer to sell or bid to purchase Energy, Demand Reductions or Transmission Congestion Contracts and an offer to sell Ancillary Services at a specified price that is duly submitted to the ISO pursuant to ISO Procedures. Bid shall mean a mitigated Bid where appropriate.

**Bid Price:** The price at which the Customer offering the Bid is willing to provide the product or service, or is willing to pay to receive such product or service, as applicable. In the case of a CTS Interface Bid, the Bid Price is a dollar value that indicates the bidder's willingness to purchase Energy at a CTS Source and sell it at a CTS Sink across a CTS Enabled Interface if, at the time of scheduling, the forecasted CTS Sink Price minus the forecasted CTS Source Price is greater than, or equal to, the dollar value specified in the Bid.

**Bid Production Cost:** Total cost of the Generators required to meet Load and reliability Constraints based upon Bids corresponding to the usual measures of Generator production cost (e.g., running cost, Minimum Generation Bid, and Start-Up Bid).

**Bidder:** An entity that bids to purchase Unforced Capacity in an Installed Capacity auction.

**Bidding Requirement:** The credit requirement for bidding in certain ISO-administered auctions, calculated in accordance with Section 26.4.3 of Attachment K to this Services Tariff.

**Bilateral Transaction:** A Transaction between two or more parties for the purchase and/or sale of Capacity or Energy other than those in the ISO Administered Markets. A request to schedule a Bilateral Transaction in the Energy Market shall be considered a request to schedule Point-to-Point Transmission Service.

**Billing Period:** The period of time designated in Sections 7.2.2.1, 7.2.3.1, or 7.2.3.2 of this ISO Services Tariff over which the ISO will aggregate and settle a charge or a payment for services furnished under this ISO Services Tariff or the ISO OATT.

## 2.3 Definitions - C

**Capability Period:** Six-month periods which are established as follows: (i) from May 1 through October 31 of each year (“Summer Capability Period”); and (ii) from November 1 of each year through April 30 of the following year (“Winter Capability Period”).

**Capability Period Auction:** An auction conducted no later than thirty (30) days prior to the start of each Capability Period in which Unforced Capacity may be purchased and sold in a six-month strip.

**Capability Period SCR Load Zone Peak Hours:** The top forty (40) coincident peak hours that, prior to the Summer 2014 Capability Period include hour beginning thirteen through hour beginning eighteen and beginning with the Summer 2014 Capability Period include hour beginning eleven through hour beginning nineteen. The Capability Period SCR Load Zone Peak Hours shall be determined by the NYISO from the Prior Equivalent Capability Period and shall be used by RIPs to report ACL values for the purpose of SCR enrollment. For a SCR enrolled with a Provisional ACL that requires verification data to be reported at the end of the Capability Period in which the SCR was enrolled, the Capability Period SCR Load Zone Peak Hours shall be determined from the Capability Period in which the SCR was enrolled. Such hours shall not include (i) hours in which Special Case Resources located in the specific Load Zone were called by the ISO to respond to a reliability event or test and (ii) hours for which the Emergency Demand Response Program resources were deployed by the ISO in each specific Load Zone. In addition, beginning with the Summer 2014 Capability Period, the NYISO shall not include, in descending rank order of NYCA Load up to a maximum of eight hours per Capability Period, a) the hour before the start time of a reliability event or performance test, in which SCRs located in the specific Load Zone were called by the ISO to respond to a reliability event or performance test, or b) the hour immediately following the end time of such reliability event or performance test.

**Capability Year:** A Summer Capability Period, followed by a Winter Capability Period (*i.e.*, May 1 through April 30).

**Capacity:** The capability to generate or transmit electrical power, or the ability to control demand at the direction of the ISO, measured in megawatts (“MW”).

**Capacity Limited Resource:** A Resource that is constrained in its ability to supply Energy above its Normal Upper Operating Limit by operational or plant configuration characteristics. Capacity Limited Resources must register their Capacity limiting characteristics with, and justify them to, the ISO consistent with ISO Procedures. Capacity Limited Resources may submit a schedule indicating that their Normal Upper Operating Limit is a function depending on one or more variables, such as temperature or pondage levels, in which case the Normal Upper Operating Limit applicable at any time shall be determined by reference to that schedule.

**Capacity Reservation Cap:** As defined in the ISO OATT.

**CARL Data:** Control Area Resource and Load (“CARL”) data submitted by Control Area System Resources to the ISO.

**Centralized Transmission Congestion Contracts (“TCC”) Auction (“Auction”):** As defined in the ISO OATT.

**Code of Conduct:** The rules, procedures and restrictions concerning the conduct of the ISO directors and employees, contained in Attachment F to the ISO Open Access Transmission Tariff.

**Commenced Repair:** A determination by the ISO that a Market Participant with a Generator i) has decided to pursue the repair of its Generator, and based on the ISO’s technical/engineering evaluation ii) has a Repair Plan for the Generator that is consistent with a Credible Repair Plan, and iii) has made appropriate progress in pursuing the repair of its Generator when measured against the milestones of a Credible Repair Plan.

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

**Compensable Overgeneration:** A quantity of Energy injected over a given RTD interval in which a Supplier has offered Energy that exceeds the Real-Time Scheduled Energy Injection established by the ISO for that Supplier and for which the Supplier may be paid pursuant to this Section and ISO Procedures.

For Suppliers not covered by other provisions of this Section and Intermittent Power Resources depending on wind as their fuel for which the ISO has imposed a Wind Output Limit in the given RTD interval, Compensable Overgeneration shall initially equal three percent ( 3%) of the Supplier’s Normal Upper Operating Limit which may be modified by the ISO if necessary to maintain good Control Performance.

For a Generator: (i) which is operating in Start-Up or Shutdown Periods, or Testing Periods; or (ii) which is a Limited Control Run of River Hydro Resource that has offered its Energy to the ISO in a given interval not using the ISO-committed Flexible or Self-Committed Flexible bid mode; or (iii) which is an Intermittent Power Resource that depends on solar energy or landfill gas for its fuel and has offered its Energy to the ISO in a given interval not using the ISO-committed Flexible or Self-Committed Flexible bid mode; or (iv) which is an Intermittent Power Resource that depends on wind for its fuel, Compensable Overgeneration shall mean all Energy actually injected by the Generator that exceeds the Real-Time Scheduled Energy Injection established by the ISO for that Generator; provided however, this definition of Compensable Overgeneration shall not apply to an Intermittent Power Resource depending on wind as its fuel for any interval for which the ISO has imposed a Wind Output Limit. For a Generator operating in intervals when it has been designated as operating Out of Merit at the request of a Transmission Owner or the ISO, Compensable Overgeneration shall mean all Energy actually injected by the Generator that exceeds the Real-Time Scheduled Energy Injection up to the Energy level directed by the Transmission Owner or the ISO.

For a Generator comprised of a group of generating units at a single location, which grouped generating units are separately committed and dispatched by the ISO, and for which Energy injections are measured at a single location, Compensable Overgeneration shall mean that quantity of Energy injected by the Generator, during the period when one of its grouped generating units is operating in a Start-Up or Shutdown Period, that

exceeds the Real-Time Scheduled Energy Injection established by the ISO for that period, for that Generator, and for which the Generator may be paid pursuant to ISO Procedures.

**Completed Application:** An Application that satisfies all of the information and other requirements for service under the ISO Services Tariff.

**Confidential Information:** Information and/or data that has been designated by a Customer to be proprietary and confidential, provided that such designation is consistent with the ISO Procedures, the ISO Services Tariff, and the ISO Code of Conduct.

**Congestion:** A characteristic of the transmission system produced by a constraint on the optimum economic operation of the power system, such that the marginal price of Energy to serve the next increment of Load, exclusive of losses, at different locations on the transmission system is unequal.

**Congestion Component:** The component of the LBMP measured at a location or the Transmission Usage Charge between two locations that is attributable to the cost of transmission Congestion as is more completely defined in Attachment B of the Services Tariff.

**Congestion Rent:** As defined in the ISO OATT.

**Congestion Rent Shortfall:** As defined in the ISO OATT.

**Constraint:** An upper or lower limit placed on a variable or set of variables that are used by the ISO in its SCUC, RTC, or RTD programs to control and/or facilitate the operation of the NYS Transmission System.

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

**Control Area:** An electric system or combination of electric power systems to which a common Automatic Generation Control scheme is applied in order to: (1) match, at all times, the power output of the Generators within the electric power system(s) and Capacity and Energy purchased from entities outside the electric power system(s), with the Load within the electric power system(s); (2) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice; (3) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and (4) provide sufficient Capacity to maintain Operating Reserves in accordance with Good Utility Practice.

**Control Area System Resource:** A set of Resources owned or controlled by an entity within a Control Area that also is the operator of such Control Area. Entities supplying Unforced Capacity using Control Area System Resources will not designate particular Resources as the suppliers of Unforced Capacity.

**Control Performance:** A standard for measuring the degree to which a Control Area is providing Regulation Service in conformance with NERC requirements.

**Controllable Transmission:** Any Transmission facility over which power-flow can be directly controlled by power-flow control devices without having to re-dispatch generation.

~~**Commenced Repair:** A determination by the ISO that a Market Participant with a Generator i) has decided to pursue the repair of its Generator, and based on the ISO's technical/engineering evaluation ii) has a Repair Plan for the Generator that is consistent with a Credible Repair Plan, and iii) has made appropriate progress in pursuing the repair of its Generator when measured against the milestones of a Credible Repair Plan.~~

**Credible Repair Plan:** A Repair Plan that meets the requirements described in Section 5.18.1.4 of this Services Tariff and in ISO Procedures.

**Credit Assessment:** An assessment of a Customer's creditworthiness, conducted by the ISO in accordance with Section 26.5.3 of Attachment K to this Services Tariff.

**Cross-Sound Scheduled Line:** A transmission facility that interconnects the NYCA to the New England Control Area at Shoreham, New York and terminates near New Haven, Connecticut.

**CTS Enabled Interface:** An External Interface at which the ISO has authorized the use of Coordinated Transaction Scheduling ("CTS") market rules and which includes a CTS Enabled Proxy Generator Bus for New York and a CTS Enabled Proxy Generator Bus for the neighboring Control Area.

**CTS Enabled Proxy Generator Bus:** A Proxy Generator Bus at which the ISO either requires or permits the use of CTS Interface Bids for Import and Export Transactions in the Real-Time Market and requires the use of Decremental Bids for Wheels Through in the Real-Time Market. A CTS Enabled Proxy Generator Bus at which the ISO permits CTS Interface Bids will also permit Decremental and Sink Price Cap Bids.

**CTS Interface Bid:** A Real-Time Bid provided by an entity engaged in an External Transaction at a CTS Enabled Interface. CTS Interface Bids shall include a MW amount, a direction indicating whether the proposed Transaction is to Import Energy to, or Export Energy from, the New York Control Area, and a Bid Price.

**CTS Sink:** Representation of the location(s) within a Control Area where energy associated with a CTS Interface Bid is withdrawn. The NYCA CTS Sinks are Proxy Generator Buses.

**CTS Sink Price:** The price at a CTS Sink.

**CTS Source:** Representation of the location(s) within a Control Area where energy associated with a CTS Interface Bid is injected. The NYCA CTS Sources are Proxy Generator Buses.

**CTS Source Price:** The price at a CTS Source.

**Curtailement or Curtail:** A reduction in Transmission Service in response to a transmission Capacity shortage as a result of system reliability conditions.

**Curtailement Customer Aggregator:** A Curtailement Services Provider that produces real-time verified reductions in NYCA load of at least 100 kW through contracts with retail end-users. The procedure for qualifying as a Curtailement Customer Aggregator is set forth in ISO procedures.

**Curtailement Initiation Cost:** The fixed payment, separate from a variable Demand Reduction Bid, required by a qualified Demand Reduction Provider in order to cover the cost of reducing demand.

**Curtailement Services Provider:** A qualified entity that can produce real-time, verified reductions in NYCA Load of at least 100 kW in a single Load Zone, pursuant to the Emergency Demand Response Program and related ISO procedures. The procedure for qualifying as a Curtailement Services Provider is set forth in Section 3 below and in ISO Procedures.

**Curtailement Services Provider Capacity:** Capacity from a Demand Side Resource nominated by a Curtailement Services Provider for participation in the Emergency Demand Response Program.

**Customer:** An entity which has complied with the requirements contained in the ISO Services Tariff, including having signed a Service Agreement, and is qualified to utilize the Market Services and the Control Area Services provided by the ISO under the ISO Services Tariff; provided, however, that a party taking services under the Tariff pursuant to an unsigned Service Agreement filed with the Commission by the ISO shall be deemed a Customer.

## 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. When evaluating the Economic Operating Point of a BTM:NG Resource, only Energy offers corresponding to quantities in excess of its Host Load will be considered.

**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, except for the Generator of a BTM:NG Resource, indicates it expects to be able to reach, the upper operating limit that a BTM:NG Resource indicates it expects to be able to inject into the grid after serving its Host Load and subject to its Injection Limit, 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 Resource shall specify a  $UOL_E$  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 26.4.2 of Attachment K to this Services Tariff.

**Energy Level:** The amount of Energy stored in an Energy Storage Resource.

**Energy Level Management:** The method by which an Energy Storage Resource controls the amount of Energy stored in the Resource. Energy Storage Resources may choose to be Self-Managed or ISO-Managed in their Bid.

**Energy Limited Resource:** Capacity resources, not including BTM:NG 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. If an Energy Limited Resource requires Energy to recharge or refill, it is also a Withdrawal-Eligible Generator. Energy Limited Resources must register their Energy limiting characteristics with, and justify them to, the ISO consistent with ISO Procedures. Resources that meet the qualifications to be an Energy Limited Resource, and choose to participate in the wholesale market as an Energy Limited Resource, are not subject to the rules applicable to Energy Storage Resources.

**Energy Storage Resource (“ESR”):** Generators that receive Energy from the grid at a specified location, and are capable of storing that Energy, for later injection back onto the grid at the same location. Resources that cannot inject Energy onto the grid cannot be Energy Storage Resources. In order to qualify for wholesale market participation, Energy Storage Resources must be able to inject at a rate of at least 0.1 MW for a period of at least one hour. Energy Storage Resources are Withdrawal-Eligible Generators.

**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:** As defined in the ISO OATT.

**ETCNL TCC:** As defined in the ISO 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:** As defined in the ISO OATT.

**Existing Transmission Capacity for Native Load ("ETCNL"):** As defined in the ISO OATT.

**Existing Transmission Agreement ("ETA"):** As defined in the ISO OATT.

**Expected EDRP/SCR MW:** The aggregate Load reduction (in MW) expected to be realized from EDRP and/or SCRs during the real-time intervals that the ISO has called upon EDRP and/or SCRs to provide Load reduction in a Scarcity Reserve Region, as determined based on the ISO's calculation of the historical performance of EDRP and SCRs. There will be separate values for voluntary and mandatory Load reductions. When determining the historical performance of SCRs, provision of Load reduction shall be deemed mandatory if the ISO has satisfied the notification requirements set forth in Section 5.12.11.1 of this ISO Services Tariff as it relates to the SCRs in the applicable Load Zone, otherwise provision of such Load reduction shall be deemed voluntary. When determining the historical performance of the EDRP, provision of Load reduction by EDRP shall be deemed voluntary.

**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 5.17) and the Customer settlements provisions of this ISO Services Tariff (as set forth in Section 7.4.3).

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

**Export Credit Requirement:** A component of the External Transaction Component of the Operating Requirement, calculated in accordance with Section 26.4.2 of Attachment K to this Services Tariff.

**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-to-ROS Deliverability Rights ("EDRs"):** Rights, as measured in MW, associated with incremental transfer capability (i) on a new or existing Scheduled Line over an External Interface, with a terminus in Rest of State, and (ii) that has CRIS obtained pursuant to Attachment S of the OATT. When combined with qualified Unforced Capacity which is located in an External Control Area either by contract or ownership, and which is deliverable to the NYCA Interface with Rest of State over which it created the incremental transfer capability, EDRs allow such Unforced Capacity to be offered into the ISO-Administered Market.

**External Transaction Component:** A component of the Operating Requirement, calculated in accordance with Section 26.4.2 of Attachment K to this Services Tariff.

**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 Demand Curve Reset Filing Year:** A calendar year in which the ISO files ICAP Demand Curves, in accordance with Section 5.14.1.2.1.11 or Section 5.14.1.2.2.4.11.

**ICAP Ineligible Forced Outage:** The outage state of a Market Participant's Generator after: i) the expiration or termination of its Forced Outage pursuant to the provisions in Section 5.18.1.6 of this Services Tariff, which Forced Outage started on or after May 1, 2015; ii) the Market Participant voluntarily reclassified its Forced Outage pursuant to the provisions in Section 5.18.2.1 of this Services Tariff, which Forced Outage started on or after May 1, 2015; or iii) substantial actions have been taken, such as dismantling or disabling essential equipment, which actions are inconsistent with an intention to return the Generator to operation and the Energy market. A Generator in an ICAP Ineligible Forced Outage is subject to the return-to-service provisions in Section 5.18.4 of this Services Tariff and is ineligible to participate in the Installed Capacity market.

**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 Constrained Locality:** New York City and the G-J Locality.

**Import Credit Requirement:** A component of the External Transaction Component of the Operating Requirement, calculated in accordance with Section 26.4.2 of Attachment K to this Services Tariff.

**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.

**Imputed LBMP Revenue:** Revenue developed for calculating a Generator or Import Bid Production Cost guarantee, for any interval, which equals the product of (i) the Bilateral Transaction scheduled MW in the Day-Ahead Market or real-time market, as appropriate, -from the Generator bus or Proxy Generator Bus, as appropriate, for the interval, (ii) the LBMP, in units of \$/MWh, either Day-Ahead or real-time as appropriate, at the Generator or Proxy Generator Bus for that interval and (iii) the length of the interval, in units of hours.

**Inactive Reserves:** The outage state in which a Market Participant's Generator is unavailable to produce Energy for a limited period of time not to exceed six months, for reasons that are not equipment related, which state does not meet the criteria to be classified as any other outage

pursuant to the provisions of this Services Tariff or of ISO Procedures. A Generator in Inactive Reserves is ineligible to participate in the Installed Capacity market.

**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 Average Coincident Load (“Incremental ACL”):** Beginning with the Summer 2014 Capability Period, the amount of qualifying Load that may be added to the Average Coincident Load of a Special Case Resource. In order to qualify to use Incremental ACL the SCR must enroll with an ACL and report an increase in the Load of the facility that is supplied by the NYS Transmission System and/or distribution system that meets or exceeds the SCR Load Change Reporting Threshold in accordance with this Services Tariff. The Incremental ACL reported in a Capability Period cannot exceed one-hundred percent (100%) of the ACL that has been calculated for the SCR when it first enrolls in the Capability Period. For resources reporting an Incremental ACL, the Net Average Coincident Load shall equal the enrolled ACL plus the reported Incremental ACL less any applicable SCR Change of Status. Each resource for which a RIP reports an Incremental ACL is subject to verification subsequent to the Capability Period pursuant to reporting requirements and calculations using the SCR’s metered Load values provided in Section 5.12.11.1.5 of this Services Tariff and ISO Procedures.

**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:** As defined in 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 Member Systems transferred to the ISO Operational Control over designated transmission facilities.

**Indicative NCZ Locational Minimum Installed Capacity Requirement:** The amount of capacity that must be electrically located within a New Capacity Zone, or possess an approved Unforced Capacity Deliverability Right, in order to ensure that sufficient Energy and Capacity are available in that NCZ and that appropriate reliability criteria are met.

**Injection Limit:** The maximum injection of a BTM:NG Resource, in MW, into the NYS Transmission System or distribution system at the BTM:NG Resource's Point of Injection. The Injection Limit for a BTM:NG Resource must be at least 1 MW.

**Installed Capacity ("ICAP"):** 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, Responsible Interface Party, Intermittent Power Resource, Limited Control Run of River Hydro Resource, municipally-owned generation, BTM:NG Resource, 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:** As defined in the ISO OATT.

**Interim Service Provider ("ISP"):** As defined in Attachment FF to the OATT.

**Intermittent Power Resource:** A device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. In New York, resources that depend upon wind, solar energy or landfill gas for their fuel have been classified as Intermittent Power Resources. 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 26.3 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. A BTM:NG Resource is not permitted to utilize the ISO-Committed Fixed bidding mode.

**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. A BTM:NG Resource is not permitted to utilize the ISO-Committed Flexible bidding mode.

**[ISO-Managed Energy Level: A Bid parameter which when selected indicates that an Energy Storage Resource's Energy Level constraints will be directly accounted for in the optimization. See Section 4.2.1.3.4 of this Services Tariff.](#)**

**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, the ISO/NYSRC Agreement, and the Operating Agreements.

**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.

**ISP UCAP MW:** The quantity of Unforced Capacity determined by the ISO in accordance with Section 5.14.1.1 of this Services Tariff.

## 2.12 Definitions - L

**LBMP Market(s):** The Real-Time Market or the Day-Ahead Market or both.

**Limited Control Run-of-River Hydro Resource:** A Generator above 1 MW in size that has demonstrated to the satisfaction of the ISO that its Energy production depends directly on river flows over which it has limited control and that such dependence precludes accurate prediction of the facility's real-time output.

**Limited Customer:** An entity that is not a Customer but which qualifies to participate in the ISO's Emergency Demand Response Program by complying with Limited Customer requirements set forth in the ISO Procedures.

**Limited Energy Storage Resource ("LESR"):** A Generator authorized to offer Regulation Service only and characterized by limited Energy storage, that is, the inability to sustain continuous operation at maximum Energy withdrawal or maximum Energy injection for a minimum period of one hour. LESRs must bid as ISO-Committed Flexible Resources.

**Limited Energy Storage Resource ("LESR") Energy Management:** Real-time Energy injections or withdrawals scheduled by the ISO to manage the Energy storage capacity of a Limited Energy Storage Resource, pursuant to ISO Procedures, for the purpose of maximizing the Capacity bid as available for Regulation Service from such Resource.

**Linden VFT Scheduled Line:** A transmission facility that interconnects the NYCA to the PJM Interconnection, L.L.C. Control Area in Linden, New Jersey.

**LIPA Tax Exempt Bonds:** Obligations issued by the Long Island Power Authority, the interest on which is not included in gross income under the Internal Revenue Code.

**Load :** A term that refers to either a consumer of Energy or the amount of demand (MW) or Energy (MWh) consumed by certain consumers. [Energy withdrawals by Withdrawal-Eligible Generators are not Load.](#)

**Load Serving Entity ("LSE"):** Any entity, including a municipal electric system and an electric cooperative, authorized or required by law, regulatory authorization or requirement, agreement, or contractual obligation to supply Energy, Capacity and/or Ancillary Services to retail customers located within the NYCA, including an entity that takes service directly from the ISO to supply its own Load in the NYCA.

**Load Shedding:** The systematic reduction of system demand by disconnecting Load in response to a Transmission System or area Capacity shortage, system instability, or voltage control considerations under the ISO OATT.

**Load Zone:** One (1) of eleven (11) geographical areas located within the NYCA that is bounded by one (1) or more of the fourteen (14) New York State Interfaces.

**Local Furnishing Bonds:** Tax-exempt bonds issued by a Transmission Owner under an agreement between the Transmission Owner and the New York State Energy Research and Development Authority (“NYSERDA”), or its successor, or by a Transmission Owner itself, and pursuant to Section 142(f) of the Internal Revenue Code, 26 U.S.C. § 142(f).

**Local Generator:** A resource operated by or on behalf of a Load that is either: (i) not synchronized to a local distribution system; or (ii) synchronized to a local distribution system solely in order to support a Load that is equal to or in excess of the resource’s Capacity. Local Generators supply Energy only to the Load they are being operated to serve and do not supply Energy to the distribution system.

**Locality:** A single LBMP Load Zone or set of adjacent LBMP Load Zones within which a minimum level of Installed Capacity must be maintained, and as specifically identified in this subsection to mean (1) Load Zone J; (2) Load Zone K; and (3) Load Zones G, H, I, and J collectively (*i.e.*, the G-J Locality).

**Locality Exchange Factor:** The percentage of Locational Export Capacity that the ISO determines annually in accordance with Section 5.11.6 of the Services Tariff.

**Locality Exchange MW:** The MW of Locational Export Capacity excluding the MW to be transmitted using UDRs, that the ISO determines in accordance with Section 5.11.5 of the Services Tariff.

**Local Reliability Rule:** A Reliability Rule established by a Transmission Owner, and adopted by the NYSRC, to meet specific reliability concerns in limited areas of the NYCA, including without limitation, special conditions and requirements applicable to nuclear plants and special requirements applicable to the New York City metropolitan area.

**Locational Based Marginal Pricing (“LBMP”):** The price of Energy at each location in the NYS Transmission System as calculated pursuant to Section 17 Attachment B of this Services Tariff.

**Locational Export Capacity:** The MW of a Generator electrically located in an Import Constrained Locality that (a) has Capacity Resource Interconnection Service, pursuant to the applicable provisions of Attachment X, Attachment S and Attachment Z to the ISO OATT, and (b) that meets the eligibility requirements set forth in Section 5.9.2.2 of the Services Tariff.

**Locational Minimum Installed Capacity Requirement:** The portion of the NYCA Minimum Installed Capacity Requirement provided by Capacity Resources that must be electrically located within a Locality (including those combined with a Unforced Capacity Deliverability Right except for rights returned in an annual election to the ISO in accordance with ISO Procedures) in order to ensure that sufficient Energy and Capacity are available in that Locality and that appropriate reliability criteria are met.

**Locational Minimum Unforced Capacity Requirement:** The Unforced Capacity equivalent of the Locational Minimum Installed Capacity Requirement.

**Long Island (“L.I.”):** An electrical area comprised of Load Zone K, as identified in the ISO Procedures.

**Lost Opportunity Cost:** The foregone profit associated with the provision of Ancillary Services, which is equal to the product of: (1) the difference between (a) the Energy that a Generator could have sold at the specific LBMP and (b) the Energy sold as a result of reducing the Generator’s output to provide an Ancillary Service under the directions of the ISO; and (2) the LBMP existing at the time the Generator was instructed to provide the Ancillary Service, less the Generator’s Energy bid for the same MW segment.

**Lower Operating Limit:** For an Energy Storage Resource, the maximum amount of megawatts the Resource can consume from the grid, if it is bidding to withdraw Energy, or the minimum amount of MW the Resource can supply the grid if it is not bidding to withdraw Energy. The Lower Operating Limit of an ISO-Managed Energy Storage Resource that is not bidding to withdraw Energy shall not be set to less than 0 MW.

**Lower Storage Limit:** The minimum amount of Energy an Energy Storage Resource is physically capable of storing.

**LSE Unforced Capacity Obligation:** The amount of Unforced Capacity that each NYCA LSE must obtain for an Obligation Procurement Period as determined by the ICAP Demand Curve for the NYCA, the G-J Locality, New York City Locality, and/or the Long Island Locality, as applicable, for each ICAP Spot Market Auction. The amount includes, at a minimum, each LSE’s share of the NYCA Minimum Unforced Capacity Requirement and the Locational Minimum Unforced Capacity Requirement, as applicable.

## 2.13 Definitions - M

**Major Emergency State:** An Emergency accompanied by abnormal frequency, abnormal voltage and/or equipment overloads that create a serious risk that the reliability of the NYS Power System could be adversely affected.

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

**Marginal Losses Component:** The component of LBMP at a bus that accounts for the Marginal Losses, as measured between that bus and the Reference Bus.

**Market-Clearing Price:** The price determined in an Installed Capacity auction for each ISO-defined Locality, the remainder of the NYCA and each adjacent External Control Area for which all offers to sell and bids to purchase Unforced Capacity are in equilibrium.

**Market Mitigation and Analysis Department:** A department, internal to the ISO, that is responsible for participating in the ISO's administration of its Tariffs. The Market Mitigation and Analysis Department's duties are described in Section 30.3 of the Market Monitoring Plan that is set forth in Attachment O to this Services Tariff.

**Market Monitoring Unit:** "Market Monitoring Unit" shall have the same meaning in this ISO Services Tariff as it has in the Market Monitoring Plan that is set forth in Attachment O to this Services Tariff.

**Market Participant:** An entity, excluding the ISO, that produces, transmits, sells, and/or purchase for resale Unforced Capacity, Energy or Ancillary Services in the Wholesale Market. Market Participants include: Transmission Customers under the ISO OATT, Customers under the ISO Services Tariff, Power Exchanges, Transmission Owners, Primary Holders, LSEs, Suppliers and their designated agents. Market Participants also include entities buying or selling TCCs.

**Market Problem:** An issue which requires notification to Market Participants, the Commission and the Market Monitoring Unit pursuant to Section 3.5.1 of this Services Tariff. It includes market design flaws, software implementation and modeling anomalies or errors, market data anomalies or errors, and economic inefficiencies that have a material effect on the ISO-administered markets or transmission service. The term does not include erroneous Energy or Ancillary Services prices (which are managed through procedures outlined in Attachment E to the Services Tariff) or erroneous customer settlements.

**Market Services:** Services provided by the ISO under the ISO Services Tariff related to the ISO Administered Markets for Energy, Capacity and Ancillary Services.

**MCZ Import Constrained Locality:** A Mitigated Capacity Zone that is also an Import Constrained Locality.

**Member Systems:** The eight Transmission Owners that comprised the membership of the New York Power Pool, which are: (1) Central Hudson Gas & Electric Corporation, (2) Consolidated Edison Company of New York, Inc., (3) New York State Electric & Gas Corporation, (4) Niagara Mohawk Power Corporation d/b/a National Grid, (5) Orange and Rockland Utilities, Inc., (6) Rochester Gas and Electric Corporation, (7) the Power Authority of the State of New York, and (8) Long Island Lighting Company d/b/a Long Island Power Authority.

**Minimum Generation Bid:** A two-parameter Bid that identifies the minimum operating level a Supplier requires to operate a Generator, and the payment a Supplier requires to operate its Generator at that level, or the minimum quantity of Demand Reduction a Demand Side Resource requires to provide Demand Reduction and the payment the Supplier requires to provide that level of Demand Reduction. If the Supplier is a BTM:NG Resource, [LESR, or an Energy Storage Resource](#), it shall not submit a Minimum Generation Bid.

**Minimum Generation Level:** For purposes of describing the eligibility of ten minute Resources to be committed by the Real Time Dispatch for pricing purposes pursuant to the Services Tariff, Section 4.4.3.3, an upper bound, established by the ISO, on the physical minimum generation limits specified by ten minute Resources. Ten minute Resources with physical minimum generation limits that exceed this upper bound will not be committed by the Real Time Dispatch for pricing purposes. The ISO shall establish a Minimum Generation Level based on its evaluation of the extent to which it is meeting its reliability criteria including Control Performance. The Minimum Generation Level, in megawatts, and the ISO's rationale for that level, shall be made available through the ISO's website or comparable means. If the Supplier is a BTM:NG Resource, [LESR, or an Energy Storage Resource](#), it shall not submit a Minimum Generation Level.

**Minimum Payment Nomination:** An offer, submitted by a Responsible Interface Party, in dollars per Megawatt-hour and not to exceed \$500 per Megawatt-hour, to reduce Load equal to the Installed Capacity Equivalent of the amount of Unforced Capacity a Special Case Resource is supplying to the NYCA.

**Mitigated Capacity Zone:** New York City and any Locality added to the definition of "Locality" accepted by the Commission on or after March 31, 2013.

**Modified Wheeling Agreement ("MWA"):** A Transmission Wheeling Agreement between Transmission Owners that was in existence at the time of ISO start-up, as amended and modified as described in Attachment K. Modified Wheeling Agreements are associated with Generators or power supply contracts existing at ISO start-up. All Modified Wheeling Agreements are listed in Attachment L, Table 1A, and are designated in the "Treatment" column of Table 1A, as "MWA".

**Monthly Auction:** An auction administered by the ISO pursuant to Section 5.13.3 of the ISO Services Tariff.

**Monthly Average Coincident Load ("Monthly ACL"):** Beginning with the Summer 2014 Capability Period, the Load value calculated for each month during a Capability Period applicable to a Special Case Resource with a reported Incremental Average Coincident Load.

The Monthly ACL is an average of the SCR's metered hourly Load that is supplied by the NYS Transmission System and/or the distribution system and reported for the Monthly SCR Load Zone Peak Hours applicable to such SCR. The calculation and verification data reporting requirements are provided in Section 5.12.11.1.5 of this Services Tariff and ISO Procedures. Any Load supported by generation produced from a Local Generator, other behind-the-meter generator, or other supply source located behind the meter operating during the Monthly SCR Zone Load Peak Hours may not be included in the metered Load values reported for the Monthly ACL.

**Monthly Net Benefit Offer Floor:** The price, in \$/MWh, determined by the ISO pursuant to Section 4.2.1.9 of the ISO Services Tariff and ISO Procedures, below which offers submitted by Demand Reduction Providers shall not be evaluated in the ISO's Security Constrained Unit Commitment.

**Monthly SCR Load Zone Peak Hours:** Beginning with the Summer 2014 Capability Period, the top forty (40) coincident peak hours for each month within a Capability Period that include hour beginning eleven through hour beginning nineteen as identified by the ISO for each Load Zone; provided, however, that such hours shall not include (i) hours in which Special Case Resources located in the specific Load Zone were called by the ISO to respond to a reliability event or test, (ii) hours for which the Emergency Demand Response Program resources were deployed by the ISO in each specific Load Zone and (iii) in descending rank order of NYCA Load up to a maximum of eight hours per month, a) the hour before the start time of a reliability event or performance test, in which SCRs located in the specific Load Zone were called by the ISO to respond to a reliability event or performance test, or b) the hour immediately following the end time of such reliability event or performance test.

**Mothball Outage:** The outage state in which a Market Participant's Generator is voluntarily removed from service on or after May 1, 2015, with applicable prior notice, for reasons not related to equipment failure. A Generator in Mothball Outage is subject to the return-to-service provisions in Section 5.18.4 of this Services Tariff and is ineligible to participate in the Installed Capacity market.

## 2.14 Definitions - N

**Native Load Customers:** The wholesale and retail power customers of the Transmission Owners on whose behalf the Transmission Owners, by statute, franchise, regulatory requirement, or contract, have undertaken an obligation to construct and operate the Transmission Owners' systems to meet the reliable electric needs of such customers.

**NCZ Locational Minimum Installed Capacity Requirement:** The amount of Capacity that must be electrically located within an NCZ, or possess an approved Unforced Capacity Deliverability Right, designed to ensure that sufficient Energy and Capacity are available in that NCZ and that appropriate reliability criteria are met.

**NCZ Study Capability Period:** The Summer Capability Period that begins five years from May 1 in a calendar year including an NCZ Study Start Date.

**NCZ Study Start Date:** September 1 or the next business day thereafter in the calendar year prior to an ICAP Demand Curve Reset Filing Year.

**Neptune Scheduled Line:** A transmission facility that interconnects the NYCA to the PJM Interconnection LLC Control Area at Levittown, Town of Hempstead, New York and terminates in Sayerville, New Jersey.

**NERC:** The North American Electric Reliability Council or, as applicable, the North American Electric Reliability Corporation.

**Net Auction Revenue:** As defined in the ISO OATT.

**Net Average Coincident Load (“Net ACL”):** The effective Average Coincident Load calculated and used by the ISO for a Special Case Resource during a specific month in which a SCR Change of Status was reported for the resource or, beginning with the Summer 2014 Capability Period, an Incremental Average Coincident Load was reported for the resource.

**Net Benefits Test:** The monthly calculations performed by the ISO in accordance with Section 4.2.1.9 of the ISO Services Tariff and ISO Procedures to determine the Monthly Net Benefit Offer Floor, the threshold price at which the dispatch of demand response resources meets the test required by Commission Order 745.

**Net Congestion Rent:** As defined in the ISO OATT.

**Net Installed Capacity (“Net-ICAP”):** The amount of Installed Capacity that a BTM:NG Resource has demonstrated (in accordance with ISO Procedures) it is capable of supplying in accordance with Section 5.12.6.1 of this Tariff, used to determine its Net Unforced Capacity.

**Net Unforced Capacity (“Net-UCAP”):** The amount of Unforced Capacity a BTM:NG Resource can offer in the ISO’s Installed Capacity market.

**Network Integration Transmission Service:** The Transmission Service provided under Part 4 of the ISO OATT.

**New Capacity Zone (“NCZ”):** A single Load Zone or group of Load Zones that is proposed as a new Locality, and for which the ISO shall establish a Demand Curve.

**New York City:** The electrical area comprised of Load Zone J, as identified in the ISO Procedures.

**New York Control Area (“NYCA”):** The Control Area that is under the control of the ISO which includes transmission facilities listed in the ISO/TO Agreement Appendices A-1 and A-2, as amended from time-to-time, and generation located outside the NYS Power System that is subject to protocols (*e.g.*, telemetry signal biasing) which allow the ISO and other Control Area operator(s) to treat some or all of that generation as though it were part of the NYS Power System.

**New York Power Pool (“NYPP”):** An organization established by agreement (the “New York Power Pool Agreement”) made as of July 21, 1966, and amended as of July 16, 1991, by and among Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., Long Island Lighting Company, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., Rochester Gas and Electric Corporation, and the Power Authority of the State of New York. LIPA became a Member of the NYPP on May 28, 1998 as a result of the acquisition of the Long Island Lighting Company by the Long Island Power Authority.

**New York State Bulk Power Transmission Facility:** This term shall have the meaning given in Attachment Y to the OATT.

**New York State Power System (“NYS Power System”):** All facilities of the NYS Transmission System, and all those Generators located within the NYCA or outside the NYCA, some of which may from time-to-time be subject to operational control by the ISO.

**New York State Reliability Council (“NYSRC”):** An organization established by agreement among the Member Systems to promote and maintain the reliability of the NYS Power System.

**New York State Reliability Council Agreement (“NYSRC Agreement”):** The agreement which established the NYSRC.

**New York State Transmission System (“NYS Transmission System”):** The entire New York State electric transmission system, which includes: (1) the Transmission Facilities Under ISO Operational Control; (2) the Transmission Facilities Requiring ISO Notification; and (3) all remaining transmission facilities within the NYCA.

**Non-Competitive Proxy Generator Bus:** A Proxy Generator Bus for an area outside of the New York Control Area that has been identified by the ISO as characterized by non-competitive Import or Export prices, and that has been approved by the Commission for designation as a Non-Competitive Proxy Generator Bus. Non-Competitive Proxy Generator Buses are identified in Section 4.4.4 of the Services Tariff., as set forth in Section 4.4.2.2 of the MST

**Non-Firm-Point-To-Point Transmission Service:** Point-To-Point Transmission Service for which a Transmission Customer is not willing to pay Congestion. Such service is not available in the markets that the NYISO administers.

**Non-Investment Grade Customer:** A Customer that does not meet the criteria necessary to be an Investment Grade Customer, as set forth in Section 26.3 of Attachment K to this Services Tariff.

**Non-Utility Generator ("NUG," "Independent Power Producer" or "IPP"):** Any entity that owns or operates an electric generating facility that is not included in an electric utility's rate base. This term includes, but is not limited to, cogenerators and small power producers and all other non-utility electricity producers, such as exempt wholesale Generators that sell electricity.

**Normal State:** The condition that the NYS Power System is in when the Transmission Facilities Under ISO Operational Control are operated within the parameters listed for Normal State in the Reliability Rules. These parameters include, but are not limited to, thermal, voltage, stability, frequency, operating reserve and Pool Control Error limitations.

**Normal Upper Operating Limit (UOL<sub>N</sub>):** The upper operating limit that a Generator, except for the Generator of a BTM:NG Resource, indicates it expects to be able to reach, or the upper operating limit a BTM:NG Resource indicates it expects to be able to inject into the grid after serving its Host Load and subject to its Injection Limit, or the maximum amount of demand that a Demand Side Resource expects to be able to reduce, during normal conditions. Each Resource will specify its UOL<sub>N</sub> in its Bids which shall be reduced when the Resource requests that the ISO derate its Capacity or the ISO derates the Resource's Capacity. A Normal Upper Operating Limit may be submitted as a function depending on one or more variables, such as temperature or pondage levels, in which case the Normal Upper Operating Limit applicable at any time shall be determined by reference to that schedule. [Bids for Self-Managed Energy Storage Resources may include a negative UOL<sub>N</sub> when the Resource bids to withdraw Energy from the grid. The UOL<sub>N</sub> for ISO-Managed Energy Storage Resources shall not be lower than 0 MW.](#)

**Northport-Norwalk Scheduled Line:** A transmission facility that originates at the Northport substation in New York and interconnects the NYCA to the ISO New England Control Area at the Norwalk Harbor substation in Connecticut.

**Notice of Intent to Return:** The notice a Supplier with a Generator that is in a Mothball Outage or ICAP Ineligible Forced Outage provides to the ISO, pursuant to ISO Procedures, that gives the date by which it intends to return to the Energy market, which proposed return date shall be no later than the expiration date of the Generator's Mothball Outage or ICAP Ineligible Forced Outage.

**NPCC:** The Northeast Power Coordinating Council.

**NRC:** The Nuclear Regulatory Commission or any successor thereto.

**NYCA Installed Reserve Margin:** The ratio of the amount of additional Installed Capacity required by the NYSRC in order for the NYCA to meet NPCC reliability criteria to the forecasted NYCA upcoming Capability Year peak Load, expressed as a decimal.

**NYCA Minimum Installed Capacity Requirement:** The requirement established for each Capability Year by multiplying the NYCA peak Load forecasted by the ISO by the quantity one plus the NYCA Installed Reserve Margin.

**NYCA Minimum Unforced Capacity Requirement:** The Unforced Capacity equivalent of the NYCA Minimum Installed Capacity Requirement.

**NYPA:** The Power Authority of the State of New York.

**NYPA Tax-Exempt Bonds:** Obligations of the New York Power Authority, the interest on which is not included in gross income under the Internal Revenue Code.

## 2.15 Definitions - O

**Obligation Procurement Period:** The period of time for which LSEs shall be required to satisfy their Unforced Capacity requirements. Starting with the 2001-2002 Winter Capability Period, Obligation Procurement Periods shall be one calendar month in duration and shall begin on the first day of each calendar month.

**Off-Peak:** The hours between 11 p.m. and 7 a.m., prevailing Eastern Time, Monday through Friday, and all day Saturday and Sunday, and NERC-defined holidays, or as otherwise decided by the ISO.

**Offeror:** An entity that offers to sell Unforced Capacity in an auction.

**On-Peak:** The hours between 7 a.m. and 11 p.m. inclusive, prevailing Eastern Time, Monday through Friday, except for NERC-defined holidays, or as otherwise decided by the ISO.

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

**Operating Agreement:** An agreement between the ISO and a non-incumbent owner of transmission facilities in the New York Control Area concerning the operation of the transmission facilities in the form of the agreement set forth in Appendix H (Section 31.11) of Attachment Y of the OATT.

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

**Operating Committee:** A standing committee of the ISO created pursuant to the ISO Agreement, which coordinates operations, develops procedures, evaluates proposed system expansions and acts as a liaison to the NYSRC.

**Operating Data:** Pursuant to Section 5.12.5 of this Tariff, Operating Data shall mean GADS Data, data equivalent to GADS Data, CARL Data, metered Load data, or actual system failure occurrences data, all as described in the ISO Procedures.

**Operating Requirement:** The amount calculated in accordance with Section 26.4.2 of Attachment K to this Services Tariff.

**Operating Reserves :** Capacity that is available to supply Energy or reduce demand and that meets the requirements of the ISO. The ISO will administer Operating Reserves markets, in the manner described in this Article 4 and Rate Schedule 4 of this ISO Services Tariff, to satisfy the various Operating Reserves requirements, including locational requirements, established by the Reliability Rules and other applicable reliability standards. The basic Operating Reserves products that will be procured by the ISO on behalf of the market are classified as follows:

- (1) Spinning Reserve: Operating Reserves provided by Generators and Demand Side Resources that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO

Services Tariff, are already synchronized to the NYS Power System, and can respond to instructions to change their output level, or reduce their Energy usage, within ten (10) minutes. Generators utilizing inverter-based energy storage technology and that otherwise meet the eligibility criteria set forth in this ISO Services Tariff may provide Spinning Reserves. Spinning Reserves may not be provided a Demand Side Resource that facilitates demand reduction using a Local Generator, unless that Local Generator utilizes inverter-based energy storage technology, or by Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit that are dispatched as a single aggregate unit;

(2) 10-Minute Non-Synchronized Reserve: Operating Reserves provided by Generators, Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit that are dispatched as a single aggregate unit, or Demand Side Resources, including Demand Side Resources using Local Generators, that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff and that can be started, synchronized and can change their output level within ten (10) minutes; and

(3) 30-Minute Reserve: Synchronized Operating Reserves provided by Generators, except Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit and dispatched as a single aggregate unit, and Demand Side Resources that do not facilitate demand reduction using Local Generators, or that facilitate demand reduction using a Local Generator utilizing inverter-based energy storage technology; or non-synchronized Operating Reserves provided by Generators, Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit and dispatched as a single aggregate unit, or Demand Side Resources that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff and that can respond to instructions to change their output level within thirty (30) minutes, including starting and synchronizing to the NYS Power System.

**Operating Reserve Demand Curve:** A series of quantity/price points that defines the maximum Shadow Price for Operating Reserves meeting a particular Operating Reserve requirement corresponding to each possible quantity of Resources that the ISO's software may schedule to meet that requirement. A single Operating Reserve Demand Curve will apply to both the Day-Ahead Market and the Real-Time Market for each of the ISO's twelve Operating Reserve requirements.

**Operating Study Power Flow:** A Power Flow analysis that is performed at least once before each Capability Period that is used to determine each Interface Transfer Capability for the Capability Period (See Attachment M to the ISO OATT).

**Operational Control:** Directing the operation of the Transmission Facilities Under ISO Operational Control to maintain these facilities in a reliable state, as defined by the Reliability Rules. The ISO shall approve operational decisions concerning these facilities, made by each Transmission Owner before the Transmission Owner implements those decisions. In accordance with ISO Procedures, the ISO shall direct each Transmission Owner to take certain actions to restore the system to the Normal State. Operational Control includes security monitoring, adjustment of generation and transmission resources, coordination and approval of changes in transmission status for maintenance, determination of changes in transmission status for

reliability, coordination with other Control Areas, voltage reductions and Load Shedding, except that each Transmission Owner continues to physically operate and maintain its facilities, including those facilities that it has agreed to operate and maintain in accordance with an operation and maintenance agreement.

**Optimal Power Flow (“OPF”):** As defined in the ISO OATT.

**Order Nos. 888 et seq.:** The Final Rule entitled Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, issued by the Commission on April 24, 1996, in Docket Nos. RM95-8-000 and RM94-7-001, as modified on rehearing, or upon appeal. (See FERC Stats. & Regs. [Regs. Preambles January 1991 - June 1996] ¶ 31,036 (1996) (“Order No. 888”), on reh’g, III FERC Stats. & Regs. ¶ 31,048 (1997) (“Order No. 888-A”), on reh’g, 81 FERC ¶ 61,248 (1997) (“Order No. 888-B”), order on reh’g, 82 FERC ¶ 61,046 (1998) (“Order No. 888-C”).

**Order Nos. 889 et seq.:** The Final Rule entitled Open Access Same-Time Information System (formerly Real- Time Information Networks) and Standards of Conduct, issued by the Commission on April 24, 1996, in Docket No. RM95-9-000, as modified on rehearing, or upon appeal. (See FERC Stats. & Regs. [Regs. Preambles 1991-1996] ¶ 31,035 (1996) (“Order No. 889”), on reh’g, III FERC Stats. & Regs. ¶ 31,049 (1997) (“Order No. 889-A”), on reh’g, 81 FERC ¶ 61,253 (1997) (“Order No. 889-B”).

**Original Residual TCC:** As defined in the ISO OATT.

**Out-of-Merit:** The designation of Resources committed and/or dispatched by the ISO at specified output limits for specified time periods to meet Load and/or reliability requirements that differ from or supplement the ISO’s security constrained economic commitment and/or dispatch.

## 2.18 Definitions - R

**Ramp Capacity:** The amount of change in the Desired Net Interchange that generation located in the NYCA can support at any given time. Ramp capacity may be calculated for all Interfaces between the NYCA and neighboring Control Areas as a whole or for any individual Interface between the NYCA and an adjoining Control Area.

**RCRR TCC:** As defined in the ISO OATT.

**Reactive Power (MVar):** The product of voltage and the out-of-phase component of alternating current. Reactive Power, usually measured in MVar, is produced by capacitors (synchronous condensers), Qualified Non-Generator Voltage Support Resources, and over-excited Generators and absorbed by reactors or under-excited Generators and other inductive devices including the inductive portion of Loads.

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

**Real-Time Bid:** A Bid submitted into the Real-Time Commitment before the close of the Real-Time Scheduling Window. A Real-Time Bid shall also include a CTS Interface Bid.

**Real-Time Commitment (“RTC”):** A multi-period security constrained unit commitment and dispatch model that co-optimizes to solve simultaneously for Load, Operating Reserves and Regulation Service on a least as-bid production cost basis over a two hour and fifteen minute optimization period. The optimization evaluates the next ten points in time separated by fifteen minute intervals. Each RTC run within an hour shall have a designation indicating the time at which its results are posted; “RTC<sub>00</sub>,” “RTC<sub>15</sub>,” “RTC<sub>30</sub>,” and “RTC<sub>45</sub>” post on the hour, and at fifteen, thirty, and forty-five minutes after the hour, respectively. Each RTC run will produce binding commitment instructions for the periods beginning fifteen and thirty minutes after its scheduled posting time and will produce advisory commitment guidance for the remainder of the optimization period. RTC<sub>15</sub> will also establish hourly External Transaction schedules, while all RTC runs may establish 15 minute External Transaction schedules at Variably Scheduled Proxy Generator Buses. Additional information about RTC’s functions is provided in Section 4.4.2 of this ISO Services Tariff.

**Real-Time Dispatch (“RTD”):** A multi-period security constrained dispatch model that co-optimizes to solve simultaneously for Load, Operating Reserves, and Regulation Service on a least-as-bid production cost basis over a fifty, fifty-five or sixty-minute period (depending on when each RTD run occurs within an hour). The Real-Time Dispatch dispatches, but does not commit, Resources, except that RTD may commit, for pricing purposes, Resources meeting Minimum Generation Levels and capable of starting in ten minutes. RTD may also establish 5 minute External Transaction schedules at Dynamically Scheduled Proxy Generator Buses. Real-Time Dispatch runs will normally occur every five minutes. Additional information about RTD’s functions is provided in Section 4.4.3 of this ISO Services Tariff. Throughout this ISO Services Tariff the term “RTD” will normally be used to refer to both the Real-Time Dispatch and to the specialized Real-Time Dispatch Corrective Action Mode software.

**Real-Time Dispatch–Corrective Action Mode (“RTD-CAM”):** A specialized version of the Real-Time Dispatch software that will be activated when it is needed to address unanticipated system conditions. RTD-CAM is described in Section 4.4.4 of this ISO Services Tariff.

**Real-Time LBMP:** The LBMPs established through the ISO Administered Real-Time Market.

**Real-Time Market:** The ISO Administered Markets for Energy and Ancillary Services resulting from the operation of the RTC and RTD.

**Real-Time Minimum Run Qualified Gas Turbine:** One or more gas turbines, offered in the Real-Time Market, which, because of their physical operating characteristics, may qualify for a minimum run time of two hours in the Real-Time Market. Characteristics that qualify gas turbines for this treatment are established by ISO Procedures and include using waste heat from the gas turbine-generated electricity to make steam for the generation of additional electricity via a steam turbine.

**Real-Time Scheduled Energy:** The quantity of Energy that a Supplier is directed to inject or withdraw in real-time by the ISO. Injections are indicated by positive Base Point Signals and withdrawals are indicated by negative Base Point Signals. Unless otherwise directed by the ISO, Dispatchable Supplier’s Real-Time Scheduled Energy is equal to its RTD Base Point Signal, or, if it is providing Regulation Service, to its AGC Base Point Signal, and an ISO Committed Fixed or Self-Committed Fixed Supplier’s Real-Time Scheduled Energy is equal to its bid output level in real-time.

**Real-Time Scheduling Window:** The period of time within which the ISO accepts offers and bids to sell and purchase Energy and Ancillary Services in the Real-Time Market for a given hour which period closes seventy-five (75) minutes before the start of that hour, or eighty-five (85) minutes before the start of that hour for Bids to schedule External Transactions at the Proxy Generator Buses associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, the Linden VFT Scheduled Line, or the HTP Scheduled Line.

**Reconfiguration Auction:** As defined in the ISO OATT.

**Reference Bus:** The location on the NYS Transmission System relative to which all mathematical quantities, including Shift Factors and penalty factors relating to physical operation, will be calculated. The NYPA Marcy 345 kV transmission substation is designated as the Reference Bus.

**Reference Month:** For purposes of the Net Benefits Test, the calendar month that is twelve months prior to the Study Month.

**Regulation Capacity:** The Energy or Demand Reduction capability, measured in MW, that a Regulation Service provider offers and/or which it is scheduled to provide for Regulation Service.

**Regulation Capacity Market Price:** The price for Regulation Capacity determined by the ISO pursuant to section 15.3 of this Services Tariff.

**Regulation Capacity Response Rate:** The Regulation Capacity a Resource is capable of providing over five minutes, measured in MW/minute which shall not exceed the lowest normal energy response rate provided for the Resource and which must be sufficient to permit that Resource to provide the Regulation Capacity (in MW) offered within a five-minute RTD interval. Reference to a Regulation response rate shall be a reference to the Regulation Capacity Response Rate.

**Regulation Movement:** The absolute value of the change in Energy or Demand Reduction over a six second interval, measured in MW, that a Regulation Service provider is instructed to deliver for the purpose of providing Regulation Service.

**Regulation Movement Market Price:** The price for Regulation Movement as determined by the ISO pursuant to section 15.3 of this Services Tariff.

**Regulation Movement Multiplier:** A factor with the value of thirteen (13), used with the Regulation Movement Bids, to schedule Regulation Service providers in both the Day-Ahead and Real-Time Energy markets. The ISO calculates the Regulation Movement Multiplier based on the historical relationship between the number of MW of Regulation Capacity that the ISO seeks to maintain in each hour and the number of Regulation Movement MW instructed by AGC in each hour.

**Regulation Movement Response Rate:** The amount of Regulation Movement a Regulation Service provider is capable of delivering in six seconds which shall not be less than, but can be equal to or greater than, the Regulation Capacity Response Rate equivalent.

**Regulation Service:** The Ancillary Service defined by the Commission as “frequency regulation” and that is instructed as Regulation Capacity in the Day-Ahead Market and as Regulation Capacity and Regulation Movement in the Real-Time Market as is further described in Section 15.3 of the Services Tariff. Day-Ahead and Real-Time Bids to provide Regulation Service shall include a Bid for Regulation Capacity and a Bid for Regulation Movement. The Regulation Service requirement or target level shall be for MW of Regulation Capacity.

**Regulation Service Demand Curve:** A series of quantity/price points that defines the maximum Shadow Price for Regulation Service corresponding to each possible quantity of Resources that the ISO’s software may schedule to satisfy the ISO’s Regulation Service constraint. A single Regulation Service Demand Curve will apply to both the Day-Ahead Market and the Real-Time Market for Regulation Service. The Shadow Price for Regulation Service shall be used to calculate Regulation Service payments under Rate Schedule 3 of this ISO Services Tariff.

**Regulation Revenue Adjustment Charge (“RRAC”):** A charge that will be assessed against certain Generators that are providing Regulation Service under Section 15.3.6 of Rate Schedule 3 to this ISO Services Tariff.

**Regulation Revenue Adjustment Payment (“RRAP”):** A payment that will be made to certain Generators that are providing Regulation Service under Section 15.3.6 of Rate Schedule 3 to this ISO Services Tariff.

**Reliability Rules:** Those rules, standards, procedures and protocols developed and promulgated by the NYSRC, including Local Reliability Rules, in accordance with NERC, NPCC, FERC, PSC and NRC standards, rules and regulations and other criteria and pursuant to the NYSRC Agreement.

**Repair Plan:** A work plan, set of actions, and time frame for such actions, that is necessary to repair a Generator and return it to service as described in Section 5.18.1 of this Services Tariff.

**Required System Capability:** Generation capability required to meet an LSE's peak Load plus Installed Capacity Reserve obligation as defined in the Reliability Rules.

**Reserve Performance Index:** An index created by the ISO for the purpose of calculating the Day Ahead Margin Assurance Payment pursuant to Attachment J of this Services Tariff made to Demand Side Resources scheduled to provide Operating Reserves in the Day-Ahead Market.

**Residual Adjustment:** The adjustment made to ISO costs that are recovered through Schedule 1 of the OATT. The Residual Adjustment is calculated pursuant to Schedule 1 of the OATT.

**Residual Capacity Reservation Right ("RCRR"):** As defined in the ISO OATT.

**Residual Transmission Capacity:** As defined in the ISO OATT.

**Resource:** An Energy Limited Resource, [Energy Storage Resource](#), [Limited Energy Storage Resource](#), Generator, Installed Capacity Marketer, Special Case Resource, Intermittent Power Resource, Limited Control Run of River Hydro Resource, municipally-owned generation, System Resource, BTM:NG Resource, Demand Side Resource or Control Area System Resource.

**Responsible Interface Party ("RIP"):** A Customer that is authorized by the ISO to be the Installed Capacity Supplier for one or more Special Case Resources and that agrees to certain notification and other requirements as set forth in this Services Tariff and in the ISO Procedures.

**Rest of State:** The set of all non-Locality NYCA LBMP Load Zones. As of the 2014/2015 Capability Year, Rest of State includes all NYCA LBMP Load Zones other than LBMP Load Zones G, H, I, J and K.

**Retired:** A Generator that has permanently ceased operating on or after May 1, 2015 either: i) pursuant to applicable notice; or ii) as a result of the expiration of its Mothball Outage or of its ICAP Ineligible Forced Outage.

**RMR Agreement:** shall have the meaning specified in Section 1.18 of the ISO's Open Access Transmission Tariff.

**RMR Avoidable Costs:** shall have the meaning specified in Section 1.18 of the ISO's Open Access Transmission Tariff.

**RMR Generator:** shall have the meaning specified in Section 1.18 of the ISO's Open Access Transmission Tariff.

**Rolling RTC:** The RTC run that is used to schedule a given 15-minute External Transaction. The Rolling RTC may be an RTC00, RTC15, RTC30 or RTC45 run.

**Roundtrip Efficiency:** The ratio of energy injections to energy withdrawals for an Energy Storage Resource.

## 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.

**Scarcity Reserve Demand Curve:** A series of quantity/price points that defines the maximum Shadow Price for Operating Reserves to meet a Scarcity Reserve Requirement for which the pricing rules established in Section 15.4.6.1.1(b) of Rate Schedule 4 of this ISO Services Tariff apply corresponding to each possible quantity of Resources that the ISO's software may schedule to satisfy that requirement. A single Scarcity Reserve Demand Curve will apply to the Real-Time Market for each such Scarcity Reserve Requirement.

**Scarcity Reserve Region:** A Load Zone or group of Load Zones containing EDRP and/or SCRs that have been called by the ISO to address the same reliability need, as such reliability need is determined by the ISO.

**Scarcity Reserve Requirement:** A 30-Minute Reserve requirement established by the ISO for a Scarcity Reserve Region in accordance with Rate Schedule 4 of this ISO Services Tariff.

**Scheduled Energy Injections:** As defined in the ISO OATT.

**Scheduled Energy Withdrawals:** As defined in the ISO OATT.

**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 transmission facilities that are Scheduled Lines are identified in Section 4.4.4 of the Services Tariff.

**SCR Aggregation:** One or more Special Case Resources registered by the Responsible Interface Party at a single PTID, with the Load of each Special Case Resource electrically located within the same single Load Zone and the total of all Loads at the PTID greater than or equal to 0.1 MW.

**SCR Change of Load:** A decrease in the Load of the SCR that meets the criteria of a Qualified Change of Load Condition and the SCR Load Change Reporting Threshold in accordance with this Services Tariff and results in a total Load reduction, within the range of hours that corresponds with the Capability Period SCR Load Zone Peak Hours, and the total Load reduction persists for more than seven (7) and less than or equal to sixty (60) continuous days from the first date of the reduction of the Load.

**SCR Change of Status:** The decrease to be treated as an adjustment to the applicable Average Coincident Load of a Special Case Resource when the SCR meets the criteria of a Qualified Change of Status Condition and the SCR Load Change Reporting Threshold in accordance with this Services Tariff and results in a total Load reduction, within the range of hours that corresponds with the Capability Period SCR Load Zone Peak Hours, and the total Load reduction persists for more than sixty (60) continuous days from the first date of the reduction of the Load.

**SCR Load Change Reporting Threshold:** For a Special Case Resource with an applicable ACL greater than or equal to 500 kW, a reduction or increase in total Load not attributable to fluctuations in Load due to weather as described in ISO Procedures, that is equal to or greater than (i) thirty (30) percent of the applicable ACL for any month within the Capability Period, or (ii) five (5) MW in the NYC Locality or ten(10) MW if in any other Load Zone; whichever is less. For SCRs that elect to enroll with an Incremental ACL and do not increase the eligible Installed Capacity associated with the SCR, the RIP may enroll the SCR with a lower percentage change to its total Load increase as specified in Section 5.12.11.1.5 of this Services Tariff.

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

**Secondary Holder:** As defined in the ISO OATT.

**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:** As defined in the ISO OATT.

**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-Managed Energy Level: A Bid parameter which when selected indicates that an Energy Storage Resource's Energy Level constraints will not be directly accounted for in the optimization. See Sections 4.2.1.3.4 and 4.4.2.1 of this Services Tariff.](#)

**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 monotonically increasing Bid curve provided by an entity engaged in an Export, other than an entity submitting a CTS Interface Bid, to indicate the relevant Proxy Generator Bus LBMP at or 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, where the MW amounts on the Bid curve represent the desired increments of Energy that the entity is willing to purchase at various price points.

**Southeastern New York ("SENY"):** An electrical area comprised of Load Zones G, H, I, J, and K, as identified in the ISO Procedures.

**Special Case Resource ("SCR"):** Demand Side Resources whose Load is capable of being interrupted upon demand at the direction of the ISO, and/or Demand Side Resources that have a Local Generator, which is not visible to the ISO's Market Information System and is rated 100 kW or higher, that can be operated to reduce Load from the NYS Transmission System or the distribution system at the direction of the ISO. Special Case Resources 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 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. The Start-Up Period shall be set to zero for a BTM:NG Resource [and Energy Storage Resources](#).

**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 Resources [and Energy Storage Resources when that Energy is stored for later injection back to the grid](#); 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. If the Supplier is a BTM:NG Resource [or an Energy Storage Resource](#), it shall not submit a Start-Up Bid.

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.

**Study Month:** The calendar month for which the ISO calculates the Monthly Net Benefit Offer Floor, in accordance with Section 4.2.1.9 of the ISO Services Tariff and ISO Procedures.

**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, BTM:NG Resources, [Energy Storage Resources](#), 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.

## 2.21 Definitions - U

**Unforced Capacity:** The measure by which Installed Capacity Suppliers will be rated, in accordance with formulae set forth in the ISO Procedures, to quantify the extent of their contribution to satisfy the NYCA Installed Capacity Requirement, and which will be used to measure the portion of that NYCA Installed Capacity Requirement for which each LSE is responsible.

**Unforced Capacity Deliverability Rights:** Unforced Capacity Deliverability Rights (“UDRs”) are rights, as measured in MWs, associated with (i) new incremental controllable transmission projects, and (ii) new projects to increase the capability of existing controllable transmission projects that have UDRs, that provide a transmission interface to a Locality. When combined with Unforced Capacity which is located in an External Control Area or non-constrained NYCA region either by contract or ownership, and which is deliverable to the NYCA interface in the Locality in which the UDR transmission facility is electrically located, UDRs allow such Unforced Capacity to be treated as if it were located in the Locality, thereby contributing to an LSE’s Locational Minimum Installed Capacity Requirement. To the extent the NYCA interface is with an External Control Area the Unforced Capacity associated with UDRs must be deliverable to the Interconnection Point.

**UCAP Component:** A component of the Operating Requirement, calculated in accordance with Section 26.4.2 of Attachment K to this Services Tariff.

**Unrated Customer:** A Customer that does not currently have a senior long-term unsecured debt rating or issuer rating from Standard & Poor’s, Moody’s, Fitch, or Dominion, and that has not received an ISO Equivalency Rating.

**Unsecured Credit:** A basis for satisfying part of a Customer’s Operating Requirement on the basis of the Customer’s creditworthiness. The amount of a Customer’s Unsecured Credit shall be determined in accordance with Section 26.5 of Attachment K to this Services Tariff.

**Upper Storage Limit:** The maximum amount of Energy an Energy Storage Resource is physically capable of storing.

## 2.23 Definitions - W

**West of Central-East (“West” or “Western”):** An electrical area comprised of Load Zones A, B, C, D, and E, as identified in the ISO Procedures.

**Wheels Through:** Transmission Service, originating in another Control Area, that is wheeled through the NYCA to another Control Area.

**Wheels Through Credit Requirement:** A component of the External Transaction Component of the Operating Requirement, calculated in accordance with Section 26.4.2 of Attachment K to this Services Tariff.

**Wholesale Market:** The sum of purchases and sales of Energy and Capacity for resale along with Ancillary Services needed to maintain reliability and power quality at the transmission level coordinated together through the ISO and Power Exchanges. A party who purchases Energy, Capacity or Ancillary Services in the Wholesale Market to serve its own Load is considered to be a participant in the Wholesale Market.

**Wholesale Transmission Services Charges (“WTSC”):** Those charges calculated pursuant to Attachment H of the OATT, incurred or declared overdue by a Transmission Owner pursuant to Section 26.4.2 of Attachment K, after the effective date of these revisions; provided, however, that these provisions will not apply to pre-petition bankruptcy debts for a company that is currently in bankruptcy.

**Wind Energy Forecast:** The ISO’s forecast of Energy that is expected to be supplied over a specified interval of time by an Intermittent Power Resource that depends on wind as its fuel and which is used in ISO’s Energy market commitment and dispatch.

**Wind Output Limit:** A Base Point Signal calculated for an Intermittent Power Resource depending on wind as its fuel and which, when sent to the Intermittent Power Resource, shall include a separate flag indicating that the Base Point Signal directs the Intermittent Power Resource to reduce its output. All Intermittent Power Resources, other than those in commercial operation as of January 1, 2002 with name plate capacity of 12 MWs or fewer, shall be eligible to receive a Wind Output Limit.

**[Withdrawal-Eligible Generator:](#)** [A Generator that is eligible to withdraw energy from the grid at a price for the purposes of recharging or refilling for later injection back into the grid.](#)

**WTSC Component:** A component of the Operating Requirement, calculated in accordance with Section 26.4.2, of Attachment K to this Services Tariff.

### **3.5 ISO Procedures**

The ISO shall develop, and modify as appropriate, procedures for the efficient and non-discriminatory operation of the ISO Administered Markets and for the safe and reliable operation of the NYCA in accordance with the terms and conditions of the Tariff. All such procedures must be consistent with Good Utility Practice.

#### **3.5.1 Market Problems Reporting Procedure**

Upon ISO discovery of a potential Market Problem, the ISO will immediately report the Market Problem to the Market Monitoring Unit and to the Commission's Office of Enforcement.

The ISO will then report the Market Problem to Market Participants, subject to applicable confidentiality restrictions, unless it is determined in consultation with Commission staff that disclosure could lead to gaming or other harmful outcomes. The report will also be provided to Market Participants in an e-mail notice with this subject line: "Notice of a Market Problem."

The ISO will accomplish all three of the above steps as soon as possible, but in no event longer than five calendar days after discovery of the potential Market Problem.

In the event of a determination that disclosure of a Market Problem could lead to gaming or other harmful outcomes, ISO, unless otherwise directed by Commission staff, will provide notice to the Market Participants of the identification of a potential Market Problem and the conduct of a confidential investigation. Thereafter, the ISO shall consult with Market Participants as soon as practicable after resolution of the underlying issue pursuant to direction from the Commission.

In the event of an exigent circumstances filing of tariff amendments pursuant to Article 19 of the ISO Agreement, this consultation would include seeking concurrence on the Section 205 filing from the Management Committee.

If no exigent circumstances filing is made, the ISO will provide an opportunity for Market Participants to comment prior to a request to FERC for a tariff waiver or other remedy. In the ISO's reports to Market Participants, subject to applicable confidentiality restrictions, the NYISO will provide the following information:

- Description of the Market Problem and tariff implications as appropriate;
- Description of the time frame involved;
- Description of underlying cause of the Market Problem;
- Description of economic impacts; and
- Description of steps planned or taken to address the Market Problem including a proposed timetable for the developing necessary tariff revisions, if applicable, as developed in consultation with Market Participants. The ISO will also report when it determines a Market Problem investigation has concluded.

Except where a longer period of analysis is required, the ISO will provide an explanation to all Market Participants of its proposed steps to address the Market Problem as soon as reasonably possible, but in no event later than 30 calendar days of its initial notice to Market Participants and the ISO shall make staff available to discuss proposed remedy at the appropriate working group or committee with advance notice to all Market Participants. Where a longer period of analysis is required, the ISO will provide updates to Market Participants at least quarterly.

### **3.5.2 Provision of Data By Market Participants**

Whenever requested by the ISO, each LSE shall provide the ISO with a forecast of the Loads for which it is responsible for the particular time period designated by the ISO. Customers shall inform the ISO, in accordance with the ISO Procedures, of the Availability of Generators within the NYCA subject to a Customer's control by Energy contract, ownership or otherwise. Additionally, the Transmission Owners will provide megawatt, megavar, voltage

readings, transmission system data (facility ratings and impedance data), and maintenance schedules for all Transmission Facilities Under ISO Operational Control, and any person or entity that owns transmission facilities associated with an award of Incremental TCCs under Section 19.2.2 of Attachment M to the ISO OATT shall be responsible for providing the same data and schedules to the ISO. For Transmission Facilities Requiring ISO Notification, the Transmission Owners shall inform the ISO of all changes in the status of the designated transmission facilities. Transmission Owners and persons or entities that own transmission facilities associated with an award of Incremental TCCs shall provide such data and schedules pursuant to applicable provisions of the ISO Procedures. Suppliers will provide data on Generator status and output including maintenance schedules, Generator scheduled return dates (inclusive of return to service from maintenance, forced outages, partial unit outages or an increase in the forecasted Host Load of a Behind-the-Meter Net Generation Resource in real-time compared to the forecasted Host Load submitted as part of its Energy Bid in the Day-Ahead Market that resulted in a significant reduction in a generating unit's or a Behind-the-Meter Net Generation Resource's ability to produce Energy in any hour), and Generator machine data, in accordance with the ISO Procedures. These data shall also include Generator Incremental/Decremental Bids, operating limits, response rates, megawatt, megavar, and voltage readings. [Energy Storage Resources are required to provide a real-time Energy Level signal to the NYISO in accordance with ISO Procedures.](#)

### **3.5.3 Provision of Data By Transmission Owners to Each Other**

Each Transmission Owner shall make available information regarding its Transmission Facilities Under ISO Operational Control, Transmission Facilities Requiring ISO Notification, and Local Area Transmission Facilities to the other Transmission Owners in the New York

Control Area as follows: (i) a Transmission Owner must make available the maintenance schedules for its transmission facilities described above to any other Transmission Owner in the New York Control Area whose facilities would be directly impacted by the maintenance schedules; and (ii) a Transmission Owner must make available to all other Transmission Owners in the New York Control Area the results of its investigations of equipment malfunctions and failures and forced transmission outages of its transmission facilities described above. Except for such information posted by the ISO pursuant to its outage scheduling procedures, each Transmission Owner shall treat such information as Confidential Information and restrict access to only those persons authorized to view such information by FERC's Standards of Conduct in 18 C.F.R § 358, and, if more restrictive, by each Transmission Owner's board resolutions, tariff provisions, or other internal policies governing access to, and the sharing of Transmission System Information as that term is defined in Attachment F of the ISO OATT.

## **4.1 Market Services - General Rules**

### **4.1.1 Overview**

Market Services include all services and functions performed by the ISO under this Tariff related to the sale and purchase of Energy, Capacity or Demand Reductions, and the payment to Suppliers who provide Ancillary Services in the ISO Administered Markets.

### **4.1.2 Independent System Operator Authority**

The ISO shall provide all Market Services in accordance with the terms of the ISO Services Tariff and the ISO Related Agreements. The ISO shall be the sole point of Application for all Market Services provided in the NYCA. Each Market Participant that sells or purchases Energy, including Demand Side Resources, Special Case Resources and Emergency Demand Response Program participants, sells or purchases Capacity, or provides Ancillary Services in the ISO Administered Markets utilizes Market Services and must take service as a Customer under this Tariff and enter into a Service Agreement under the Tariff, as set forth in Attachment A; each entity that withdraws Energy to supply Load within the NYCA or provides Installed Capacity to an LSE serving Load within the NYCA utilizes the Control Area Services provided by the ISO and benefits from the reliability achieved as a result of ISO Control Area Services, must take service as a Customer under this Tariff and enter into a Service Agreement under this Tariff, as set forth in Attachment A; and each entity that has its virtual bids accepted and thereby engages in Virtual Transactions and each entity that purchases Transmission Congestion Contracts, excluding Transmission Congestion Contracts that are created prior to January 1, 2010, utilizes Market Services and must take service as a Customer under this Tariff and enter into a Services Agreement under this Tariff, as set forth in Attachment A. Each Customer that utilizes Market Services also utilizes Transmission Service and shall obtain Transmission

Service under the ISO OATT.

### **4.1.3 Informational and Reporting Requirements**

4.1.3.1 The ISO shall operate and maintain an OASIS, including a Bid/Post System that will facilitate the posting of Bids to supply Energy, Ancillary Services and Demand Reductions by Suppliers for use by the ISO and the posting of Locational Based Marginal Prices (“LBMP”) and schedules for accepted Bids for Energy, Ancillary Services and Demand Reductions. The Bid/Post System will be used to post schedules for Bilateral Transactions. The ISO will provide historical data regarding Energy and Capacity market clearing prices in addition to Congestion Costs on a publicly accessible portion of its OASIS.

4.1.3.2 Zonal Uplift Report. The ISO shall post on a publicly accessible portion of its website, in machine-readable format, a report on total daily uplift dollars paid to (a) Generators and Demand Side Resources located in Load Zones H, I and J collectively, (b) Generators and Demand Side Resources located in each of the other NYCA Load Zones, and (c) Suppliers scheduling Imports at a Proxy Generator Bus, no more than 20 calendar days after the conclusion of each month. The report shall be updated at the time the Resource-Specific Uplift Report is posted, and again approximately 120 days after an initial invoice was issued for a month, to incorporate updated information. The report shall provide the uplift paid for each month, by day and by billing category.

Costs that the ISO will report as uplift include: (1) Day-Ahead and real-time Bid Production Cost guarantee payments to Generators and to Demand Side Resource aggregations; (2) Day-Ahead Bid Production Cost guarantee payments

to Suppliers that schedule Imports; (3) Day-Ahead Margin Assurance Payments; (4) cost recovery for units responding to Local Reliability Rules addressing loss of Generator gas supply; (5) Import Curtailment Guarantee Payments to Suppliers that schedule Imports in real-time; and (6) Lost Opportunity Cost payments to Suppliers of Voltage Support Service.

4.1.3.3 Resource-Specific Uplift Report. The ISO shall post on a publicly accessible portion of its website, in machine-readable format, a report on total uplift paid to Generators, Demand Side Ancillary Service Program Resources, Day-Ahead Demand Response Program resources or aggregations, and to Special Case Resource aggregations, on a monthly basis. The report shall provide the total uplift payment across all uplift categories paid to each Generator or aggregation of Demand Side Resources. The report shall be posted no more than 90 calendar days after the conclusion of each month and shall be updated approximately 120 days after an initial invoice was issued for the month, to incorporate updated information.

#### **4.1.4 Scheduling Prerequisites**

Pursuant to ISO Procedures, each Transaction offered in the Energy, Installed Capacity, Ancillary Services or Transmission Congestion Contract market shall be subject to a minimum size of one (1) megawatt (“MW”); provided however, the minimum size of each Transaction offered in the Energy, Installed Capacity or Ancillary Services market on behalf of Energy Storage Resources shall be one tenth (0.1) of one MW. Regulation Service may be offered in tenths of a MW. ~~and provided further, p~~Pursuant to ISO Procedures, Special Case Resources may offer a minimum of 100 kW of Unforced Capacity in the Installed Capacity Market. Each

Transaction above one (1) megawatt may be scheduled in tenths of a megawatt provided, however, Bilateral Transactions and External Transactions in the LBMP Market must be bid and scheduled in increments of one (1) megawatt.

#### **4.1.5 Communication Requirements for Market Services**

Customers and Transmission Customers shall utilize Internet service providers to access the ISO's OASIS and bid/post system. Customers shall arrange for and maintain all communications facilities for the purpose of communication of commercial data to the ISO. Each Customer shall be the customer of record for the telecommunications facilities and services its uses and shall assume all duties and responsibilities associated with the procurement, installation and maintenance of the subject equipment and software.

#### **4.1.6 Customer Responsibilities**

All purchasers in the Day-Ahead or Real-Time Markets who withdraw Energy within the NYCA [to serve Load](#), or at an NYCA Interconnection with another Control Area must obtain Transmission Service under the ISO OATT. All Customers requesting service under the ISO Services Tariff to engage in Virtual Transactions must obtain Transmission Service under the ISO OATT.

All LSEs serving Load in the NYCA must comply with the Installed Capacity requirements set forth in Article 5 of this ISO Services Tariff.

All Customers taking service under the ISO Services Tariff must pay the Market Administration and Control Area Services Charge, as specified in Rate Schedule 1 of this ISO Services Tariff.

A Supplier with a Generator or Demand Side Resource with a real time physical operating problem that makes it impossible for it to operate in the bidding mode in which it was

scheduled shall notify the NYISO.

#### **4.1.7 Customer Compliance with Laws, Regulations and Orders**

All Customers shall comply with all applicable federal, state and local laws, regulations and orders, including orders from the ISO.

4.1.7.1 Violations of FERC's orders, rules and regulations also violate this Section 4.1.7 of the ISO Services Tariff. In particular, if FERC or a court of competent jurisdiction determines there has been a violation of FERC's regulations related to electric energy market manipulation (see 18 C.F.R. Section 1c.2, or any successor provision thereto), such violation is also a violation of this ISO Services Tariff if such violation affects or is related to the ISO Administered Markets.

4.1.7.2 If the ISO becomes aware that a Customer may be engaging in, or might have engaged in, electric energy market manipulation, it shall promptly inform its Market Monitoring Unit.

4.1.7.3 This Section 4.1.7 of the ISO Services Tariff does not independently empower the ISO or its Market Monitoring Unit to impose penalties for, or to provide a remedy for, violations of FERC's prohibition against electric energy market manipulation, or for other violations of the ISO's Tariffs.

#### **4.1.8 Commitment for Reliability**

Suppliers with generating units committed by the ISO for service to ensure NYCA reliability or local system reliability, except for Behind-the-Meter Net Generation Resources [and Energy Storage Resources](#), will recover startup and minimum generation costs that were not bid, that were not known before the close of the Real-Time Scheduling Window, and that were not

recovered in the Dispatch Day, provided however, eligibility to recover such additional costs shall not be available for megawatts scheduled Day-Ahead. Payment for such costs shall be determined, as if bid, pursuant to the provisions of Attachment C of this Tariff. Payments for securing NYCA reliability and local system reliability shall be recovered by the ISO in accordance with Rate Schedule 1 of the ISO OATT.

Re-dispatching costs incurred as a result of reductions in Transfer Capability caused by Storm Watch (“Storm Watch Costs”) shall be aggregated and recovered on a monthly basis by the ISO exclusively from Transmission Customers in Load Zone J. The ISO shall calculate Storm Watch Costs by multiplying the real-time Shadow Price of any binding constraint associated with a Storm Watch, by the higher of (a) zero; or (b) the scheduled Day-Ahead flow across the constraint minus the actual real-time flow across the constraint.

#### **4.1.9 Cost Recovery for Units Responding to Local Reliability Rules Addressing Loss of Generator Gas Supply**

##### **4.1.9.1 Eligibility for Cost Recovery**

Generating units designated pursuant to the New York State Reliability Council’s Local Reliability Rule addressing the Loss of Generator Gas Supply for Generators located in New York City or the Local Reliability Rule addressing the Loss of Generator Gas Supply for Generators located on Long Island, as being required either to burn an alternate fuel at designated minimum levels, or to activate their auto-swap capability, based on forecast Load levels in Load Zones J and K (for purposes of this Section 4.1.9, “Eligible Units”), shall be eligible to recover costs associated with burning the required alternate fuel when one of the specified Local Reliability Rules is invoked. For purposes of this Section 4.1.9, the periods of time in which the Eligible Unit burns the alternate fuel only because one of the Local Reliability Rules addressing the loss of gas supply for Generators located in New York City or on Long

Island has been invoked, including that period of time required for an Eligible Unit to move into and out of compliance with a Local Reliability Rule addressing the Loss of Generator Gas Supply, shall be referred to as the “Eligibility Period.”

**4.1.9.1.1 Obligation to Test Automatic Fuel Swap Capability and Eligibility to Recover Costs of Performing Fuel Swap Tests**

Combined cycle Generating units designated pursuant to the New York State Reliability Council’s Local Reliability Rules addressing the Loss of Generator Gas Supply for Generators located in New York City, which have the ability to automatically swap from natural gas to a liquid fuel source in the event of the sudden interruption of gas fuel supply or loss of gas pressure or the unavailability of gas supply to the Generator, shall:

- (a) develop test procedures that are consistent with the requirements of the applicable Local Reliability Rule and ISO Procedures; and
- (b) successfully test to demonstrate that the designated combined cycle units are able to automatically swap from natural gas to a liquid fuel source each Capability Period.

The requirement to perform a test each Capability Period can be met by performing a real-time automatic fuel swap, if that fuel swap was successful and occurred during the relevant Capability Period. The scheduling of a test to demonstrate that a designated combined cycle unit is able to automatically swap from natural gas to a liquid fuel source in real-time operations shall be coordinated with the ISO and with the Transmission Owner in whose subzone the Generator is located, consistent with ISO Procedures.

The period during which combined cycle Eligible Units are performing scheduled automatic fuel swap testing, including that period of time required for an Eligible Unit to move into and out of compliance with a Local Reliability Rule addressing the Loss of Generator Gas

Supply, is an “Eligibility Period.”

#### **4.1.9.2 Variable Operating Cost Recovery**

For Eligibility Periods, Eligible Units burning an alternate fuel that would not have been burned but for Local Reliability Rules addressing the loss of gas supply for Generators located in New York City or on Long Island being invoked and Eligible Units burning an alternate fuel because they activated their auto-swap capability and experienced a swap to the alternate fuel that would not have occurred but for the operation of the auto-swap capability in accordance with the implementation of the Local Reliability Rules addressing the loss of gas supply for Generators located in New York City or on Long Island shall recover costs that vary with the amount of alternate fuel burned (“variable operating costs”) if: (i) such costs are not reflected in the reference level for that Eligible Unit for the hours included in the Eligibility Period, pursuant to ISO Procedures, and (ii) the hour is one for which the commodity cost of the alternate fuel including taxes and emission allowance costs is greater than the commodity cost for natural gas, including taxes and emission allowance costs, as determined by the ISO. These relative commodity cost determinations shall use the same indices used by the ISO to establish daily Reference Levels. Variable operating costs shall include the commodity cost, associated taxes and emission allowance costs, of the required alternate fuel burned during an Eligibility Period pursuant to Local Reliability Rules addressing the loss of gas supply for Generators located in New York City or on Long Island. The owner or bidder of an Eligible Unit shall notify the ISO when variable operating costs change due to a change in tax rates.

#### **4.1.9.3 Additional Cost Recovery**

An Eligible Unit that seeks to recover costs incurred in connection with its compliance with Local Reliability Rules addressing the loss of gas supply for Generators located in New

York City or on Long Island, in addition to the commodity cost, associated taxes and emission allowance cost recovery specified in Section 4.1.9.2, shall negotiate an Implementation Agreement with the ISO. The Eligible Unit and the ISO shall consult with and consider the input of the New York State Public Service Commission, and the Transmission Owner designated by the applicable Local Reliability Rule addressing the loss of gas supply for Generators located in New York City or on Long Island. Such Implementation Agreements shall specify, among other terms and conditions, the facilities (or portions of facilities) used to meet obligations under the Local Reliability Rule addressing the loss of gas supply for Generators located in New York City or on Long Island. The Implementation Agreement shall indicate the rate to be charged during the period of the Implementation Agreement to recover such additional costs.

The Implementation Agreement may also include costs in addition to commodity cost, associated taxes and emission allowance costs of the alternate fuel incurred in connection with compliance with Local Reliability Rules addressing the loss of gas supply for Generators located in New York City or on Long Island that vary with the amount of alternate fuel burned because a Local Reliability Rule addressing the loss of gas supply was invoked. These variable costs shall be paid pursuant to Section 4.1.9.2 as variable operating costs so as to not duplicate payments.

Each such Implementation Agreement shall have a duration of one or more Capability Periods and shall commence at the beginning of a Capability Period unless another date is approved by the Commission. If the Eligible Unit and the ISO reach agreement on the terms and conditions of the Implementation Agreement, the ISO shall file it with the Commission for its review and acceptance.

In the event that the Eligible Unit and the ISO have not come to an agreement six months prior to the beginning of the Capability Period that the Implementation Agreement is intended to

govern, then either one of them may request the assistance of the Commission's Dispute Resolution Service. If the Dispute Resolution Service agrees to provide its assistance the Eligible Unit and the ISO shall participate in whatever dispute resolution process the Dispute Resolution Service may recommend. The Commission's Dispute Resolution Service may include other stakeholders to the extent confidentiality protections are in place. If, however, there is no agreement four months prior to the beginning of the relevant Capability Period then the Eligible Unit and the ISO may each file an unexecuted Implementation Agreement for the Commission's review and acceptance.

In the event that any provisions of this Section 4.1.9 are modified prior to the termination date of any Commission-accepted Implementation Agreement, such Implementation Agreement will remain in full force and effect until it expires in accordance with its contractual terms and conditions.

Rules for establishing Eligibility Periods shall be specified in ISO Procedures.

#### **4.1.9.4 Billing**

Payments made by the ISO to the Eligible Unit to pay variable operating costs and to pay the rate established by the Implementation Agreement pursuant to this Section 4.1.9 shall be in addition to any LBMP, Ancillary Service or other revenues received as a result of the Eligible Unit's Day-Ahead or Real-Time dispatch for that day. Payment by the ISO of variable operating costs pursuant to Section 4.1.9.2 shall be based on the Eligibility Period, quantity of alternate fuel burned, and relative costs of alternate fuel compared to natural gas. Payment by the ISO of the rate established in the Implementation Agreement for costs incurred other than variable operating costs shall be made as part of the ISO billing cycle regardless of which Local Reliability Rule addressing the loss of gas supply an alternate fuel is burned pursuant to, and

regardless of the relative cost of the alternate fuel compared to natural gas reflected in reference levels.

#### **4.1.9.5 Other Provisions**

The ISO shall make available for the Transmission Owner in whose subzone the Generator is located: (i) the identity of Generators determined by the ISO to be eligible to recover the costs associated with burning the required alternate fuel pursuant to the provisions of this Section 4.1.9; (ii) the start and stop hours for each claimed Eligibility Period and (iii) the amount of alternate fuel for which the Generator has sought to recover variable operating costs.

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

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

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

Subject to the two earlier submission deadlines set forth below, by 5 a.m. on the day prior to the Dispatch Day: (i) All LSEs serving Load in the NYCA shall provide the ISO with Load forecasts for the Dispatch Day and the day after the Dispatch Day; and (ii) Customers and Transmission Customers submitting Bids in the Day-Ahead Market shall provide the ISO, consistent with ISO Procedures:

- a. Bids to supply Energy, including Bids to supply Energy in Virtual Transactions;
- b. Bids to supply Ancillary Services;
- c. Requests for Bilateral Transaction schedules;
- d. Bids to purchase Energy, including Bids to purchase Energy in Virtual Transactions and Bids to withdraw Energy by Withdrawal-Eligible Generators;
- e. Demand Reduction Bids; and
- f. For Behind-the-Meter Net Generation Resources, the forecasted Host Load for each hour of the Dispatch Day.

By 4:50 a.m. on the day prior to the Dispatch Day, all Customers or Transmission Customers shall submit Bids for External Transactions at the Proxy Generator Bus associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, the Linden VFT Scheduled Line, or the HTP Scheduled Line.

By 4:45 a.m. on the day prior to the Dispatch Day, all Customers or Transmission Customers shall submit Bids that include revised fuel type or fuel price information to the ISO's Market Information System.

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

#### **4.2.1.2 Load Forecasts**

The Load forecast shall indicate the predicted level of Load in MW by Point of Withdrawal for each hour.

#### **4.2.1.3 Bids by Suppliers Using the ISO-Committed Flexible, Self-Committed Flexible or ISO-Committed Fixed Bid Modes to Supply Energy and/or Ancillary Services**

##### **4.2.1.3.1 General Rules**

Day-Ahead Bids by Suppliers using the ISO-Committed Flexible, Self-Committed Flexible or ISO-Committed Fixed bid modes 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. If the Supplier elects to participate in the Day-Ahead Market, and is within a defined electrical boundary, electrically interconnected with, and routinely serves a Host Load (which Host Load does not consist solely of Station Power) at a single PTID, it can only participate in the Day-Ahead Market as a Behind-the-Meter Net Generation Resource. If the Supplier is a Behind-the-Meter Net Generation Resource, the ISO shall only consider price-MW pairs in excess of the forecasted Host Load for the Resource.

A Supplier's Day-Ahead Bids for an Energy Storage Resource to withdraw Energy and to inject Energy shall be submitted as a single, continuous, bid curve representing the Capacity, in MW, available for commitment in the Day-Ahead Market for each hour of the Dispatch Day, and shall indicate whether the Resource's Energy Level will be ISO- or Self-Managed. An Energy Storage Resource may not change its Energy Level Management election within the Day-Ahead Market evaluation period (i.e., within a single day).

If the Supplier using the ISO-Committed Flexible or Self-Committed Flexible bid mode 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 may specify the quantity of Regulation Capacity it is making available and shall specify 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 of 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 Behind-the-Meter Net Generation Resource that is comprised of more than one generating unit that is dispatched as a single aggregate unit at a single PTID is not qualified to provide Regulation Service or Spinning Reserves. A Supplier may resubmit a complete Day-Ahead Bid, provided that the new Bid is timely. See Section 4.2.1.9 for bidding requirements for Demand Side Resources offering Energy in the Day-Ahead Market.

Suppliers other than Demand Side Resources entering a Bid into the Day-Ahead Market may also enter Day-Ahead Bids for each of the next nine (9) Dispatch Days. If not subsequently modified or withdrawn, these offers for subsequent Dispatch Days may be used by the ISO as offers from these Suppliers in the Day-Ahead Market for these subsequent Dispatch Days. For Suppliers that are providing Unforced Capacity in the ISO-administered ICAP Market for the month in which the Dispatch Day and the nine-day advance bidding period are encompassed, the ISO may enter the eighth day offer as the Bid for that Supplier's ninth day, if there is, otherwise no ninth-day Bid.

#### **4.2.1.3.2 Bid Parameters**

Day-Ahead Bids by Suppliers using the ISO-Committed Flexible, Self-Committed Flexible or ISO-Committed Fixed bid modes may identify-variable Energy price Bids, consisting of up to eleven monotonically increasing, constant cost incremental Energy steps, and other parameters described in 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 the Monthly Net Benefit Offer Floor. Day-Ahead offers by Intermittent Power Resources that depend on wind as their fuel shall be ISO-Committed Flexible and shall include a Minimum Generation Bid of zero megawatts and zero costs and a Start-Up Bid of zero cost.

Day-Ahead Bids by ISO-Committed Fixed and ISO-Committed Flexible Generators, other than bids from Intermittent Power Resources that depend on wind as their fuel, 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, Self-Committed Fixed, or Self-Committed Flexible.

#### **4.2.1.3.3 Upper Operating Limits, Lower Operating Limits, and Response Rates**

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  $UOL_N$ . [Bids from Withdrawal-Eligible Generators shall also specify the Generator's Lower Operating Limit for each hour.](#)

Bids from Suppliers for Generators supplying Energy and Ancillary Services must specify a normal response rate and may provide up to three normal response rates provided the minimum normal response rate may be no less than one percent (1%) of the Generator's Operating Capacity per minute. All Bids from Suppliers for Generators supplying Energy and

Ancillary Services must also specify an emergency response rate which shall be equal to or greater than the maximum normal response rate of the Generator.

Bids from Suppliers offering Operating Reserves or Regulation Service from Demand Side Resources must specify a normal response rate and an emergency response rate provided that the emergency response rate may not be lower than the normal response rate. For Demand Side Resources the minimum acceptable response rate is one percent (1%) of the quantity of Demand Reduction the Demand Side Resource produces per minute.

#### **4.2.1.3.4 Additional Parameters for Energy Storage Resources**

In addition to the parameters that Suppliers submit for Energy Storage Resources because they are Generators, specific parameters may apply to some Bids for Energy Storage Resources. Consistent with the ISO Procedures, Bids from Suppliers for Energy Storage Resources supplying Energy and Ancillary Services may be required to specify whether the Energy Level will be ISO-Managed or Self-Managed, the Beginning Energy Level, the Energy Storage Resource's Roundtrip Efficiency. An Energy Storage Resource must also specify its Upper and Lower Storage Limits.

The Day-Ahead Schedule for Energy Storage Resources with ISO-Managed Energy Levels will reflect the Resource's Energy Level constraints, including the Beginning Energy Level, the Upper and Lower Storage Limits, and the Resource's Roundtrip Efficiency. An Energy Storage Resource that self-manages its Energy Level is obligated to submit Bids that are consistent with its Energy Level constraints, and the Day-Ahead optimization will not honor the above-identified Energy Level constraints.

#### **4.2.1.4 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 and withdrawals (when applicable) 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<sub>NS</sub>, UOL<sub>ES</sub> 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 4.4.3 of this ISO Services Tariff.

#### **4.2.1.5 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.

#### **4.2.1.6 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.

#### **4.2.1.7 Bilateral Transactions**

Transmission Customers requesting 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 shall provide other information (as described in ISO Procedures).

#### **4.2.1.8 Bids to Purchase LBMP 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 enter into the Transaction.

#### **4.2.1.9 Day-Ahead Bids from Demand Reduction Providers and DSASP Providers to Supply Energy from Demand Reductions**

Demand Reduction Providers and DSASP Providers offering Energy from Demand Side Resources shall submit Bids: (i) identifying the amount of Demand Reduction, in MWs in accordance with Section 4.1.4, that is available for commitment in the Day-Ahead Market (for every hour of the dispatch day) and (ii) identifying the prices at which the Demand Reduction Provider or DSASP Provider will voluntarily enter into dispatch commitments to reduce demand; provided, however, the price at which the Demand Reduction Provider or DSASP Provider will voluntarily enter into dispatch commitments to reduce demand shall be no lower than the Monthly Net Benefit Offer Floor, as determined in accordance with this section. The Bids will identify the minimum period of time that the Demand Reduction Provider or DSASP Provider is willing to reduce demand, however the minimum period may not be less than one hour. 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.

The ISO shall perform the Net Benefits Test and post on its web site the Monthly Net Benefit Offer Floor for each month by the 15<sup>th</sup> of the preceding month in accordance with ISO Procedures. The Net Benefits Test shall establish the threshold price below which the dispatch of Energy from Demand Side Resources is not cost-effective. The Net Benefits Test shall

consist of the following steps: (1) the ISO shall compile hourly supply curves for the Reference Month; (2) the ISO shall develop the average supply curve for the Study Month by updating the Reference Month supply curves for retirements and new entrants, and adjusting offers for changes in fuel prices; (3) the ISO shall apply an appropriate mathematical formula to smooth the average supply curve; and (4) the ISO shall evaluate the smoothed average supply curve to determine the Monthly Net Benefit Floor for the Study Month. The ISO shall apply the Monthly Net Benefit Offer Floor, as so calculated, to Bids submitted by Demand Response Providers for all hours in the Study Month.

The ISO shall promptly post corrections, where necessary, to the Monthly Net Benefit Offer Floor. Corrections shall only apply to errors in conducting the calculations described above and/or in posting the properly calculated Monthly Net Benefit Offer Floor. Corrections shall not include recalculations based on changes in gas prices as set forth above. The ISO shall not use any correction to the Monthly Net Benefit Offer Floor to determine revised Day-Ahead Market clearing prices for periods prior to the imposition of the correction.

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

By 8 a.m., or as soon thereafter as is reasonably possible, 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.

#### **4.2.3 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 ISO shall compute all NYCA Interface Transfer Capabilities prior to scheduling Transmission Service Day-Ahead. The ISO shall run the SCUC utilizing the computed Transfer Capabilities, submitted Firm Point-to-Point Transmission Service requests, Load forecasts, and submitted Incremental Energy Bids, Decremental Bids and Sink Price Cap Bids.

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. SCUC will treat ~~a~~ Behind-the-Meter Net Generation Resources [and Energy Storage Resources](#) as already being committed and available to be scheduled. 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; and (vii) 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 hourly injections and withdrawals for: (a) each Customer whose Bid the ISO accepts for the 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: (a) the ISO shall commit zero megawatts of Energy for Demand Side Resources committed to provide Operating Reserves and Regulation Service; and (b) for Behind-the-Meter Net Generation Resources, the

ISO will consider for dispatch only those segments of the Resource's Incremental Energy Bids above the forecasted Host Load and subject to the Injection Limit.

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.

#### **4.2.3.1 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 4.2.3.1 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 4.2.3.1 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<sub>NS</sub>, up to the level of their UOL<sub>ES</sub> (pursuant to ISO Procedures) and/or raise the UOL<sub>NS</sub> of Capacity Limited Resources and Energy Limited Resources to their UOL<sub>E</sub> 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.

#### **4.2.4 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 4.2.4, 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.

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).

#### **4.2.5 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), Day-Ahead scheduled Load, forecast Load 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 and Attachment B to this Services Tariff. 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.

#### **4.2.6 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 or purchase Energy in the Day-Ahead Market will be ~~paid~~ settled at the product of: (a) the Day-Ahead hourly LBMP at the applicable Generator bus; and (b) the hourly Energy schedule. Each Supplier that bids an External Transaction into the Day-Ahead LBMP Market and is scheduled in the SCUC to sell Energy into the Day-Ahead LBMP Market will be ~~paid~~ settled at the product of (a) the Day-Ahead LBMP at the applicable Proxy Generator Bus and (b) the External

Transaction 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~~settled at 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 verified 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 Supplier that bids an External Transaction into the Day-Ahead LBMP Market and is scheduled in the SCUC to buy Energy from the Day-Ahead LBMP Market will pay the product of (a) the Day-Ahead LBMP at the applicable Proxy Generator Bus and (b) the External Transaction schedule. 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 Dispatch Day.

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

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

#### **4.4.1.1 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 quarter hour. RTC will treat ~~a~~ Behind-the-Meter Net Generation Resources [and Energy Storage Resources](#) as already being committed and available to be scheduled. RTC will co-optimize to solve simultaneously for all Load, Operating Reserves and Regulation Service and to minimize the total as-bid production costs over its optimization timeframe. RTC will consider SCUC’s Resource commitment for the day, load forecasts that RTC itself will produce each quarter hour, binding transmission constraints, and all Real-Time Bids and Bid parameters submitted pursuant to Section 4.4.1.2 below.

#### **4.4.1.2 Bids and Other Requests**

After the Day-Ahead schedule is published and before the close of the Real-Time Scheduling Window for each hour, Customers may submit Real-Time Bids into the Real-Time Market for real-time evaluation by providing all information required to permit real-time evaluation pursuant to ISO Procedures. If the Supplier elects to participate in the Real-Time Market, and is within a defined electrical boundary, electrically interconnected with, and routinely serves a Host Load (which Host Load does not exclusively consist of Station Power) at a single PTID, it can only participate in the Real-Time Market as a Behind-the-Meter Net

Generation Resource. If a Behind-the-Meter Net Generation Resource submits Bids into the Real-Time Market for real-time evaluation, such Bids shall provide the forecasted Host Load for each hour for which Bids are submitted.

An Energy Storage Resource shall indicate in its Real-Time Bids whether its Energy Level will be ISO- or Self-Managed. An Energy Storage Resource that elects to Self-Manage its Energy Level shall be responsible for managing its Energy Level through its Bids. An Energy Storage Resource, including an Energy Storage Resource that received a Day-Ahead Schedule, may change its Energy Level Management election for each operating hour in the Real-Time Market day.

#### **4.4.1.2.1 Real-Time Bids to Supply or Withdraw Energy and Supply Ancillary Services, other than External Transactions**

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 submit a Minimum Generation Bid of zero MW and zero cost and a Start-Up Bid at zero cost. Eligible Customers may submit new or revised Bids to supply or withdraw Energy, and to supply Operating Reserves and/or Regulation Service. Customers that submit such Bids may specify different Bid parameters in real-time than they did Day-Ahead. Incremental Energy Bids, for portions of the Capacity of such Resources that were scheduled in the Day-Ahead Market, and/or Start-Up Bids may be submitted by Suppliers bidding Resources using ISO-Committed Fixed, ISO-Committed Flexible, and Self-Committed Flexible bid modes that exceed the Incremental Energy Bids or Start-Up Bids submitted in the Day-Ahead Market or the mitigated Day-Ahead Incremental Energy Bids or Start-Up Bids where appropriate, if not otherwise prohibited pursuant to other provisions of the tariff. Minimum Generation Bids or Regulation Service Bids for any hour in which such Resources received a Day-Ahead Energy schedule or a Regulation Service schedule,

as appropriate, may not exceed the Minimum Generation Bids or Regulation Service Bids, as appropriate, submitted for those Resources in the Day-Ahead Market. 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 4.2.1 of this ISO Services Tariff. For Behind-the-Meter Net Generation Resources, the ISO will consider only those segments of the Resource's Incremental Energy Bids above the forecasted Host Load and subject to the Injection Limit.

Suppliers bidding on behalf of Generators that did not receive a Day-Ahead schedule for a given hour may offer their Generators, for those hours, using the ISO-Committed Flexible, Self-Committed Flexible, Self-Committed Fixed bid mode or, with ISO approval, the ISO-Committed Fixed bid modes in real-time. For Behind-the-Meter Net Generation Resources, the ISO will consider only those segments of the Resource's Incremental Energy Bids above the forecasted Host Load and subject to the Injection Limit. Suppliers bidding on behalf of Demand Side Resources that did not receive a Day-Ahead schedule to provide Operating Reserves or Regulation Service for a given hour may offer to provide Operating Reserves or Regulation Service using the ISO-Committed Flexible bid mode for that hour in the Real-Time Market provided, however, that the Demand Side Resource shall have an Energy price Bid no lower than the Monthly Net Benefit Offer Floor. A Supplier bidding on behalf of a Generator that received a Day-Ahead schedule for a given hour may not change the bidding mode for that Generator for the Real-Time Market for that hour 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 ~~NY~~ISO. Additionally, if the Host Load of a Behind-the-Meter Net Generation Resource is greater in real-time than was forecasted Day-Ahead such that it cannot meet its Day-Ahead schedule, it must notify the ~~NY~~ISO.

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).

#### **4.4.1.2.2 Real-Time Bids Associated with Internal and External Bilateral Transactions**

Customers may use Real-Time Bids to 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 4.2.1.7.

Except as provided in this section, External Transaction Bids may not vary over the course of an hour. Each such Bid must offer to import, export or wheel the same amount of Energy at the same price at each point in time within that hour. At Variably Scheduled Proxy Generator Buses the ISO shall permit the submission of Bids to import or export Energy that vary the amount of Energy, and vary the price, for each quarter hour evaluation period.

The ISO may vary External Transaction Schedules at Proxy Generator Buses that are authorized to schedule transactions on an intra-hour basis if the party submitting the Bid for such a Transaction elects to permit variable scheduling. The ISO may also vary External Transaction Schedules at CTS Enabled Proxy Generator Buses. External Transaction Bids submitted to import Energy from, or export Energy to Proxy Generator Buses that are authorized to schedule transactions on either an intra-hour or hourly basis shall indicate whether the ISO may vary schedules associated with those Bids within each hour. Transmission Customers scheduling External Bilateral Transactions shall also be subject to the provisions of Section 16, Attachment J of the ISO OATT.

#### **4.4.1.2.3 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.

#### **4.4.1.2.4 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 have exclusively used the Self-Committed Fixed or ISO-Committed Fixed bid modes in the Day-Ahead Market or 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 using the ISO-Committed Fixed bid mode in the Real-Time Market. Real-Time Bids by Generators using the ISO-Committed Fixed bid mode in the Real-Time Market shall provide variable Energy price Bids, consisting of up to eleven monotonically increasing, constant

cost incremental Energy steps, Minimum Generation Bids, hourly Start-Up Bids and other information pursuant to ISO Procedures.

RTC shall schedule ISO-Committed Fixed Generators.

#### **4.4.1.3 External Transaction Scheduling**

RTC15 will schedule External Transactions on an hourly basis as part of its development of a co-optimized least-bid cost Real-Time Commitment. For External Transactions that are scheduled on a 15 minute basis, the amount of Energy scheduled to be imported, exported or wheeled in association with that External Transaction may change on the quarter hour. All RTC runs will schedule intra-hour External Transactions on a 15 minute basis at Variably Scheduled Proxy Generator Buses. 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. External Bilateral Transaction schedules are also governed by the provisions of Section 16, Attachment J of the OATT.

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

Except as specifically noted in Section 4.4.2, 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 of at least 15 minutes, but not longer than one hour; provided however, Real-Time Minimum Run Qualified Gas Turbines shall be assumed to have a two-hour minimum run time. For Behind-the-Meter Net Generation

Resources, RTC will consider only those segments of the Resource's Incremental Energy Bids above the forecasted Host Load and subject to the Injection Limit.

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 scheduled ~~generation~~[dispatch](#) 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 scheduled ~~generation~~[dispatch](#) 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 economic hourly External Transactions for the next hour;

- (vi) Schedule economic 15 minute External Transactions, for the quarter hour for which the results of the next RTC run are posted, at Variably Scheduled Proxy Generator Buses other than a CTS Enabled Proxy Generator Bus;
- (vii) Schedule economic 15 minute External Transactions, for the quarter hour for which the results of the next RTC run are posted, at a CTS Enabled Proxy Generator Bus; and
- (viii) Schedule ISO-Committed Fixed Resources.

All subsequent RTC runs in the hour, *i.e.*, RTC<sub>30</sub>, RTC<sub>45</sub>, and RTC<sub>00</sub> will begin executing at fifteen minutes before their designated posting times (for example, RTC<sub>30</sub> 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 previous RTC runs should continue to flow in the next hour, or inform the ISO that External Transactions may need to be reduced;
- (vi) Schedule economic 15 minute External Transactions, for the quarter hour for which the results of the next RTC run are posted, at Variably Scheduled Proxy Generator Buses other than a CTS Enabled Proxy Generator Bus;
- (vii) Schedule economic 15 minute External Transactions, for the quarter hour for which the results of the next RTC run are posted, at a CTS Enabled Proxy Generator Bus; and
- (viii) Schedule ISO-Committed Fixed Resources.

#### **4.4.1.5 External Transaction Settlements**

Settlements for External Transactions in the LBMP Market are described in Sections 4.2.6 and 4.5 of this ISO Services Tariff. Settlements for External Bilateral Transactions are also described in Section 16, Attachment J and Rate Schedules 7 and 8 of the OATT.

The calculation of Real-Time LBMPs at Proxy Generator Buses and CTS Enabled Interfaces is described in Section 17, Attachment B to this ISO Services Tariff.

### **4.4.2 Real-Time Dispatch**

#### **4.4.2.1 Overview**

The Real-Time Dispatch will make dispatching decisions, send Base Point Signals to Internal Generators and Demand Side Resources, produce schedules for intra-hour External Transactions at Dynamically Scheduled Proxy Generator Buses, calculate Real-Time Market clearing prices for Energy, Operating Reserves, and Real-Time Market Prices for 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 4.4.2.4 below. Real-Time Dispatch will review each Energy Storage Resource's Beginning Energy Level in each interval. Real-Time Dispatch will attempt to prevent dispatching a Self-Managed Energy Storage Resource in a manner that would be infeasible based on its Beginning Energy Level. Instead, Real-Time dispatch will reduce the Energy Storage Resource's Upper Operating Limit or increase its Lower Operating Limit, as appropriate, to an achievable value. An Energy Storage Resource's Beginning Energy Level will be used to ensure that Operating Reserves scheduled from the Resource can be sustained for one hour if the Operating Reserves are converted to Energy. 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). An advisory schedule may become binding in the absence of a subsequent Real-Time Dispatch run. RTD will use the most recent system information and the same set of Bids and constraints that are considered by RTC.

#### **4.4.2.2 External Transaction Scheduling**

All RTD runs will schedule External Transactions on a 5 minute basis at Dynamically Scheduled Proxy Generator Buses. For External Transactions that are scheduled on a 5 minute basis, the amount of Energy scheduled to be imported, exported or wheeled in association with

that External Transaction may change every 5 minutes. External Bilateral Transaction Schedules are also governed by the provisions of Attachment J of the OATT.

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

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.

#### **4.4.2.4 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 [and meeting Minimum Generation Levels](#) 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 pursuant to Section 17, Attachment B to this ISO Services Tariff.

#### **4.4.2.5 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 Responsible Interface Parties notify their Special Case Resources to 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 4.4.2.4, 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 determining a Scarcity Reserve Requirement pursuant to Rate Schedule 4 of this ISO 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.

#### **4.4.2.6 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 4.4.2.5, 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 determining a Scarcity Reserve Requirement pursuant to Rate Schedule 4 of this ISO 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.

#### **4.4.2.7 Post the Real-Time Schedule**

Subsequent to the close of the Real-Time Scheduling Window, the ISO shall post the real-time 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, Transmission 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 real-time Load for each Load Zone, and the Real-Time LBMP prices (including the Congestion Component and the Marginal Losses Component) for each Load Zone for each hour of the Dispatch Day. The ISO shall conduct the real-time settlement based upon the real-time schedule determined in accordance with this Section.

#### **4.4.3 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, and schedule intra-hour External Transactions at Dynamically Scheduled Proxy Generator Buses. 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 Resources to run above their UOL<sub>NS</sub>, up to the level of their UOL<sub>ES</sub> 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.

#### **4.4.3.1 RTD-CAM Modes**

##### **4.4.3.1.1 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 and Scarcity Reserve Requirements, but will set all Regulation Service schedules to zero. 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.

##### **4.4.3.1.2 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, Southeastern New York, 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 and Scarcity Reserve Requirements, but will set all Regulation Service schedules to zero.

#### **4.4.3.1.3 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.

#### **4.4.3.1.4 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.

#### **4.4.3.1.5 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.

#### **4.4.3.2 Calculating Real-Time LBMPs**

When RTD-CAM is activated, RTD shall calculate *ex ante* Real-Time LBMPs at each Generator bus, and for each Load Zone in accordance with the procedures set forth in Section 17, Attachment B of this ISO Services Tariff.

#### **4.4.4 Identifying the Pricing and Scheduling Rules That Apply to External Transactions**

LBMPs will be determined and External Transactions will be scheduled at external Proxy Generator Buses consistent with the table below.

Proxy Generator Bus	PTID	Scheduled Line	Designated Scheduled Line	Non-Competitive	CTS Enabled Proxy Generator Bus		Scheduling Frequencies		
					Requires CTS Bids	Permits CTS Bids	Hourly Scheduled	Variably Scheduled	Dynamically Scheduled (Not Presently Available)
Hydro Quebec									
HQ_GEN_IM PORT	323601			✓			✓	✓	
HQ_LOAD_EXPORT	355639			✓			✓	✓	
HQ_GEN_CEDARS_PROXY	323590	Dennison Scheduled Line		✓			✓		
HQ_LOAD_CEDARS_PROXY	355586	Dennison Scheduled Line		✓			✓		
HQ_GEN_WHEEL	23651			✓			✓		
HQ_LOAD_WHEEL	55856			✓			✓		
PJM									
PJM_GEN_KEYSTONE	24065					✓	✓* (See Notes)	✓	
PJM_LOAD_KEYSTONE	55857					✓	✓* (See Notes)	✓	
PJM_GEN_NEPTUNE_PROXY	323594	Neptune Scheduled Line	✓			✓	✓* (See Notes)	✓	
PJM_LOAD_NEPTUNE_PROXY	355615	Neptune Scheduled Line	✓			✓	✓* (See Notes)	✓	
PJM_GEN_VFT_PROXY	323633	Linden VFT Scheduled Line	✓			✓	✓* (See Notes)	✓	
PJM_LOAD_VFT_PROXY	355723	Linden VFT Scheduled Line	✓			✓	✓* (See Notes)	✓	
PJM_HTP_GEN	323702	HTP Scheduled Line	✓			✓	✓* (See Notes)	✓	

Proxy Generator Bus	PTID	Scheduled Line	Designated Scheduled Line	Non-Competitive	CTS Enabled Proxy Generator Bus		Scheduling Frequencies		
					Requires CTS Bids	Permits CTS Bids	Hourly Scheduled	Variably Scheduled	Dynamically Scheduled (Not Presently Available)
HUDSONTP_345KV_HTP_LOAD	355839	HTP Scheduled Line	✓			✓	✓* (See Notes)	✓	
ISO New England									
N.E._GEN_S ANDY_POND	24062				✓		✓** (See Notes)	✓	
NE_LOAD_S ANDY_PD	55858				✓		✓** (See Notes)	✓	
NPX_GEN_CSC	323557	Cross Sound Scheduled Line	✓				✓		
NPX_LOAD_CSC	355535	Cross Sound Scheduled Line	✓				✓		
NPX_GEN_1385_PROXY	323591	Northport Norwalk Scheduled Line					✓		
NPX_LOAD_1385_PROXY	355589	Northport Norwalk Scheduled Line					✓		
Ontario									
O.H._GEN_BRUCE	24063						✓		
OH_LOAD_BRUCE	55859						✓		

Notes:

\* At specifically identified Proxy Generator Buses (“\* See Notes”), only Wheels Through (the NYCA) are scheduled on an hourly basis.

\*\* At specifically identified Proxy Generator Buses (“\*\* See Notes”), only wheels through the NYCA or a neighboring Control Area are scheduled on an hourly basis.

Pricing rules for Proxy Generator Buses are set forth in Section 17 of the Services Tariff.

The ISO may offer a more frequent scheduling option at a Proxy Generator Bus identified on the table. The ISO shall inform its Market Participants of the availability of such an option by providing notice at least two weeks in advance of the implementation of any such change. At the same time, the ISO shall update the above table to reflect the change in scheduling options by submitting a compliance filing in FERC Docket No. ER11-2547. Unless FERC acts on the ISO's compliance filing, the ISO shall effectuate the change in scheduling capability on the date it proposed in its compliance filing. The addition of new Proxy Generator Buses to the table, or changing the pricing rules that apply at a Proxy Generator Bus, may not be accomplished by submitting a compliance filing in Docket No. ER11-2547. The ISO may revert to establishing hourly Import and Export schedules using all available External Transaction Bids at a Proxy Generator Bus that is identified as a Dynamically or Variably Scheduled Proxy Generator Bus when the ISO or a neighboring Balancing Authority is not able to implement schedules as expected, or when necessary to ensure or preserve system reliability. When it reverts to hourly Import and Export schedules at a Dynamically or Variably Scheduled Proxy Generator Bus, the ISO shall apply the pricing rules for a corresponding Proxy Generator Bus that is not Dynamically Scheduled or Variably Scheduled. The ISO may cease evaluating CTS Interface Bids at CTS Enabled Proxy Generator Buses when the ISO or a neighboring Balancing Authority is not able to implement schedules as expected, or when necessary to ensure or preserve system reliability.

## **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 [injections](#) 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 Regulation Capacity Bid, Operating Reserves Bid, or its Minimum Generation Bid, Start-Up Bid, and Incremental Energy Bid ~~to produce for~~ Energy scheduled in the Day-Ahead Market, including Energy provided by the capacity scheduled for Regulation Service, through Day-Ahead LBMP revenue, Day-Ahead Imputed LBMP Revenue 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 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 revenue and Day-Ahead Imputed LBMP Revenue. 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 Regulation Capacity Bid, Regulation Movement Bid, Operating Reserves Bid, or its Minimum Generation Bid, Start-Up Bid, and Incremental Energy Bid ~~to produce~~ for Energy that was not scheduled in the Day-Ahead Market, including Energy provided by the capacity scheduled for Regulation Service, through real-time LBMP revenue, real-time Imputed LBMP Revenue 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 and, as applicable, Section 15.3.

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 Regulation Capacity Bid, Regulation Movement Bid, Operating Reserves Bid, or its Minimum Generation Bid and Incremental Energy Bid ~~to produce~~ for Energy that was not scheduled Day-Ahead, including Energy provided by the

capacity scheduled for Regulation Service, through real-time LBMP revenue, real-time Imputed LBMP Revenue 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 External Transactions**

External Transactions are not eligible to receive Bid Production Cost guarantee payments in the Real-Time Market 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 for 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 and/ or Regulation Service**

The ISO shall determine if a Supplier that bids Demand Side Resources committed by the ISO to provide synchronized Operating Reserves and/or Regulation Service 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, and/or its Day-

Ahead Regulation Capacity Bid to provide the amount of Regulation Capacity 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 and/ or Regulation Service**

The ISO shall determine if a Supplier that bids Demand Side Resources committed by the ISO to provide synchronized Operating Reserves and/or Regulation Service will not recover its real-time synchronized Operating Reserves Bid to provide the amount of synchronized Operating Reserves that it was scheduled to provide, and/or its real-time Regulation Capacity and Regulation Bids to provide Regulation Service. 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.

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

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

In order to qualify as an Installed Capacity Supplier, Generators and controllable transmission projects electrically located in the NYCA, and transmission projects with associated incremental transfer capability, must have obtained Capacity Resource Interconnection Service (“CRIS”) pursuant to the applicable provisions of Attachment S to the ISO OATT and have entered service: controllable transmission projects must also have obtained Unforced Capacity Deliverability Rights and transmission projects with associated incremental transfer capability must also have obtained External-to-ROS Deliverability Rights. Even if a Generator has otherwise satisfied the requirements to participate in the ISO’s Installed Capacity market, a Generator in Inactive Reserves, an ICAP Ineligible Forced Outage, a Mothball Outage, or that is Retired is ineligible to participate in the ISO’s Installed Capacity market. A Generator that elects to participate in the ICAP Market, and is within a defined electrical boundary, electrically interconnected with, and routinely serves a Host Load (which Host Load does not consist solely of Station Power) at a single PTID can only participate in the Installed Capacity market as a Behind-the-Meter Net Generation Resource.

In addition, to qualify as an Installed Capacity Supplier in the NYCA, Energy Limited Resources, Generators, Installed Capacity Marketers, Intermittent Power Resources, Behind-the-Meter Net Generation 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, Responsible Interface Parties, 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, [and Energy Storage Resources with a nameplate capacity rating that allows a minimum injection to the NYS Transmission System or distribution system of 0.1 MW or greater](#) 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 or DMGC 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 or solar 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 of any proposed transfers of deliverability rights to be carried out pursuant to Sections 25.9.4 - 25.9.6 of Attachment S to the ISO OATT, on the Class Year Start Date if a request to transfer CRIS at a different location, and upon the submission of the request if it is a request to transfer CRIS at the same location.
- 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 523 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.
- 5.12.1.12 A Resource that was determined by the ISO to be qualified as a Behind-the-Meter Net Generation Resource and for which Net Unforced Capacity was calculated by the ISO for a Capability Year can annually, by written notice received by the NYISO prior to August 1, elect not to participate in the ISO Administered Markets as a Behind-the-Meter Net Generation Resource. Such

notice shall be in accordance with ISO Procedures. A Resource that makes such an election cannot participate as a Behind-the-Meter Net Generation Resource for the entire Capability Year for which it made the election, but can, however, prior to August 1 of any subsequent Capability Year, provide all required information in order to seek to re-qualify as a Behind-the-Meter Net Generation Resource.

5.12.1.13 For Energy Storage Resources, be capable of running for a minimum of four (4) consecutive hours each day (except for days when it is not capable of doing so because of an outage reported pursuant to Sections 5.12.3, 5.12.5.3, 5.12.5.4, 5.12.7 and in accordance with ISO Procedures), and elect the ISO-Managed Energy Level bidding parameter for each Day-Ahead Market Bid.

The ISO shall inform each potential Installed Capacity Supplier that the ISO must receive and approve DMNC or DMGC data, as applicable of its approved DMNC or DMGC 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.

External Installed Capacity not associated with UDRs, including capacity associated with External CRIS Rights, EDRs, Grandfathered External Installed Capacity Agreements listed in Attachment E of the ISO Installed Capacity Manual, 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, Import Rights, and External System Resources, is only qualified to satisfy a

NYCA Minimum Unforced Capacity Requirement and is not eligible to satisfy a Locational Minimum Installed Capacity Requirement.

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**

Terms in this Section 5.12.2 not defined in the Services Tariff have the meaning set forth in the OATT.

##### **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; 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; in the case of an EDR, to the NYCA interface over which it creates increased transfer capability; and 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, EDRs 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, EDRs, 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, EDRs, 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 within the Rest of State. 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, EDRs or External CRIS Rights will be set no higher than the amount of imports deliverable into Rest of State 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 Rest of State Capacity Region when evaluated with the New York Control Area CRIS resources (including EDRs and UDRs) 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 within the Rest of State Capacity Region.

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:

$$\begin{aligned}
 & \text{Rights allocated to entity } i \\
 & = 1090 \\
 & \quad * (MW_i * \text{contract/commitment length}_i) \\
 & \quad / \sum_j (MW_j * \text{contract/commitment length}_j)
 \end{aligned}$$

$j = 1, \dots, \#$  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 NYCA ICAP Demand Curve for that Period; 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 Responsible Interface Parties, 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 or EDRs 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 (if applicable.)
- (c) On and after the execution of an RMR Agreement, and for the duration of its term, an RMR Generator shall not enter into any new agreement or extend any other agreement that impairs or otherwise diminishes its ability to comply with its obligation under an RMR Agreement, or that limits its ability to provide Energy, Capacity, or Ancillary Services directly to the ISO Administered Markets. An Interim Service Provider shall not enter into any new agreement or extend any other agreement that limits its ability to provide Energy, Capacity, or Ancillary Services directly to the ISO Administered Markets or otherwise meet its obligations as an Interim Service Provider.

### **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 may 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, [Energy storage Resources](#), Responsible Interface Parties, 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, Responsible Interface Parties, Intermittent Power Resources, Limited Control Run-of-River Hydro Resources, [Energy Storage 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.

#### **5.12.5.4 Transmission Projects Granted External-to ROS Deliverability Rights**

An owner of a transmission project that receives EDRs must, among other obligations, submit outage data or other operational information when determined applicable by the ISO and in accordance with ISO Procedures.

### **5.12.6 Capacity Calculations, Operating Data Default, Value and Collection**

#### **5.12.6.1 ICAP Calculation for Behind-the-Meter Net Generation Resources**

The ISO shall calculate the amount of Net-ICAP for each Behind-the-Meter Net Generation Resource as the Adjusted DMGC of the Generator of the Behind-the-Meter Net Generation Resource minus the Resource's Adjusted Host Load in accordance with this Tariff and ISO Procedures.

##### **5.12.6.1.1 Adjusted DMGC**

The ISO's calculation of the Adjusted DMGC of a Behind-the-Meter Net Generation Resource shall be the least of: (i) its DMGC for the Capability Period; (ii) its Adjusted Host

Load plus its applicable Injection Limit; and (iii) its Adjusted Host Load plus the number of MW of CRIS it has obtained, as determined in accordance with OATT Section 25 (OATT Attachment S) and ISO Procedures.

If the Station Power of a Behind-the-Meter Net Generation Resource is separately metered from all other Load of the Resource, such that the Station Power Load can be independently measured and verified, the Generator of a Behind-the-Meter Net Generation Resource may elect to perform a DMNC Test instead of a DMGC Test pursuant to ISO Procedures. Such election must be made in writing to the ISO prior to the start of the DMNC Test Period.

If a Behind-the-Meter Net Generation Resource elects to take a DMNC Test, the Station Power measured during such DMNC Test shall not be included in the Resource's Host Load. A Behind-the-Meter Net Generation Resource's DMNC value for the Capability Period shall be used in lieu of a DMGC value in the calculation of the Resource's Adjusted DMGC for the purposes of Sections 5.12.6.1 and 5.12.6.2 of this Services Tariff.

#### **5.12.6.1.2 Adjusted Host Load**

A Behind-the-Meter Net Generation Resource's Adjusted Host Load shall be equal to the product of the Average Coincident Host Load multiplied by one plus the Installed Reserve Margin.

The Adjusted Host Load shall be calculated by the ISO on an annual basis prior to the start of the Summer Capability Period and in accordance with ISO Procedures, based upon the Behind-the-Meter Net Generation Resource's Average Coincident Host Load for the prior Summer Capability Period and the Winter Capability Period before that.

#### **5.12.6.1.2.1 Average Coincident Host Load**

The ISO must receive the Behind-the-Meter Net Generation Resource's applicable metered Load data required to calculate an Average Coincident Host Load in accordance with ISO Procedures. The ISO shall compute the Average Coincident Host Load for each Capability Year (i) using the metered Host Load data for the applicable NYCA peak Load hours, except as provided below in this Section, and (ii) adjusted for weather normalization and Load growth as determined by the ISO in relation to developing the NYCA Minimum Installed Capacity Requirement in accordance with ISO Procedures.

For each Capability Year, the NYISO shall use the average of the highest twenty (20) one-hour peak Loads of the Host Load of the Behind-the-Meter Net Generation Resource that occur during the top forty (40) NYCA peak Load hours of the prior Summer Capability Period and the Winter Capability Period before that to calculate the Average Coincident Host Load.

If a facility meets the criteria to be, and has not previously been, a Behind-the-Meter Net Generation Resource, but does not have all of the appropriate meter data, its Average Coincident Host Load shall be a value forecasted by the Behind-the-Meter Net Generation Resource. The Behind-the-Meter Net Generation Resource's forecast shall be based on actual meter data, or if not available, billing data or other business data of the Host Load. An estimated Average Coincident Host Load can only be applicable to a Behind-the-Meter Net Generation Resource until actual data becomes available, but in any event no longer than three (3) consecutive Capability Years beginning with the Capability Year it is first an Installed Capacity Supplier.

#### **5.12.6.1.2.2 Determination of Adjusted Host Load**

After the ISO has calculated a Behind-the-Meter Net Generation Resource's Average Coincident Host Load, it shall then apply the NYCA Installed Reserve Margin. The Behind-the-

Meter Net Generation Resource's Adjusted Host Load will be established by multiplying the Resource's Average Coincident Host Load for the Capability Year by the quantity of one plus the NYCA Installed Reserve Margin.

#### **5.12.6.2 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, except for the Generator of a Behind-the-Meter Net Generation Resource, 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 Energy Storage Resource is authorized to supply in the NYCA shall be based on the individual availability of the Energy Storage Resource in the Real-Time Market and calculated by the ISO in accordance with ISO Procedures. Except as provided in Section 5.12.6.2.1 of this Services Tariff, this calculation shall not include hours in any month that the Energy Storage Resource was in an outage state that started on or after May 1, 2015 and that precluded its eligibility to participate in the Installed Capacity market. 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. Except as provided in Section 5.12.6.2.1 of this

Services Tariff, this calculation shall not include hours in any month that the Intermittent Power Resource was in an outage state that started on or after May 1, 2015 and that precluded its eligibility to participate in the Installed Capacity market. 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. Except as provided in Section 5.12.6.2.1 of this Services Tariff, for a Limited Control Run-of-River Hydro Resource in an outage state that started on or after May 1, 2015 and that precluded its eligibility to participate in the Installed Capacity market during one of the 20 highest NYCA integrated real-time load hours in any one of the five previous Summer or Winter Capability Periods, the ISO shall replace that Winter or Summer Capability Period, as appropriate, with the next most recent Winter or Summer Capability Period such that the rolling average of the hourly net Energy provided by each such Resource shall be calculated from the 20 highest NYCA integrated real-time load hours in the five most recent prior Summer or Winter Capability Periods in which the Resource was not in an outage state that precluded its eligibility to participate in the Installed Capacity market on one of the 20 highest NYCA integrated real-time load hours in that Capability Period.

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; provided, however, except as provided in Section 5.12.6.2.1 of this Services Tariff, for a Generator in an outage state

that started on or after May 1, 2015 and that precluded its eligibility to participate in the Installed Capacity market at any time during any month from which GADS or other operating data would otherwise be used to calculate an individual Equivalent Demand Forced Outage Rate, the ISO shall replace such month's GADS or other operating data with GADS or other operating data from the most recent prior month in which the Generator was not in an outage state that precluded its eligibility to participate in the Installed Capacity market.

[The ISO shall calculate separate Summer and Winter Capability Period Unforced Capacity values for Energy Storage Resource and update them seasonally as described in 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.

The amount of Unforced Capacity that each Behind-the-Meter Net Generation Resource is authorized to supply in the NYCA shall be its Net-UCAP. Net-UCAP is the lesser of (i) the ISO's calculation of the Generator of the Behind-the-Meter Net Generation Resource Adjusted DMGC multiplied by one minus its Equivalent Demand Forced Outage Rate, and then decreased by its Adjusted Host Load translated into Unforced Capacity terms consistent with Section 5.11.1 of this Tariff, and (ii) the Resource's Net-ICAP.

#### **5.12.6.2.1 Exceptions**

A Generator returning to the Energy market after taking an outage that precluded its participation in the Installed Capacity market and which returns with modifications to its operating characteristics determined by the ISO to be material and which, therefore, requires the submission of a new Interconnection Request will receive, as the initial derating factor for

calculation of the Generator's Unforced Capacity upon its return to service, the derating factor it would have received as a newly connecting unit in lieu of a derating factor developed from unit-specific data. A Generator returning to the Energy market after taking an outage that precluded its participation in the Installed Capacity market and which, upon its return, uses as its primary fuel a fuel not previously used at the facility for any purpose other than for ignition purposes will receive, as the initial derating factor for calculation of the Generator's Unforced Capacity upon its return to service, the NERC class average derating factor in lieu of a derating factor developed from unit-specific data even if the modifications to allow use of a new primary fuel are not material and do not require the submission of a new Interconnection Request.

This Section 5.12.6.2.1 shall apply to a Generator returning to the Energy market after taking an outage that started on or after May 1, 2015 and that precluded its participation in the Installed Capacity market.

### **5.12.6.3 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.

#### **5.12.6.4 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.

#### **5.12.6.5 Unforced Capacity, Outage Data and Operational Information Associated with External-to-ROS Deliverability Rights**

The ISO shall calculate the availability of the External interface associated with each project granted EDRs, in accordance with ISO Procedures. The availability factor (percentage) of the interface will be used to reduce the amount of EDRs for which Unforced Capacity may be offered. This calculation is distinct from and in addition to the calculation the ISO performs for each Installed Capacity Resource qualified for use with EDRs.

#### **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. An RMR Generator can only schedule a Bilateral Transaction to the extent expressly authorized in its RMR Agreement. 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.

External Unforced Capacity (except External Installed Capacity associated with UDRs) may only be offered into Capability Period Auctions or Monthly Auctions for the Rest of State, and ICAP Spot Market Auctions for the NYCA, and may not be offered into a Locality for an ICAP Auction. Bilateral Transactions which certify External Unforced Capacity using Import Rights, EDRs, or External CRIS Rights may not be used to satisfy a Locational Minimum Unforced Capacity Requirement.

UCAP from an RMR Generator may only be offered into the ICAP Spot Market Auction, except and only to the extent that the RMR Agreement expressly permits the RMR Generator's UCAP to be certified in a Bilateral Transaction.

If an Energy Limited Resource's, Generator's, System Resource's or Control Area System Resource's DMNC rating, or the DMGC rating of a Generator of a Behind-the-Meter Net Generation Resource, if applicable, 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, or the DMGC test of a Generator of a Behind-the-Meter Net Generation Resource, 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 or DMGC 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, or the DMGC test of a Generator of a Behind-the-Meter Net Generation Resource, 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 or DMGC 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 [0.1 MW, or rounded down to the nearest](#) whole MW [for an External Installed Capacity Supplier](#), 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, Behind-the-Meter Net Generation 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.

### **5.12.11 Responsible Interface Parties, Municipally-Owned Generation, Energy Limited Resources and Intermittent Power Resources**

#### **5.12.11.1 Responsible Interface Parties**

Responsible Interface Parties 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 their Special Case Resources are available to operate at the direction of the ISO in order to reduce Load from the NYS Transmission System and/or the distribution system for a minimum of four (4) consecutive hours each day, 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. In order for a Responsible Interface Party to enroll an SCR that uses an eligible Local Generator, any amount of generation that can reduce Load from the NYS Transmission System and/or distribution system at the direction of the ISO that was produced by the Local Generator during the hour coincident with the NYCA or Locality peaks, upon which the LSE Unforced Capacity Obligation of the LSE that serves that SCR is based, must be accounted for when the LSE's Unforced Capacity Obligation for the upcoming Capability Year is established. Responsible Interface Parties must provide this generator data in accordance with ISO Procedures so that the ISO can adjust upwards the LSE Unforced Capacity Obligation to prevent double-counting.

Responsible Interface Parties 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 Local Generators that are incapable of starting in two (2) hours from the requirement to operate on two (2) hours notification. Local Generators that can be operated to reduce Load from the NYS Transmission

System and/or distribution system at the direction of the ISO 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.

Responsible Interface Parties 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.

Local Generators that can be operated to reduce Load from the NYS Transmission System and/or distribution system at the direction of the ISO 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 become a Responsible Interface Party and comply with the ISO notification requirements for Special Case Resources. LSEs and Installed Capacity Marketers may become Responsible Interface Parties and 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.

Responsible Interface Parties 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 by a Responsible Interface Party 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 Responsible Interface Party, the ISO shall have the right to recover it either by reducing other payments to that Responsible Interface Parties or by resolving the issue pursuant to other provisions of this Services Tariff or other lawful means.

Provided the Responsible Interface Party supplies evidence of such reductions in 75 days, the ISO shall pay the Responsible Interface Party that, through their Special Case Resources, caused 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 Responsible Interface Parties 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.

In the event that a Responsible Interface Party's Minimum Payment Nomination for a Special Case Resource, for the number of hours of requested performance or the minimum four (4) hour period, whichever is greater, exceeds the LBMP revenue received, the Special Case Resource will be eligible for a Bid Production Cost Guarantee to make up the difference, in accordance with Section 4.23 of this Services Tariff and ISO Procedures; provided, however, 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. 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 ISO 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 enrolled Local 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.

#### **5.12.11.1.1 Special Case Resource Average Coincident Load**

The ISO must receive from the Responsible Interface Party that enrolls a Special Case Resource, the applicable metered Load data required to calculate an ACL for that SCR as provided below and in accordance with ISO Procedures. The ACL shall be computed using the metered Load for the applicable Capability Period SCR Load Zone Peak Hours that indicates the Load consumed by each SCR that is supplied by the NYS Transmission System and/or distribution system and is exclusive of any generation produced by a Local Generator, other behind-the-meter generator, or other supply source located behind the SCR's meter, that served some of the SCR's Load.

Beginning with the Winter 2011-2012 Capability Period and thereafter, the ISO shall use the average of the highest twenty (20) one-hour peak Loads of the SCR taken from the Load data reported for the Capability Period SCR Load Zone Peak Hours during the Prior Equivalent Capability Period, and taking into account the resource's reported verified Load reduction in a Transmission Owner's demand response program in hours coincident with any of these hours, to create a SCR ACL baseline. In addition, beginning with the Summer 2014 Capability Period, the resource's verified Load reduction in either of the ISO's economic demand response programs (the Day Ahead Demand Response Program and the Demand Side Ancillary Services Program) in hours coincident with any of the applicable Capability Period SCR Load Zone Peak Hours will be taken into account when creating the SCR ACL. For the Day Ahead Demand Response Program, the verified Load reduction that occurred in response to a DADRP schedule shall be added to the Capability Period SCR Load Zone Peak Hour for which the reduction in response to a DADRP schedule occurred. For the Demand Side Ancillary Services Program, the Load value to be used in calculating the ACL for each hour during the Capability Period SCR Load Zone Peak Hours in which a non-zero Base Point Signal the ISO provides to the resource, shall be the

greater of (a) the DSASP Baseline MW value in the interval immediately preceding the first non-zero Base Point Signal in the Capability Period SCR Load Zone Peak Hour and (b) the metered Load of the resource as reported by the RIP for the Capability Period SCR Load Zone Peak Hour. When the non-zero Base Point Signal dispatch of a DSASP resource begins in one hour and continues into consecutive hours, and the consecutive hour is identified as being a Capability Period SCR Load Zone Peak Hour, the DSASP Baseline MW value in effect at the beginning of the dispatch of the non-zero Base Point Signal shall be the MW value used for purposes of determining the applicable Load value for that Capability Period SCR Load Zone Peak Hour, in accordance with the preceding sentence. The ISO will post to its website the Capability Period SCR Load Zone Peak Hours for each zone ninety (90) days prior to the beginning of the Capability Period for which the ACL will be in effect.

In the SCR enrollment file uploaded by the RIP each month within the Capability Period, among other required information, the RIP shall provide the SCR's metered Load values for the applicable Capability Period SCR Load Zone Peak Hours necessary to compute the ACL for each SCR.

The exception to this requirement to report the required metered Load data for the ACL, when enrolling a SCR prior to the Summer 2014 Capability Period, is if (i) the SCR has not previously been enrolled with the ISO and (ii) never had interval metering Load data for each month in the Prior Equivalent Capability Period needed to compute the SCR's ACL. Beginning with the Summer 2014 Capability Period, the exception to this requirement to report the required metered Load data for the ACL, is dependent upon one or more of the eligibility conditions for SCR enrollment with a Provisional ACL provided in Section 5.12.11.1.2 of this Services Tariff and ISO Procedures. For SCRs that meet the criteria to enroll with a Provisional ACL, the ISO

must receive from the RIP a Provisional ACL as provided in Section 5.12.11.1.2 of this Services Tariff and in accordance with ISO Procedures.

Beginning with the Summer 2014 Capability Period, in addition to the requirement for RIPs to report each SCR's metered Load values that occurred during the Capability Period SCR Load Zone Peak Hours, in accordance with this Services Tariff and ISO Procedures during the enrollment process, any qualifying increase in a SCR's Load that will be supplied by the NYS Transmission System and/or distribution system may be reported as an Incremental ACL, subject to the limitations and verification reporting requirements provided in Section 5.12.11.1.5 of this Services Tariff and in accordance with ISO Procedures. Incremental ACL values must be reported using the required enrollment file that may be uploaded by the RIP during each month's enrollment period. RIPs may not report Incremental ACL values for any SCRs that are enrolled in the Capability Period with a Provisional ACL.

A reduction in a SCR's Load that is supplied by the NYS Transmission System and/or distribution system and meets the criteria for a SCR Change of Status must be reported as a SCR Change of Status as provided by Section 5.12.11.1.3 of this Services Tariff and in accordance with ISO Procedures.

The ACL is the basis for the upper limit of ICAP, except in circumstances when the SCR has reported a SCR Change of Status or reported an Incremental ACL pursuant to Sections 5.12.11.1.3 and 5.12.11.1.5 of this Services Tariff. The basis for the upper limit of ICAP for a SCR that has experienced a SCR Change of Status or reported an Incremental ACL shall be the Net ACL.

#### **5.12.11.1.2 Use of a Provisional Average Coincident Load**

Prior to the Summer 2014 Capability Period, as provided in Section 5.12.11.1.1 of this Services Tariff, if a new Special Case Resource has not previously been enrolled with the ISO and never had interval billing meter data from the Prior Equivalent Capability Period, its Installed Capacity value shall be its Provisional Average Coincident Load for the Capability Period for which the new SCR is enrolled. The Provisional ACL may be applicable to a new SCR for a maximum of three (3) consecutive Capability Periods, beginning with the Capability Period in which the SCR is first enrolled.

Beginning with the Summer 2014 Capability Period, a SCR may be enrolled using a Provisional ACL in lieu of an ACL when one of the following conditions has been determined by the ISO to apply: (i) the SCR has not previously been enrolled with the ISO for the seasonal Capability Period for which the SCR enrollment with a Provisional ACL is intended, (ii) the SCR was enrolled with a Provisional ACL in the Prior Equivalent Capability Period and was required to report fewer than twenty (20) hours of metered Load verification data that correspond with the Capability Period SCR Load Zone Peak Hours based on the meter installation date of the SCR, (iii) the RIP attempting to enroll the SCR with a Provisional ACL is not the same RIP that enrolled the SCR in the Prior Equivalent Capability Period and interval billing meter data for the SCR from the Prior Equivalent Capability Period is not obtainable by the enrolling RIP and not available to be provided to the enrolling RIP by the ISO. The Provisional ACL may be applicable to a SCR for a maximum of three (3) consecutive Capability Periods when enrolled with the same RIP, beginning with the Capability Period in which the SCR is first enrolled by the RIP.

A SCR enrolled in the Capability Period with a Provisional ACL may not be enrolled by another RIP for the remainder of the Capability Period and the Provisional ACL value shall apply to the resource for the entire Capability Period for which the value is established.

The Provisional ACL is the RIP's forecast of the SCR's ACL and shall be the basis for the upper limit of ICAP for which the RIP may enroll the SCR during the Capability Period.

Any SCR enrolled with a Provisional ACL shall be subject to actual in-period verification. A Verified ACL shall be calculated by the ISO using the top twenty (20) one-hour peak Loads reported for the SCR from the Capability Period SCR Load Zone Peak Hours that are applicable to verify the Provisional ACL in accordance with ISO Procedures and taking into account the resource's reported verified Load reductions in a Transmission Owner's demand response program that are coincident with any of the applicable Capability Period SCR Load Zone Peak Hours. In addition, beginning with the Summer 2014 Capability Period, the resource's verified Load reduction in either of the ISO's economic demand response programs (the Day Ahead Demand Response Program and the Demand Side Ancillary Services Program) in hours coincident with any of the applicable Capability Period SCR Load Zone Peak Hours will be taken into account when creating the SCR Verified ACL. For the Day Ahead Demand Response Program, the verified Load reduction that occurred in response to a DADRP schedule shall be added to the Capability Period SCR Load Zone Peak Hour for which the reduction in response to a DADRP schedule occurred. For the Demand Side Ancillary Services Program, the Load value to be used in calculating the Verified ACL for each hour during the Capability Period SCR Load Zone Peak Hours in which a non-zero Base Point Signal the ISO provides to the resource, shall be the greater of (a) the DSASP Baseline MW value in the interval immediately preceding the first non-zero Base Point Signal in the Capability Period SCR Load Zone Peak

Hour and (b) the metered Load of the resource as reported by the RIP for the Capability Period SCR Load Zone Peak Hour. When the non-zero Base Point Signal dispatch of a DSASP resource begins in one hour and continues into consecutive hours, and the consecutive hour is identified as being a Capability Period SCR Load Zone Peak Hour, the DSASP Baseline MW value in effect at the beginning of the dispatch of the non-zero Base Point Signal shall be the MW value used for purposes of determining the applicable Load value for that Capability Period SCR Load Zone Peak Hour, in accordance with the preceding sentence.

Following the Capability Period for which a resource with a Provisional ACL was enrolled, the RIP shall provide to the ISO the metered Load data required to compute the Verified ACL of the resource. The ISO shall compare the Provisional ACL to the Verified ACL to determine, after applying the applicable performance factor, whether the UCAP of the SCR had been oversold and whether a shortfall has occurred as provided under Section 5.14.2 of this Services Tariff. If the RIP fails to provide verification data required to compute the Verified ACL of the resource enrolled with a Provisional ACL by the deadline: (a) the Verified ACL of the resource shall be set to zero for each Capability Period in which the resource with a Provisional ACL was enrolled and verification data was not reported, and (b) the RIP may be subject to penalties in accordance with this Services Tariff.

### **5.12.11.1.3 Reporting a SCR Change of Load or SCR Change of Status**

#### **5.12.11.1.3.1 SCR Change of Load**

The Responsible Interface Party shall report any SCR Change of Load in accordance with ISO Procedures. The RIP is required to document the SCR Change of Load and when the total Load reduction for SCRs that have a SCR Change of Load within the same Load Zone is greater

than or equal to 5 MWs, the RIP shall report the SCR Change of Load for each SCR in accordance with ISO Procedures.

#### **5.12.11.1.3.2 SCR Change of Status**

The Responsible Interface Party shall report any SCR Change of Status in accordance with ISO Procedures. The ISO shall adjust the reported ACL of the SCR for a reported SCR Change of Status to the Net ACL, for all prospective months to which the SCR Change of Status is applicable. When a SCR Change of Status is reported under clause (i), (ii) or (iii) within the definition of a Qualified Change of Status Condition and the SCR has sold capacity, the SCR shall be evaluated for a potential shortfall under Section 5.14.2 of this Services Tariff. Failure by the RIP to report a SCR Change of Status shall be evaluated as a potential shortfall under Section 5.14.2 of this Service Tariff and evaluated for failure to report under Section 5.12.12.2 of this Services Tariff.

Beginning with the Summer 2014 Capability Period, SCRs that were required to perform in the first performance test in the Capability Period in accordance with ISO Procedures and that subsequently report or change a reported SCR Change of Status value after the first performance test in the Capability Period shall be required to demonstrate the performance of the resource against the Net ACL value in the second performance test in the Capability Period. The exceptions to this provision occur when a SCR's eligible Installed Capacity is set to zero throughout the period of the SCR Change of Status, when a SCR's eligible Installed Capacity is decreased by at least the same kW value as the reported SCR Change of Status, or if a SCR Change of Status is reported, and prior to the second performance test, the SCR returns to the full applicable ACL enrolled prior to the SCR Change of Status. Performance in both performance tests shall be used in calculation of the resource's performance factors and all associated

performance factors, deficiencies and penalties. If the RIP fails to report the performance for a resource that was required to perform in the second performance test in the Capability Period: (a) the resource will be assigned a performance of zero (0) for the test hour, and (b) the RIP shall be evaluated for failure to report under Section 5.12.12.2 of this Services Tariff.

#### **5.12.11.1.4 Average Coincident Load of an SCR Aggregation**

The ISO shall compute the Average Coincident Load of an SCR Aggregation each month in accordance with ISO Procedures.

#### **5.12.11.1.5 Use of an Incremental Average Coincident Load**

Beginning with the Summer 2014 Capability Period, a Responsible Interface Party may report any qualifying increase to a Special Case Resource's Average Coincident Load as Incremental Average Coincident Load in the RIP enrollment file upload and in accordance with this Services Tariff and ISO Procedures.

For SCRs with a total Load increase equal to or greater than twenty (20) percent and less than thirty (30) percent of the applicable ACL, the RIP may enroll the SCR with an Incremental ACL provided that the eligible Installed Capacity does not increase from the prior enrollment months within the same Capability Period and prior to enrollment with an Incremental ACL. If the SCR is enrolled with an Incremental ACL and it is the first month of the SCR's enrollment in the applicable Capability Period, the enrolled eligible Installed Capacity value shall not exceed the maximum eligible Installed Capacity of the SCR from the Prior Equivalent Capability Period. When no enrollment exists for the SCR in the Prior Equivalent Capability Period and it is the first month of the SCR's enrollment in the applicable Capability Period, the enrolled eligible Installed Capacity of the SCR shall not exceed the ACL calculated from the Capability Period SCR Load Zone Peak Hours. For SCRs with a total Load increase equal to or greater than thirty

(30) percent of the applicable ACL, the RIP may enroll the SCR with an Incremental ACL and an increase to the SCR's eligible Installed Capacity and is required to test as described in this section of the Service Tariff.

The ISO shall adjust the ACL of the SCR for an Incremental ACL for all months for which the Incremental ACL is reported by the RIP. For resources reporting an Incremental ACL, the Net ACL shall equal the enrolled ACL plus the reported Incremental ACL less any applicable SCR Change of Status and shall be the basis for the upper limit of ICAP for which the RIP may enroll the SCR during the Capability Period.

An Incremental ACL is a discrete change to the SCR operations that is expected to result in an increase to the Load that the SCR will consume from the NYS Transmission System and/or distribution system. It is not available to account for random fluctuations in Load, such as those caused by weather or other seasonal Load variations. Therefore, the ACL of a SCR may only be increased once per Capability Period and the amount of the increase enrolled must remain the same for all months for which the Incremental ACL is reported. A SCR enrolled in the Capability Period with an Incremental ACL may not be enrolled by another RIP for the remainder of the Capability Period. A SCR enrolled in the Capability Period with a Provisional ACL is not eligible to enroll with an Incremental ACL.

Following the Capability Period for which a SCR has been enrolled with an Incremental ACL, the RIP shall provide the hourly metered Load verification data that corresponds to the Monthly SCR Load Zone Peak Hours identified by the ISO for all months in which an Incremental ACL value was reported for the SCR. For each month for which verification data was required to be reported, the ISO shall calculate a Monthly ACL that will be used in the calculation of a Verified ACL. The Monthly ACL shall equal the average of the SCR's top

twenty (20) one-hour metered Load values that correspond with the applicable Monthly SCR Load Zone Peak Hours, and taking into account (i) the resource's reported verified Load reduction in a Transmission Owner's demand response program in hours coincident with any of these hours and (ii) the resource's verified Load reduction in either of the ISO's economic demand response programs (the Day Ahead Demand Response Program and the Demand Side Ancillary Services Program) in hours coincident with any of these hours. For the Day Ahead Demand Response Program, the verified Load reduction that occurred in response to a DADRP schedule shall be added to the Monthly SCR Load Zone Peak Hour for which the reduction in response to a DADRP schedule occurred. For the Demand Side Ancillary Services Program, the Load value to be used in calculating the Monthly ACL for each hour during the Monthly SCR Load Zone Peak Hours in which a non-zero Base Point Signal the ISO provides to the resource, shall be the greater of (a) the DSASP Baseline MW value in the interval immediately preceding the first non-zero Base Point Signal in the Monthly SCR Load Zone Peak Hour and (b) the metered Load of the resource as reported by the RIP for the Monthly SCR Load Zone Peak Hour. When the non-zero Base Point Signal dispatch of a DSASP resource begins in one hour and continues into consecutive hours, and the consecutive hour is identified as being a Monthly SCR Load Zone Peak Hour, the DSASP Baseline MW value in effect at the beginning of the dispatch of the non-zero Base Point Signal shall be the MW value used for purposes of determining the applicable Load value for that Monthly SCR Load Zone Peak Hour, in accordance with the preceding sentence. The Verified ACL shall be the average of the two (2) highest Monthly ACLs during the Capability Period in which the SCR was enrolled with an Incremental ACL within the same Capability Period.

For any month in which verification data for the Incremental ACL is required but not timely submitted to the ISO in accordance with ISO procedures, the ISO shall set the metered Load values to zero. When a Monthly ACL is set to zero, the Verified ACL will be calculated as the average of: a) the two (2) highest Monthly ACLs during the Capability Period in which the SCR was enrolled with an Incremental ACL within the same Capability Period; plus b) the Monthly ACLs for all months in which the SCR was enrolled within the same Capability Period with an Incremental ACL in the Capability Period in which the RIP failed to provide the minimum verification data required. In addition, a RIP may be subject to a penalty for each month for which verification data was required and not reported in accordance with this Services Tariff.

For each SCR that is enrolled with an Incremental ACL, the ISO shall compare the Net ACL calculated from the resource enrollment (ACL plus Incremental ACL less any applicable SCR Change of Status) to the Verified ACL calculated for the SCR to determine if the RIP's use of an Incremental ACL may have resulted in a shortfall pursuant to Section 5.14.2.

A Special Case Resource that was required to perform in the first performance test in the Capability Period in accordance with ISO Procedures and was subsequently enrolled using an Incremental ACL and an increase in the amount of Installed Capacity that the SCR is eligible to sell, shall be required to demonstrate performance against the maximum amount of eligible Installed Capacity reported for the SCR in the second performance test in the Capability Period. Performance in this test shall be measured from the Net ACL. Performance in both performance tests shall be used in calculation of the resource's performance factor and all associated performance factors, deficiencies and penalties. If the RIP fails to report the performance for a resource that was required to perform in the second performance test in the Capability Period: (a)

the resource will be assigned a performance of zero (0) for the test hour, and (b) the RIP shall be evaluated for failure to report under Section 5.12.12.2 of this Services Tariff.

#### **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 or solar 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, 5.12.1.7 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 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 [0.1 MW, or rounded down to the nearest](#)

whole MW [for an External Installed Capacity Supplier](#). 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 corresponding to where the Installed Capacity Supplier's capacity cleared, and 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 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.

If the Installed Capacity Supplier is a Responsible Interface Party that enrolled a SCR with an Incremental ACL in accordance with this Services Tariff, and also reported an increase to the Installed Capacity the SCR has eligible to sell after the first performance test in the Capability Period, the ISO may impose an additional financial sanction due to the failure of the RIP to report the required performance of the SCR against the Net ACL value in the second performance test in the Capability Period. This sanction shall be the value of the reported

increase in the eligible Installed Capacity associated with the SCR that was sold by the RIP in each month of the Capability Period, during which the reported increase was in effect, multiplied by up to one and one-half times the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction for each such month.

If the Installed Capacity Supplier is a Responsible Interface Party, and the Average Coincident Load of the Special Case Resource has been decreased after the first performance test in the Capability Period, due to a SCR Change of Status in accordance with this Services Tariff and ISO Procedures, the ISO may impose an additional financial sanction resulting from the failure of the RIP to report the required performance of the SCR against the Net ACL value of the SCR when the SCR was required to perform in the second performance test in the Capability Period in accordance with Section 5.12.11.1.3.2 of this Services Tariff. This sanction shall be the value of the Unforced Capacity equivalent of the SCR Change of Status MW reported for the SCR during the months for which the SCR was enrolled with a SCR Change of Status and was required to demonstrate in the second performance test as specified in Section 5.12.11.1.3.2 of this Services Tariff, multiplied by up to one and one-half times the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction for each such month.

If a RIP fails to provide the information required by Section 5.12.11.1.3 of this Services Tariff in accordance with the ISO Procedures for reporting a Qualified Change of Status Condition, and the ISO determines that a SCR Change of Status occurred within a Capability Period, the ISO may impose a financial sanction equal to the difference, if positive, between the enrolled ACL and the maximum one hour metered Load for the month multiplied by up to one-half times the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP

Spot Market Auction for each month the Installed Capacity Supplier is deemed to have a shortfall in addition to the corresponding shortfall penalty as provided in Section 5.14.2.

For each month in which a RIP fails to report required verification data and the applicable ACL value is set to zero in accordance with Section 5.12.11 of this Services Tariff, the ISO shall have the right to recover any energy payments made to the RIP for performance of the SCR by reducing other payments or other lawful means.

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

This Rate Schedule applies to Suppliers that provide Regulation Service to the ISO. A Behind-the-Meter Net Generation Resource that is comprised of more than one generating unit that is dispatched as a single aggregate unit is not qualified to 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 and establish Regulation Service schedules, in MWs of Regulation Capacity, for each scheduled Regulation Supplier in the Day-Ahead and Real-Time Markets, as described in Section 15.3.2 of this Rate Schedule;

- (f) Pay Suppliers for providing Regulation Service as described in this Rate Schedule;
- (g) Monitor Suppliers' performance to ensure that they provide Regulation Service as required, as described in Section 15.3.3 of this Rate Schedule; and
- (h) Take into account the speed and accuracy of regulation resources in determining reserve requirements for Regulation Service.

**15.3.1.2 Each Supplier shall:**

- (a) Register with the ISO the Regulation Capacity its resources are qualified to bid in the Regulation Services market;
- (b) Provide the ISO with the Resource's Regulation Capacity Response Rate and the Resource's Regulation Movement Response Rate;
- (c) 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;
- (d) Not use, contract to provide, or otherwise commit Regulation Capacity that is selected by the ISO to provide Regulation Service to provide Energy or Operating Reserves to any party other than the ISO;
- (e) Pay any charges imposed under this Rate Schedule;
- (f) 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 and in the Real-Time Market to provide Regulation Service for each interval in the Dispatch Day, from those that have Bid to provide Regulation Service from Resources and that meet the qualification standards and criteria established in Section 15.3.1 of this Rate Schedule and in the ISO Procedures.
- (b) In order to schedule Suppliers in the Day-Ahead Market to provide Regulation Service for each hour in the following Dispatch Day, the ISO shall use, as each Supplier's Regulation Service Bid price, the sum of: a) the Supplier's Day-Ahead Regulation Capacity Bid Price and b) the product of the Supplier's Day-Ahead Regulation Movement Bid Price and the applicable Regulation Movement Multiplier.
- (c) In order to schedule Suppliers in the Real-Time Market to provide Regulation Service for each interval in the Dispatch Day the ISO shall use, as each Supplier's Regulation Service Bid price, the sum of: a) the Supplier's Real-Time Regulation Capacity Bid Price and b) the product of the Supplier's Real-Time Regulation Movement Bid Price and the applicable Regulation Movement Multiplier.
- (d) The ISO shall establish separate Regulation Capacity Market Prices 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 and shall establish a Real-Time Regulation Movement Market Price under Section 15.3.5.1 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 as Regulation Capacity; (ii) the Supplier's Bid Price (in \$/MW) for Regulation Capacity; (iii) the Suppliers Bid Price (in \$/MW) for Regulation Movement; 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~~Capacity offer (in MWs) from a Limited Energy Storage Resource to account for the Energy storage capacity of such Resource.

(e) Regulation Service Offers from Energy Storage Resources: The ISO may reduce the real-time Regulation Capacity (in MW) from an Energy Storage Resource to account for the Energy Level 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 ISO shall use the values provided by the Performance Tracking System to adjust settlements for real-time Regulation Movement pursuant to Section 15.3.5.4.1 and to compute a performance charge to apply to real-time Regulation Service providers pursuant to Section 15.3.5.4.2 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 Prices**

The ISO shall calculate a Day-Ahead Regulation Capacity Market Price for each hour of the following day. The Day-Ahead Regulation Capacity Market 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, minus the product of i) the Day-Ahead Regulation Movement Bid Price of the marginal Resource selected to provide Regulation Service; and ii) the applicable Regulation Movement Multiplier. 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 17.1.3 of Attachment B to this ISO Services Tariff. As a result, the Shadow Price shall include the Day-Ahead Regulation Service Bids of the marginal Resource selected to provide Regulation Service, plus any margins on the sale [\(or purchase by a Withdrawal-Eligible Generator\)](#) of Energy or [the sale of](#) 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 [\(or for a Withdrawal-Eligible Generator to withdraw\)](#) less Energy or [to provide less](#) Operating Reserves (or the applicable price on the Regulation Service Demand Curve during shortage conditions). Shadow Prices consistent with the Regulation Service Demand Curves described in Section 15.3.7 of this Rate Schedule will ensure that Regulation Service is not scheduled by SCUC at a cost greater than the Regulation Service Demand Curve.

Each Supplier that is scheduled Day-Ahead to provide Regulation Service shall be paid the Day-Ahead Regulation Capacity Market Price in each hour, multiplied by the amount of Regulation Capacity that it is scheduled Day-Ahead 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 Prices**

The ISO shall calculate a Real-Time Regulation Capacity Market Price and a Real-Time Regulation Movement Market Price for every RTD interval, except as noted in Section 15.3.8 of this Rate Schedule. The Real-Time Regulation Capacity Market 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, minus the product of: i) the real-time Regulation Movement Bid of the marginal Resource selected to provide Real-Time Regulation Service; and ii) the applicable Regulation Movement Multiplier. 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 a result, the Shadow Price shall include the Real-Time Regulation Service Bids of the marginal Resource selected to provide Regulation Service, plus any margins on the sale (or for Withdrawal-Eligible Generators, the purchase) of Energy -or the

sale of 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 or withdraw less Energy or to provide less Operating Reserves (or the applicable price on the Regulation Service Demand Curve during shortage conditions). Shadow Prices consistent with the Regulation Service Demand Curves described in Section 15.3.7 of this Rate Schedule will ensure that Regulation Service is not scheduled at a cost greater than the Demand Curve indicates.

During any period when the ISO sets Resources' Regulation Service Schedules to zero, pursuant to Section 15.3.8 of this Rate Schedule, the Real-Time Regulation Capacity Market Price and the Real-Time Regulation Movement Market Price shall automatically be set to zero, which shall be the price used for real-time balancing and settlement purposes.

The ISO shall calculate a Real-Time Regulation Movement Market Price for every RTD interval. The Real-Time Regulation Movement Market Price shall be the Regulation Movement Bid of the marginal Resource selected to provide Regulation Service in that interval.

#### **15.3.5.2 Real-Time Regulation Capacity Balancing Payments, Regulation Movement Payments and Performance Charges**

Any deviation from a Supplier's Day-Ahead schedule to provide Regulation Service shall be settled pursuant to the following rules. In addition, Suppliers scheduled to provide Regulation Service in real-time shall be settled pursuant to the following rules.

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

- (b) When the Supplier's real-time Regulation Capacity schedule is greater than its Day-Ahead Regulation Capacity schedule, the ISO shall pay the Supplier an amount to compensate it for the imbalance equal to the product of: (i) the Real-Time Regulation Capacity Market Price; and (ii) the difference between the Supplier's real-time Regulation Capacity schedule and its Day-Ahead Regulation Capacity schedule.
- (c) The ISO shall pay Suppliers with real-time Regulation Capacity schedules a real-time payment for Regulation Movement provided in each interval. The payment amount shall equal the product of: (a) the Real-Time Regulation Movement Market Price in that interval; (b) the Regulation Movement instructed during the interval, and (c) the performance factor calculated for that Regulation Service provider in that interval pursuant to Section 15.3.5.4.1.
- (d) The ISO shall assess a performance charge, pursuant to Section 15.3.5.4.2 to all Suppliers of Regulation Service with real-time Regulation Service schedules.
- (e) 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.

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

A Supplier that bids on behalf of a Regulation Service provider 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 bids on behalf of a Regulation Service provider 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.

#### **15.3.5.4 Performance-Based Adjustment to Payments for Regulation Service Providers and Performance Based Charges**

##### **15.3.5.4.1 Performance-Based Adjustment to Payments for Regulation Service Suppliers**

The amount paid to each Supplier for providing Regulation Movement in each RTD interval, pursuant to Section 15.3.5.2 shall be reduced to reflect the Supplier's performance using a performance factor developed pursuant to the following equation:

$$K_{PIi} = (PI_i - PSF)/(1 - PSF)$$

Where:

$K_{PIi}$  = the performance factor derived from the Regulation Service Performance index for the Resource for interval  $i$ ;

$PI_i$  = the performance index of the Resource for interval  $i$ , 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

$PSF$  = the payment scaling factor, established pursuant to ISO Procedures. The PSF shall be set between 0 and the minimum performance index required for payment for Regulation Service.

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.

#### 15.3.5.4.2 Performance-Based Charge to Suppliers of Regulation Service

In addition, each Supplier that is scheduled in real-time to provide Regulation Service shall be assessed a performance charge for interval  $i$  in accordance with the following formula.

*Performance Charge<sub>i</sub>*

$$= \left( (1 - K_{PI}) * RTRinccap_i * -1.1 * RTMPreg_i \right) + \left( (1 - K_{PI}) * (RTRcap_i - RTRinccap_i) * -1.1 * \text{Max}(DAMPreg, RTMPreg_i) \right) * (S_i / 3600)$$

*DAMPreg<sub>i</sub>* = is the applicable Regulation Capacity Market Price (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  $i$ ;

*RTMPreg<sub>i</sub>* = is the applicable Regulation Capacity Market Price (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 Capacity (in MW) offered by the Resource and selected by the ISO in the Real-Time Market in RTD interval  $i$ ;

*RTRinccap<sub>i</sub>* = is the incremental Regulation Capacity (in MW) offered by the Resource and selected by the ISO in the Real-Time Market in the RTD interval  $i$  which is in excess of Regulation Capacity offered and selected by the ISO in the Day-Ahead Market for the hour that includes interval  $i$ ;

*S<sub>i</sub>* = is the number of seconds in interval  $i$ ; and

*K<sub>PI</sub>* = is the performance factor for the Resource for interval  $i$  as defined in Section 15.3.5.4.1.

## 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 that is not a Limited Energy Storage Resource 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:

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

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

For any interval in which a Generator that is providing Regulation Service receives an AGC Base Point Signal that differs from 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.

### 15.3.6.2.1 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 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 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:

$$\text{Payment/Charge} = \int_{\text{RTD Base Point Signal}}^{\text{max}(\text{RTD Base Point Signal}, \text{min}(\text{AGC Base Point Signal}, \text{Actual Output}))} [\text{Bid} - \text{LBMP}] * S/3600$$

Where:

$S$  = 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.

### 15.3.6.2.2 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:

$$Payment/Charge = \int_{\min(RTD\ BasePoint\ Signal, \max(AGC\ BasePoint\ Signal, Actual\ Output))}^{RTD\ BasePoint\ Signal} -[Bid - LBMP] * S/3600$$

Where:

$S$  = 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 Capacity Market Price and settlements. The Regulation Capacity Market Prices 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 Capacity is not scheduled by SCUC, RTC, or RTD 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 Capacity that the ISO would seek to maintain as its

Regulation Service requirement in that hour. The ISO will then define a Regulation Service demand curve for that hour as follows:

For quantities of Regulation Capacity that are less than or equal to the target level of Regulation Service minus 80 MW, the price on the Regulation Service demand curve shall be \$775/MW.

For quantities of Regulation Capacity that are less than or equal to the target level of Regulation Service minus 25 MW but that exceed the target level of Regulation Service minus 80 MW, the price on the Regulation Service demand curve shall be \$525/MW.

For quantities of Regulation Capacity 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 \$25/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 Capacity 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 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 set all Regulation Service schedules to zero, The ISO will establish real-time Regulation Market Prices for Regulation Capacity and Regulation

Movement of zero for settlement and balancing purposes. The ISO will restore real-time Regulation Service schedules as soon as possible after the end of the reserve or maximum generation pickup.

### 15.3A Rate Schedule “3-A” -Charges Applicable to Suppliers That Are Not Providing Regulation Service

#### 15.3A.1 Persistent Undergeneration Charges

A Supplier, other than a Supplier included in Section 15.3A.2 of this Rate Schedule, that is not providing Regulation Service, and ~~that~~ persistently operates at a level below its Energy schedule shall pay a persistent undergeneration charge to the ISO, unless its operation is within a tolerance described below, provided, however, no persistent undergeneration charges shall apply to a Fixed Block Unit that has reached a percentage of its Normal Upper Operating Limit, which percentage shall be set pursuant to ISO Procedures and shall be initially set at seventy percent (70%). Persistent undergeneration charges per interval shall be calculated as follows:

$$\text{Persistent undergeneration charge} = \text{Energy Difference} \times \text{Max} (\text{MPRC}_{\text{DAM}}, \text{MPRC}_{\text{RT}}) \times \frac{\text{Length of Interval in seconds}}{3600 \text{ seconds}}$$

Where:

Energy Difference in (MW) is determined by subtracting the actual Energy provided by the Supplier from its RTD Base Point Signal for the dispatch interval. The Energy Difference shall be set at zero for any Energy Difference that is otherwise negative or that falls within a tolerance, set pursuant to ISO Procedures, and which shall contain a steady-state and a dynamic component. The steady-state component shall initially be 3% of the Supplier’s Normal Upper Operating Limit or Emergency Upper Operating Limit, as applicable, and the dynamic component shall be a time constant that shall initially be set at fifteen minutes;

$\text{MPRC}_{\text{DAM}}$  is the Regulation Capacity Market Price in the Day-Ahead Market; and

$\text{MPRC}_{\text{RT}}$  is the Regulation Capacity Market Price in the Real-Time Market.

### 15.3A.1.1 Overgeneration Charges

An Intermittent Power Resource that depends on wind as its fuel, for which the ISO has imposed a Wind Output Limit after October 31, 2009, or after February 1, 2010 for an Intermittent Power Resource that depends on wind as its fuel in commercial operation before 2006 with nameplate capacity of 30 MWs or less, that operates at a level above its schedule shall pay an overgeneration charge to the ISO, unless its operation is within a tolerance described below.

Overgeneration charges per interval shall be calculated as follows:

$$\text{Overgeneration charge} = \text{Energy Difference} \times \text{Max} (\text{MPC}_{\text{DAM}}, \text{MPC}_{\text{RT}}) \times \text{Length of Interval} \\ \text{in seconds}/3600 \text{ seconds}$$

Where:

Energy Difference in (MW) is determined by subtracting the RTD Base Point Signal for the dispatch interval from the actual Energy provided by the Intermittent Power Resource for the same interval. The Energy Difference shall be set at zero for any Energy Difference that is otherwise negative or that falls within a tolerance, set pursuant to ISO Procedures, which shall initially be set at 3% of the Supplier's Normal Upper Operating Limit or Emergency Upper Operating Limit, as applicable;

$\text{MPC}_{\text{DAM}}$  is the Regulation Capacity Market Price in the Day-Ahead Market; and

$\text{MPC}_{\text{RT}}$  is the Regulation Capacity Market Price in the Real-Time Market

### 15.3A.1.2 Persistent Over-Withdrawal Charges

An Energy Storage Resource that is withdrawing Energy, not providing Regulation Services, and persistently withdraws at a level exceeding its withdrawal schedule shall pay a persistent over-withdrawal charge to the ISO, unless its operation is within the applicable

tolerance described below. Persistent over-withdrawal charges per interval shall be calculated as follows:

$$\text{Persistent Over-Withdrawal Charge} = \text{Energy Difference} \times \text{Max} (\text{MPRC}_{\text{DAM}}, \text{MPRC}_{\text{RT}}) \times \text{Length of Interval in seconds}/3600 \text{ seconds}$$

Where:

Energy Difference in (MW) is determined by subtracting the Resource's actual energy operating level from its RTD Base Point Signal. The Energy Difference shall be set at zero for any Energy Difference that is otherwise negative or that falls within a tolerance, set pursuant to ISO Procedures, and which shall contain a steady-state and a dynamic component. The steady-state component shall initially be an absolute value of 3% of the Resource's Maximum Withdrawal Limit, as applicable, and the dynamic component shall be a time constant that shall initially be set at fifteen minutes;

MPRC<sub>DAM</sub> is the Regulation Capacity Market Price in the Day-Ahead Market; and

MPRC<sub>RT</sub> is the Regulation Capacity Market Price in the Real-Time Market.

### **15.3A.2 Exemptions**

The following types of Generator shall not be subject to persistent undergeneration charges:

#### **15.3A.2.1 Generators, except for the Generator of a Behind-the-Meter Net**

Generation Resource, providing Energy under contracts (including PURPA contracts), executed and effective on or before November 18, 1999, in which the power purchaser does not control the operation of the supply source but would be responsible for payment of the persistent undergeneration or performance charge;

- 15.3A.2.2 Existing topping turbine Generators and extraction turbine Generators producing electric Energy resulting from the supply of steam to the district steam system 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 523 MW of such units;
- 15.3A.2.3 Limited Control Run of River Hydro Resources;
- 15.3A.2.4 Intermittent Power Resources that depend on wind, landfill gas, or solar energy as their fuel;
- 15.3A.2.5 Capacity Limited Resources and Energy Limited Resources to the extent that their real-time Energy injections are equal to or greater than their bid-in upper operating limits but are less than their Real-Time Scheduled Energy Injections;
- 15.3A.2.6 Generators operating in their Start-Up Period or their Shutdown Period and, for Generators comprised of a group of generating units at a single location, which grouped generating units are separately committed and dispatched by the ISO, and for which Energy injections are measured at a single location, each of the grouped generating units when one of the grouped generating units is operating in its Start-Up or Shutdown Period; and
- 15.3A.2.7 Generators operating during a Testing Period.
- [15.3A.2.8 Withdrawing Energy Storage Resources are instead subject to persistent over-withdrawal charges.](#)

For Generators and Resources described in Sections 15.3A.2.1, 15.3A.2.2, 15.3A.2.3, and 15.3A.2.4 above, this exemption shall not apply in an hour if the Generator or Resource has bid in that hour as ISO-Committed Flexible or Self-Committed Flexible.

## **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, as well as Scarcity Reserve Requirements. These quantities shall be established under Section 15.4.7 of this Rate Schedule for locational Operating Reserve requirements and Section 15.4.6.2 of this Rate Schedule for Scarcity Reserve Requirements. 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, in Southeastern New York 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, requirements for Operating

Reserve located in Southeastern New York may only be met by eligible Suppliers that are located in Southeastern New York, 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 also establish Scarcity Reserve Requirements in the Real-Time Market pursuant to Section 15.4.6.2 of this Rate Schedule, which may be met by Suppliers eligible to provide 30-Minute Reserve. Scarcity Reserve Requirements may only be met by eligible Suppliers that are located in the Scarcity Reserve Region associated with a given Scarcity Reserve Requirement. The ISO shall select Suppliers of Operating Reserves products to meet these requirements, including the locational Operating Reserves requirements and Scarcity Reserve 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 and Scarcity Reserve Requirements determined consistently with the requirements of Section 15.4.6.2 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 not utilizing inverter-based energy storage technology and Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit and dispatched as a single aggregate unit). Suppliers utilizing inverter-based energy storage technology, and that meet the criteria set forth in the ISO Procedures, shall be eligible to supply Spinning Reserve [when withdrawing or injecting Energy, and when idle](#).

#### **15.4.1.2.2 10-Minute Non-Synchronized Reserve:**

(i) Off-line Generators that are capable of starting, synchronizing, and increasing their output level within ten (10) minutes, (ii) Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit and dispatched as a single aggregate unit that are capable of increasing their output level within ten (10) minutes, and (iii) Demand Side Resources that are capable of reducing their Energy usage within ten (10) minutes, 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:**

Generators, except Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit and dispatched as a single aggregate unit, that are ISO-Committed Flexible or Self-Committed Flexible and operating within the dispatchable portion of their operating range and Demand Side Resources that do not facilitate demand reduction using Local Generators, or that facilitate demand reduction using a Local Generator utilizing inverter-based energy storage technology, that are capable of reducing their Energy usage within thirty (30) minutes shall be eligible to supply synchronized 30-Minute Reserves. Suppliers utilizing inverter-based energy storage technology, and that meet the criteria set forth in the ISO Procedures, shall be eligible to supply synchronized 30-Minute Reserves [when withdrawing or when injecting Energy, and when idle](#). (i) Off-line Generators that are capable of starting, synchronizing, and increasing their output level within thirty (30) minutes, (ii) Behind-the-Meter Net Generation Resources that are comprised of more than one generating unit and dispatched as a single aggregate unit that are capable of increasing their output level within thirty (30) minutes, and (iii) Demand Side Resources that are capable of reducing their Energy usage within thirty (30) minutes, 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 increase their Incremental Energy Bids or Demand Reduction Bids, respectively, for portions of their Resources that have been scheduled through those processes; provided however, that they are not otherwise prohibited from doing so pursuant to other provisions of the ISO's Tariffs. Withdrawal-Eligible Generators that are scheduled to withdraw Energy, and that are selected to provide Operating Reserve in the Day-Ahead Market or any supplemental commitment, may decrease their Bids to withdraw Energy for portions of their resources that have been scheduled through those processes; provided however, that they are not otherwise prohibited from doing so pursuant to other provisions of the ISO's Tariffs. ~~They may~~ Generators or Demand Side Resources that are selected to provide Operating Reserve in the Day-Ahead Market or any supplemental commitment may not, however, reduce their Day-Ahead Market or supplemental 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 least of the Resource's emergency response rate multiplied by ten, or the Resource's applicable Upper Operating Limit (i.e., UOL<sub>N</sub>, UOL<sub>E</sub>); (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 least of the Resource's emergency response rate multiplied by twenty and its applicable Upper Operating Limit.

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.

For an Energy Limited Resource that is withdrawing Energy, the sum of the Resource's Energy Schedule, the amount of Regulation Capacity it is scheduled to provide, and the amount of each Operating Reserves product it is scheduled to provide shall not exceed the lesser of zero

or its Upper Operating Limit. For an Energy Storage Resource that is withdrawing Energy, the sum of the Resource's Energy Schedule, the amount of Regulation Capacity it is scheduled to provide, and the amount of Operating Reserves product it is scheduled to provide shall not exceed its Upper Operating Limit.

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 least of the Resource's emergency response rate multiplied by ten and the Resource's applicable Upper Operating Limit (UOL<sub>N</sub> or UOL<sub>E</sub>); (ii) for 10-Minute Non-Synchronized Reserves, or for non-synchronized 30-Minute Reserves, the Resource's UOL<sub>N</sub> or UOL<sub>E</sub>, 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 least of the Resource's emergency response rate multiplied by twenty and the Resource's applicable Upper Operating Limit (UOL<sub>N</sub> or UOL<sub>E</sub>). 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<sub>N</sub> or UOL<sub>E</sub>, whichever is applicable.

For an Energy Limited Resource that is withdrawing Energy, the sum of the Resource's Energy schedule, the amount of Regulation Capacity it is scheduled to provide, and the amount of each Operating Reserves product it is scheduled to provide shall not exceed the lesser of zero or its UOL. For an Energy Storage Resource that is withdrawing Energy, the sum of the Resource's Energy Schedule, the amount of Regulation Capacity it is scheduled to provide and the amount of Operating Reserves product it is scheduled to provide shall not exceed its UOL. The ISO may limit the availability of a Withdrawal-Eligible Generator to provide Operating Reserves based on its Energy Level constraints.

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 and Scarcity Reserve 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~~ injections and withdrawals, 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, or to reduce Energy withdrawals, 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 and Scarcity Reserve Requirement Prices**

Except as noted below, the ISO shall calculate separate Day-Ahead Market and Real-Time Market prices for each of the products in four locations: (i) West of Central-East ("West" or "Western"); (ii) East of Central-East excluding Southeastern New York ("Eastern"); (iii) Southeastern New York excluding Long Island ("Southeastern"); and (iv) Long Island ("L.I."). The ISO will thus calculate twelve different locational Operating Reserve prices in both the Day-Ahead Market and the Real-Time Market. The ISO will also calculate prices in the Real-Time Market for each of the products in a Scarcity Reserve Region, if applicable. Day-Ahead locational reserve prices shall be calculated pursuant to Section 15.4.5 of this Rate Schedule.

Real-Time locational Operating Reserves prices and Scarcity Reserve Requirement 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 Southeastern New York, except in the case of a Scarcity Reserve Requirement for a Scarcity Reserve Region that includes Long Island in addition to one or more other Load Zones. In this instance, suppliers of Operating Reserves located on Long Island shall receive settlement payments as if they were providing Operating Reserves located in Southeastern New York and in the applicable Scarcity Reserve Region. The ISO will calculate separate locational Long Island Operating Reserves prices and Long Island Scarcity Reserve Requirement prices for Scarcity Reserve Regions that include Long Island 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 or Scarcity 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 or Scarcity Reserve Region. 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:

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 Southeastern 30-Minute Reserves =  $SP1 + SP4 + SP7$

Market clearing price for Southeastern 10-Minute Non-Synchronized Reserves =  $SP1 + SP2 + SP4 + SP5 + SP7 + SP8$

Market clearing price for Southeastern Spinning Reserves =  $SP1 + SP2 + SP3 + SP4 + SP5 + SP6 + SP7 + SP8 + SP9$

Market clearing price for L.I. 30-Minute Reserves =  $SP1 + SP4 + SP7 + SP10$

Market clearing price for L.I. 10-Minute Non-Synchronized Reserves =  $SP1 + SP2 + SP4 + SP5 + SP7 + SP8 + SP10 + SP11$

Market clearing price for L.I. Spinning Reserves =  $SP1 + SP2 + SP3 + SP4 + SP5 + SP6 + SP7 + SP8 + SP9 + SP10 + SP11 + SP12$

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, Southeastern, or L.I. 30-Minute Reserve requirement constraint for the hour

SP5 = Shadow Price for Eastern, Southeastern, or L.I. 10-Minute Reserve requirement constraint for the hour

SP6 = Shadow Price for Eastern, Southeastern, or L.I. Spinning Reserve requirement constraint for the hour

SP7 = Shadow Price for Southeastern, or L.I. 30-Minute Reserve requirement constraint for the hour

SP8 = Shadow Price for Southeastern, or L.I. 10-Minute Reserve requirement constraint for the hour

SP9 = Shadow Price for Southeastern, or L.I. Spinning Reserve requirement constraint for the hour

SP10 = Shadow Price for Long Island 30-Minute Reserve requirement constraint for the hour

SP11 = Shadow Price for Long Island 10-Minute Reserve requirement constraint for the hour

SP12 = 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 17.1.3 of Attachment B to this Services Tariff. 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 and Scarcity Reserve Region in each interval for which a Scarcity Reserve Requirement is established by the ISO. Each real-time market-clearing price shall equal the sum of the relevant real-time locational Shadow Prices and Scarcity Reserve Requirement 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 or Scarcity Reserve Region shall reflect the Shadow Prices associated with all of the ISO-defined Operating Reserve requirements, including locational requirements and Scarcity Reserve Requirements, that a particular Operating Reserves product from that location or Scarcity Reserve Region 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 Southeastern 30-Minute Reserves = SP1 + SP4 + SP7

Market clearing price for Southeastern 10-Minute Non-Synchronized Reserves = SP1 + SP2 + SP4 + SP5 + SP7 + SP8

Market clearing price for Southeastern Spinning Reserves = SP1 + SP2 + SP3 + SP4 + SP5 + SP6 + SP7 + SP8 + SP9

Market clearing price for L.I. 30-Minute Reserves = SP1 + SP4 + SP7 + SP10

Market clearing price for L.I. 10-Minute Non-Synchronized Reserves = SP1 + SP2 + SP4 + SP5 + SP7 + SP8 + SP10 + SP11

Market clearing price for L.I. Spinning Reserves = SP1 + SP2 + SP3 + SP4 + SP5 + SP6 + SP7 + SP8 + SP9 + SP10 + SP11 + SP12

Where:

SP1 = Shadow Price for total 30-Minute Reserve requirement constraint and, if applicable, Scarcity 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, Southeastern, or L.I. 30-Minute Reserve requirement constraint and, if applicable, Scarcity Reserve Requirement constraint for the interval

SP5 = Shadow Price for Eastern, Southeastern, or L.I. 10-Minute Reserve requirement constraint for the interval

SP6 = Shadow Price for Eastern, Southeastern, or L.I. Spinning Reserve requirement constraint for the interval

SP7 = Shadow Price for Southeastern, or L.I. 30-Minute Reserve requirement constraint and, if applicable, Scarcity Reserve Requirement constraint for the interval

SP8 = Shadow Price for Southeastern, or L.I. 10-Minute Reserve requirement constraint for the interval

SP9 = Shadow Price for Southeastern, or L.I. Spinning Reserve requirement constraint for the interval

SP10 = Shadow Price for Long Island 30-Minute Reserve requirement constraint and, if applicable, Scarcity Reserve Requirement constraint for the interval

SP11 = Shadow Price for Long Island 10-Minute Reserve requirement constraint for the interval

SP12 = Shadow Price for Long Island Spinning Reserve requirement constraint for the interval

Real-time locational and Scarcity Reserve Requirement Shadow Prices will be calculated by the ISO's RTD. Each Real-Time Shadow Price for each Operating Reserves requirement, including a Scarcity Reserve 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 second RTD pass described in Section 17.1.2.1.2.2 of Attachment B to this ISO Services Tariff. As a result, the Shadow Price for each Operating Reserves requirement, including a Scarcity Reserve 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 or Scarcity 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 and Scarcity Reserve Demand Curve 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 or Scarcity 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 or Scarcity Reserve Requirement then the Shadow Price for that Operating Reserve requirement or Scarcity 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.

15.4.6.1.1 The Real-Time Market clearing price shall also reflect the Shadow Price for any Scarcity Reserve Requirement constraint as part of the applicable 30-Minute Reserve requirement constraint Shadow Price for the Load Zones included in the Scarcity Reserve Region. The inclusion of Scarcity Reserve Requirement constraint Shadow Prices in the calculation of Real-Time Market clearing prices is as set forth below:

- (a) When the Load Zones included in a Scarcity Reserve Region are identical to the Load Zones of an existing locational reserve region, the Scarcity Reserve Requirement will be added to the existing 30-Minute Reserve requirement for the locational reserve region and the Shadow Price for the Scarcity Reserve Requirement will be the Shadow Price for the revised 30-Minute Reserve

requirement. The use of Scarcity Reserve Requirement Shadow Prices in calculating Real-Time Market clearing in such circumstances is as follows:

- i. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes Load Zones A, B, C, D, E, F, G, H, I, J and K (*i.e.*, all Load Zones), then the Shadow Price for the Scarcity Reserve Requirement shall be SP1. SP1 shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices;
- ii. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes Load Zones F, G, H, I, J and K (*i.e.*, all East of Central-East Load Zones), but does not include Load Zones A, B, C, D or E, then the Shadow Price for the Scarcity Reserve Requirement shall be SP4. SP4 shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices;
- iii. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes Load Zones G, H, I, J and K (*i.e.*, all Southeastern New York Load Zones), but does not include Load Zones A, B, C, D, E or F, then the Shadow Price for the Scarcity Reserve Requirement shall be SP7. SP7 shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices; or
- iv. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes Load Zone K (*i.e.*, Long Island only), but does not include Load Zones A, B, C, D, E, F, G, H, I or J, then the Shadow Price for the Scarcity Reserve

Requirement shall be SP10. SP10 shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices.

- (b) When the Load Zones included in the Scarcity Reserve Region are not identical to the Load Zones of an existing locational reserve region, the Shadow Price attributable to the Scarcity Reserve Requirement will be added to the applicable Shadow Price for the 30-Minute Reserve requirement for the existing locational reserve region to which all of the Load Zones included in the Scarcity Reserve Region belong. The inclusion of the Scarcity Reserve Requirement Shadow Prices shall apply only to the Load Zones included as part of a Scarcity Reserve Region. The use of Scarcity Reserve Requirement Shadow Prices in calculating Real-Time Market clearing in such circumstances is as follows:
  - i. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes at least one or more of Load Zones A, B, C, D or E and Section 15.4.6.1.1(a)(i) of this Rate Schedule is not applicable, then the Shadow Price for the Scarcity Reserve Requirement shall be included in SP1 for each of the Load Zones included in the Scarcity Reserve Region. This SP1 value shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices for each of the Load Zones included in the Scarcity Reserve Region;
  - ii. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes at least Load Zone F, but does not include Load Zones A, B, C, D or E and Section 15.4.6.1.1(a)(ii) of this Rate Schedule is not applicable, then the Shadow Price for the Scarcity Reserve Requirement shall be included in SP4 for

each of the Load Zones included in the Scarcity Reserve Region. This SP4 value shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices for each of the Load Zones included in the Scarcity Reserve Region; or

- iii. If the Scarcity Reserve Requirement is for a Scarcity Reserve Region that includes at least one or more of Load Zones G, H, I or J, but does not include Load Zones A, B, C, D, E or F and Section 15.4.6.1.1(a)(iii) of this Rate Schedule is not applicable, then the Shadow Price for the Scarcity Reserve Requirement shall be included in SP7 for each of the Load Zones included in the Scarcity Reserve Region. This SP7 value shall be utilized in the same manner as described in the formulae above in calculating Real-Time Market clearing prices for each of the Load Zones included in the Scarcity Reserve Region.

#### **15.4.6.2 Establishment of Scarcity Reserve Requirements in the Real-Time Market During EDRP/SCR Activations**

The ISO will establish a Scarcity Reserve Requirement for each Scarcity Reserve Region when it has called upon the EDRP and/or SCRs in identified Load Zones to reduce Load to address a reliability need. The Scarcity Reserve Requirement will be applicable for all real-time intervals during which the ISO has activated EDRP and/or SCRs within the applicable Scarcity Reserve Region to provide Load reduction. The Scarcity Reserve Requirement for each affected real-time interval shall be an amount equal to the sum of the applicable values for the Expected EDRP/SCR MW for all of the Load Zones included in a Scarcity Reserve Region, less the Available Operating Capacity in the Scarcity Reserve Region; provided, however, that a Scarcity Reserve Requirement shall not have a value less than zero.

The applicable value of the Expected EDRP/SCR MW for each Load Zone included in a Scarcity Reserve Region to be used in calculating the Scarcity Reserve Requirement is dependent upon whether the Load reduction for a given interval is deemed voluntary or mandatory for purposes of calculating the Scarcity Reserve Requirement, as further described below. If the ISO has satisfied the notification requirements set forth in Section 5.12.11.1 of this ISO Services Tariff for the SCRs within any Load Zone for any hour encompassed by the EDRP/SCR activation(s) for the day at issue, the Load reduction for all intervals encompassed by such activation(s) are deemed to be mandatory for the purposes of calculating any Scarcity Reserve Requirement only and the corresponding value for a mandatory Load reduction is used for SCRs in determining any Scarcity Reserve Requirement. In all other circumstances not encompassed by the preceding sentence, the Load reduction for all intervals encompassed by such EDRP/SCR activation(s) are deemed to be voluntary for the day at issue and the corresponding value for a voluntary Load reduction is used for SCRs in determining any Scarcity Reserve Requirement. For EDRP, Load reduction is deemed to be voluntary in all intervals and the value for EDRP included in the Expected EDRP/SCR MW value for each Load Zone reflects the voluntary nature of the Load reduction.

#### **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 or Scarcity Reserve Region; 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 or Scarcity Reserve Region; 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; ~~or, for Withdrawal-Eligible Generators, to reduce Energy withdrawals;~~ in real-time, the applicable Real-Time LBMP for all Energy they are directed to ~~produce~~ provide 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 and Scarcity Reserve Demand Curve**

The ISO shall establish twelve Operating Reserve Demand Curves, one for each locational Operating Reserves requirement. Specifically, there shall be a demand curve for: (i)

Total Spinning Reserves; (ii) Eastern, Southeastern or Long Island Spinning Reserves; (iii) Southeastern or Long Island Spinning Reserves (iv) Long Island Spinning Reserves; (v) Total 10-Minute Reserves; (vi) Eastern, Southeastern or Long Island 10-Minute Reserves; (vii) Southeastern or Long Island 10-Minute Reserves; (viii) Long Island 10-Minute Reserves; (ix) Total 30-Minute Reserves (including separate demand curves applicable for each real-time interval the ISO has established a Scarcity Reserve Requirement); (x) Eastern, Southeastern or Long Island 30-Minute Reserves (including separate demand curves applicable for each real-time interval the ISO has established certain Scarcity Reserve Requirements); (xi) Southeastern or Long Island 30-Minute Reserves (including separate demand curves applicable for each real-time interval the ISO has established certain Scarcity Reserve Requirements); and (xii) Long Island 30-Minute Reserves (including a separate demand curve applicable for each real-time interval the ISO has established a Scarcity Reserve Requirement for which the pricing rules established in Section 15.4.6.1.1(a)(iv) of this Rate Schedule apply). Each Operating Reserve Demand Curve will apply to both the Day-Ahead Market and the Real-Time Market for the relevant product and location, except for those demand curves that apply to certain Scarcity Reserve Requirements which will be applicable only during the real-time intervals that a Scarcity Reserve Requirement has been established by the ISO. The ISO shall also establish a Scarcity Reserve Demand Curve for each Scarcity Reserve Requirement established by the ISO in the Real-Time Market for which the pricing rules established in Section 15.4.6.1.1(b) of this Rate Schedule apply. A Scarcity Reserve Demand Curve will be applicable only during the real-time intervals that such a Scarcity Reserve Requirement has been established by the ISO.

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, RTC or RTD 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 locational 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. To the extent not otherwise already adjusted pursuant to Section 15.4.6.1.1(a) of this Rate Schedule, during each real-time interval in which the ISO has established a Scarcity Reserve Requirement, the ISO will adjust the target level for the locational 30-Minute Reserves requirement to account for the Scarcity Reserve Requirement within the existing locational reserve region(s) to which all the Load Zones included in the Scarcity Reserve Region belong. 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 locational requirement, the price on the total Spinning Reserves demand curve shall be \$775/MW. For all other quantities, the price on the total Spinning Reserves demand curve shall be \$0/MW.
- (b) Eastern, Southeastern or Long Island Spinning Reserves: For quantities of Operating Reserves meeting the Eastern, Southeastern or Long Island Spinning Reserves requirement that are less than or equal to the target level for that locational requirement, the price on the Eastern, Southeastern or Long Island Spinning Reserves demand curve shall be \$25/MW. For all other quantities, the

price on the Eastern, Southeastern or Long Island Spinning Reserves demand curve shall be \$0/MW.

- (c) Southeastern or Long Island Spinning Reserves: For quantities of Operating Reserves meeting the Southeastern or Long Island Spinning Reserves requirement that are less than or equal to the target level for that locational requirement, the price on the Southeastern or Long Island Spinning Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Southeastern or Long Island Spinning Reserves demand curve shall be \$0/MW.
- (d) 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 locational 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.
- (e) 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 locational requirement, the price on the total 10-minute reserves demand curve shall be \$750/MW. For all other quantities, the price on the total 10-minute reserves demand curve shall be \$0/MW.
- (f) Eastern, Southeastern or Long Island 10-Minute Reserves: For quantities of Operating Reserves meeting the Eastern, Southeastern or Long Island 10-minute reserves requirement that are less than or equal to the target level for that locational requirement, the price on the Eastern, Southeastern or Long Island 10-minute reserves demand curve shall be \$775/MW. For all other quantities, the

price on the Eastern, Southeastern or Long Island 10-minute reserves demand curve shall be \$0/MW.

- (g) Southeastern or Long Island 10-Minute Reserves: For quantities of Operating Reserves meeting the Southeastern or Long Island 10-Minute Reserves requirement that are less than or equal to the target level for that locational requirement, the price on the Southeastern or Long Island 10-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Southeastern or Long Island 10-Minute Reserves demand curve shall be \$0/MW.
- (h) 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 locational 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.
- (i) 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 locational requirement minus 955 MW, the price on the total 30-Minute Reserves demand curve shall be \$750/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 locational requirement minus 655 MW but that exceed the target level for that locational requirement minus 955 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 locational requirement minus 300

MW but that exceed the target level for that locational requirement minus 655 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 locational requirement but that exceed the target level for that locational requirement minus 300 MW, the price on the total 30-Minute Reserves demand curve shall be \$25/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.

During each real-time interval that the ISO has established a Scarcity Reserve Requirement in the Real-Time Market for which the pricing rules established in Section 15.4.6.1.1(a)(i) of this Rate Schedule apply, the applicable Operating Reserves demand curve for total 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the total 30-Minute Reserves locational requirement target level plus the Scarcity Reserve Requirement (“NYCA scarcity target level”) that are less than or equal to the NYCA scarcity target level minus an amount equal to the sum of 955 MW and the Scarcity Reserve Requirement, the price on the total 30-Minute Reserves demand curve shall be \$750/MW. For quantities of Operating Reserves meeting the NYCA scarcity target level that are less than or equal to the NYCA scarcity target level but that exceed the NYCA scarcity target level minus an amount equal to the sum of 955 MW and the Scarcity Reserve Requirement, the price on the total 30-Minute Reserves demand curve shall be \$500/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 total 30-Minute Reserves locational requirement plus the Scarcity Reserve Requirement for that interval.

During each real-time interval that the ISO has established a Scarcity Reserve Requirement(s) in the Real-Time Market, other than a Scarcity Reserve Requirement for which the pricing rules established in Section 15.4.6.1.1(a)(i) of this Rate Schedule apply, the applicable Operating Reserves demand curve for total 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the total 30-Minute Reserves locational requirement target level plus the applicable Scarcity Reserve Requirement(s) (“adjusted NYCA target level”) that are less than or equal to the adjusted NYCA target level minus 955 MW, the price on the total 30-Minute Reserves demand curve shall be \$750/MW. For quantities of Operating Reserves meeting the adjusted NYCA target level that are less than or equal to the adjusted NYCA target level but that exceed the adjusted NYCA target level minus 955 MW, the price on the total 30-Minute Reserves demand curve shall be \$500/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 total 30-Minute Reserves locational requirement plus the applicable Scarcity Reserve Requirement(s) for that interval.

- (j) Eastern, Southeastern or Long Island 30-Minute Reserves: For quantities of Operating Reserves meeting the Eastern, Southeastern or Long Island 30-Minute

Reserves requirement that are less than or equal to the target level for that locational requirement, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.

During each real-time interval that the ISO has established a Scarcity Reserve Requirement in the Real-Time Market for which the pricing rules established in Section 15.4.6.1.1(a)(ii) of this Rate Schedule apply, the applicable Operating Reserves demand curve for Eastern, Southeastern or Long Island 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the Eastern, Southeastern or Long Island 30-Minute Reserves locational requirement target level plus the Scarcity Reserve Requirement (“Eastern scarcity target level”) that are less than or equal to the Eastern scarcity target level minus an amount equal to the Eastern, Southeastern or Long Island 30-Minute Reserves locational requirement target, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$500/MW. For the quantities of Operating Reserves meeting the Eastern scarcity target level that are less than or equal to the Eastern scarcity target level but exceed the Eastern scarcity target level minus an amount equal to the Eastern, Southeastern or Long Island 30-Minute Reserves locational requirement target level, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.

During each real-time interval that the ISO has established a Scarcity Reserve Requirement(s) in the Real-Time Market for which all the Load Zones encompassed by such Scarcity Reserve Requirement belong to the East of Central-East reserve region, other than a Scarcity Reserve Requirement for which the pricing rules established in Section 15.4.6.1.1(a)(ii) of this Rate Schedule apply, the applicable Operating Reserves demand curve for Eastern, Southeastern or Long Island 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the Eastern, Southeastern or Long Island 30-Minute Reserves locational requirement target level plus the applicable Scarcity Reserve Requirement(s) (“adjusted Eastern target level”) that are less than or equal to the adjusted Eastern target level, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Eastern, Southeastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.

- (k) Southeastern or Long Island 30-Minute Reserves: For quantities of Operating Reserves meeting the Southeastern or Long Island 30-Minute Reserves requirement that are less than or equal to the target level for that locational requirement, the price on the Southeastern or Long Island 30-Minute Reserves demand curve shall be \$500/MW. For all other quantities, the price on the Southeastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.
- During each real-time interval that the ISO has established a Scarcity Reserve Requirement in the Real-Time Market for which the pricing rules established in Section 15.4.6.1.1(a)(iii) of this Rate Schedule apply, the applicable Operating

Reserves demand curve for Southeastern or Long Island 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the Southeastern or Long Island 30-Minute Reserves locational requirement target level plus the Scarcity Reserve Requirement (“Southeastern scarcity target level”) that are less than or equal to the Southeastern scarcity target level, the price on the Southeastern or Long Island 30-Minute Reserves demand curve shall be \$500/MW. For all other quantities, the price on the Southeastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.

During each real-time interval that the ISO has established a Scarcity Reserve Requirement(s) in the Real-Time Market for which all the Load Zones encompassed by such Scarcity Reserve Requirement belong to the Southeastern New York reserve region, other than a Scarcity Reserve Requirement for which the pricing rules established in Section 15.4.6.1.1(a)(iii) of this Rate Schedule apply, the applicable Operating Reserves demand curve for Southeastern or Long Island 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the Southeastern or Long Island 30-Minute Reserves locational requirement target level plus the applicable Scarcity Reserve Requirement(s) (“adjusted Southeastern target level”) that are less than or equal to the adjusted Southeastern target level, the price on the Southeastern or Long Island 30-Minute Reserves demand curve shall be \$500/MW. For all other quantities, the price on the Southeastern or Long Island 30-Minute Reserves demand curve shall be \$0/MW.

- (1) 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 locational requirement, the price on the Long Island 30-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Long Island 30-Minute Reserves demand curve shall be \$0/MW. During each real-time interval that the ISO has established a Scarcity Reserve Requirement in the Real-Time Market for which the pricing rules established in Section 15.4.6.1.1(a)(iv) of this Rate Schedule apply, the applicable Operating Reserves demand curve for Long Island 30-Minute Reserves shall be as follows: For quantities of Operating Reserves meeting the Long Island 30-Minute Reserves locational requirement target level plus the Scarcity Reserve Requirement (“Long Island scarcity target level”) that are less than or equal to the Long Island scarcity target level minus an amount equal to the Long Island 30-Minute Reserves locational requirement target, the price on the Long Island 30-Minute Reserves demand curve shall be \$500/MW. For the quantities of Operating Reserves meeting the Long Island scarcity target level that are less than or equal to the Long Island scarcity target level but exceed the Long Island scarcity target level minus an amount equal to the Long Island 30-Minute Reserves locational requirement target level, the price on the Long Island 30-Minute Reserves demand curve shall be \$25/MW. For all other quantities, the price on the Long Island 30-Minute Reserves demand curve shall be \$0/MW.

The ISO will procure additional Operating Reserves to meet each Scarcity Reserve Requirement established by the ISO in the Real-Time Market for which the pricing rules

established in Section 15.4.6.1.1(b) of this Rate Schedule apply. The Scarcity Reserve Demand Curve for each real-time interval in which the ISO has established such a Scarcity Reserve Requirement shall be defined as follows: For quantities of Operating Reserves meeting the Scarcity Reserve Requirement that are less than or equal to the Scarcity Reserve Requirement, the price on the Scarcity Reserve Demand Curve shall be \$500/MW. For all other quantities, the price on the Scarcity Reserve 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 and Scarcity Reserve Demand Curve.

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.

## 17.1 LBMP Calculation

The Locational Based Marginal Prices (“LBMPs” or “prices”) for Suppliers and Loads in the Real-Time Market will be based on the system marginal costs produced by the Real-Time Dispatch (“RTD”) program and during intervals when certain conditions exist at Proxy Generator Buses, the Real-Time Commitment (“RTC”) program. LBMPs for Suppliers and Loads in the Day-Ahead Market will be based on the system marginal costs produced by the Security Constrained Unit Commitment (“SCUC”). LBMPs calculated by SCUC and RTD will incorporate the incremental dispatch costs of Resources that would be scheduled to meet an increment of Load and, to the extent that tradeoffs exist between scheduling providers to produce Energy or reduce demand, and scheduling them to provide Regulation Service or Operating Reserves, LBMPs shall reflect the effect of meeting an increment of Load, given those tradeoffs, at each location on the Bid Production Cost associated with those services. As such, those LBMPs may incorporate: -(i) Bids for Regulation Service or Operating Reserves; or (ii) shortage costs associated with the inability to meet a Regulation Service or Operating Reserves requirement under the Regulation Service Demand Curve set forth in Rate Schedule 3 of this ISO Services Tariff and Operating Reserve Demand Curves and Scarcity Reserve Demand Curve set forth in Rate Schedule 4 of this ISO Services Tariff. [For the purposes of calculating LBMPs under this Services Tariff Section 17, Energy withdrawals by Withdrawal-Eligible Generators are treated as negative generation, and can set price.](#)

Additionally, for the purpose of calculating Real-Time LBMPs when RTD is committing and dispatching Resources meeting Minimum Generation Levels and capable of starting in ten minutes pursuant to Section 4.4.2.4 of this ISO Services Tariff, RTD shall include in the

incremental dispatch cost of each such Resource a start-up cost based on the Start-Up Bid of each such Resource and shall assume for each such Resource a zero downward response rate.

### 17.1.1 LBMP Bus Calculation Method

System marginal costs will be utilized in an *ex ante* computation to produce Day-Ahead and Real-Time LBMP bus prices using the following equations.

The LBMP at bus  $i$  can be written as:

$$\gamma_i = \lambda^R + \gamma_i^L + \gamma_i^C$$

Where:

- $\gamma_i$  = LBMP at bus  $i$  in \$/MWh
- $\lambda^R$  = the system marginal price at the Reference Bus
- $\gamma_i^L$  = Marginal Losses Component of the LBMP at bus  $i$  which is the marginal cost of losses at bus  $i$  relative to the Reference Bus
- $\gamma_i^C$  = Congestion Component of the LBMP at bus  $i$  which is the marginal cost of Congestion at bus  $i$  relative to the Reference Bus

The Marginal Losses Component of the LBMP at any bus  $i$  is calculated using the equation:

$$\gamma_i^L = (DF_i - 1)\lambda^R$$

Where:

- $DF_i$  = delivery factor for bus  $i$  to the system Reference Bus and:

$$DF_i = \left(1 - \frac{\partial L}{\partial P_i}\right)$$

Where:

- $L$  = NYCA losses; and
- $P_i$  = injection at bus  $i$

The Congestion Component of the LBMP at bus  $i$  is calculated using the equation:

$$\gamma_i^c = - \left( \sum_{k \in K}^n GF_{ik} \mu_k \right)$$

Where:

$K$  = the set of Constraints;

$GF_{ik}$  = Shift Factor for bus  $i$  on Constraint  $k$  in the pre- or post-Contingency case which limits flows across that Constraint (the Shift Factor measures the incremental change in flow on Constraint  $k$ , expressed in per unit, for an increment of injection at bus  $i$  and a corresponding withdrawal at the Reference Bus); and

$\mu_k$  = the Shadow Price of Constraint  $k$  expressed in \$/MWh, provided however, this Shadow Price shall not exceed the Transmission Shortage Cost.

Substituting the equations for  $\gamma_i^L$  and  $\gamma_i^C$  into the first equation yields:

$$\gamma_i = \lambda^R + (DF_i - 1)\lambda^R - \sum_{k \in K} GF_{ik} \mu_k$$

LBMPs will be calculated for the Day-Ahead and the Real-Time Markets. In the Day-Ahead Market, the three components of the LBMP at each location will be calculated from the SCUC results and posted for each of the twenty four (24) hours of the next day. The Real-Time LBMPs will be calculated and posted for each execution of RTD.

#### **17.1.1.1 Determining Shift Factors and Incremental System Losses**

For the purposes of pricing and scheduling, Shift Factors,  $GF_{ik}$ , and loss delivery factors,  $DF_i$ , will reflect expected power flows, including expected unscheduled power flows. When determining prices and schedules, SCUC, RTC and RTD shall include both the expected power flows resulting from NYISO interchange schedules (*see* Section 17.1.1.1.2), and expected unscheduled power flows (*see* Section 17.1.1.1.1). All NYCA Resource, NYCA Load and Proxy

Generator Bus Shift Factors and loss delivery factors will incorporate internal and coordinated external transmission facility outages, power flows due to schedules, and expected unscheduled power flows.

#### **17.1.1.1.1 Determining Expected Unscheduled Power Flows**

In the Day-Ahead Market, expected unscheduled power flows will ordinarily be determined based on historical, rolling 30-day on-peak and off-peak averages. To ensure expected unscheduled power flows accurately reflect anticipated conditions, the frequency and/or period used to determine the historical average may be modified by the NYISO to address market rule, system topology, operational, or other changes that would be expected to significantly impact unscheduled power flows. The NYISO will publicly post the Day-Ahead on-peak and off-peak unscheduled power flows on its web site.

In the Real-Time Market, expected unscheduled power flows will ordinarily be determined based on current power flows, modified to reflect expected changes over the real-time scheduling horizon.

#### **17.1.1.1.2 Determining Expected Power Flows Resulting from NYISO Interchange Schedules**

In the Day-Ahead Market, for purposes of scheduling and pricing, SCUC will establish expected power flows for the ABC interface, JK interface and Branchburg-Ramapo interconnection based on the following:

- a. Consolidated Edison Company of New York's Day-Ahead Market hourly election under OATT Attachment CC, Schedule C;

- b. The percentage of PJM-NYISO scheduled interchange that is expected to flow over the Branchburg-Ramapo interconnection. The expected flow may also be adjusted by a MW offset to reflect expected operational conditions;
- c. The percentage of PJM-NYISO scheduled interchange (if any) that is expected to flow over the ABC interface; and
- d. The percentage of PJM-NYISO scheduled interchange (if any) that is expected to flow over the JK interface.

The terms “ABC interface” and “JK interface” have the meaning ascribed to them in Schedule C to Attachment CC to the OATT.

The NYISO shall post the percentage values it is currently using to establish Day-Ahead and real-time expected Branchburg-Ramapo interconnection, ABC interface and JK interface flows for purposes of scheduling and pricing on its web site. If the NYISO determines it is necessary to change the posted Branchburg-Ramapo, ABC or JK percentage values, it will provide notice to its Market Participants as far in advance of the change as is practicable under the circumstances.

In the Day-Ahead Market, scheduled interchange that is not expected to flow over the ABC interface, JK interface or Branchburg-Ramapo interconnection (or on Scheduled Lines) will be expected to flow over the NYISO’s other interconnections. Expected flows over the NYISO’s other interconnections will be determined consistent with the expected impacts of scheduled interchange and consistent with shift factors and delivery factors calculated in accordance with Section 17.1.1.1, above.

For pricing purposes, flows in the Real-Time Market will be established for the ABC interface, JK interface, and Branchburg-Ramapo interconnection based on the current flow,

modified to reflect the expected incremental impacts of changes to interchange schedules over the forward scheduling horizon in a manner that is consistent with the method used to establish Day-Ahead power flows over these facilities. Expected flows over the NYISO's other interconnections will be determined based on the current flow, modified to reflect the expected incremental impacts of changes to interchange schedules over the forward scheduling horizon, and shall be consistent with shift factors and delivery factors calculated in accordance with Section 17.1.1.1, above.

#### **17.1.1.1.3 Scheduled Lines and Chateaugay Interconnection with Hydro Quebec**

For purposes of scheduling and pricing, the NYISO expects that power flows will ordinarily match the interchange schedule at Scheduled Lines, and at the NYCA's Chateaugay interconnection with Hydro Quebec, in both the Day-Ahead and Real-Time Markets.

### **17.1.2 Real-Time LBMP Calculation Procedures**

For each RTD interval, the ISO shall use the procedures described below in Sections 17.1.2.1-17.1.2.1.4 to calculate Real-Time LBMPs at each Load Zone and Generator bus. The LBMP bus and zonal calculation procedures are described in Sections 17.1.1 and 17.1.5 of this Attachment B, respectively. Procedures governing the calculation of LBMPs at Proxy Generator Buses are set forth below in Section 17.1.6 of this Attachment B.

#### **17.1.2.1 General Procedures**

##### **17.1.2.1.1 Overview**

The ISO shall calculate Real-Time Market LBMPs using the three passes of each RTD run, except as noted below in Section 17.1.2.1.3. A new RTD run will initialize every five minutes and each run will produce prices and schedules for five points in time (the optimization

period). Only the prices and schedules determined for the first time point of the optimization period will be binding. Prices and schedules for the other four time points of the optimization period are advisory.

Each RTD run shall, depending on when it occurs during the hour, have a bid optimization horizon of fifty, fifty-five, or sixty minutes beyond the first, or binding, point in time that it addresses. The posting time and the first time point in each RTD run, which establishes binding prices and schedules, will be five minutes apart. The remaining points in time in each optimization period can be either five, ten, or fifteen minutes apart depending on when the run begins within the hour. The points in time in each RTD optimization period are arranged so that they parallel as closely as possible RTC's fifteen minute evaluations.

For example, the RTD run that posts its results at the beginning of an hour ("RTD<sub>0</sub>") will initialize at the fifty-fifth minute of the previous hour and produce schedules and prices over a fifty-five minute optimization period. RTD<sub>0</sub> will produce binding prices and schedules for the RTD interval beginning when it posts its results (i.e., at the beginning of the hour) and ending at the first time point in its optimization period (i.e., five minutes after the hour). It will produce advisory prices and schedules for its second time point, which is ten minutes after the first time point in its optimization period, and advisory prices and schedules for its third, fourth and fifth time points, each of which would be fifteen minutes apart. The RTD run that posts its results at five minutes after the beginning of the hour ("RTD<sub>5</sub>") will initialize at the beginning of the hour and produce prices over a fifty minute optimization period. RTD<sub>5</sub> will produce binding prices and schedules for the RTD interval beginning when it posts its results (i.e., at five minutes after the hour) and ending at the first time point in its optimization period (i.e., ten minutes after the hour.) It will produce advisory prices and schedules for its second time point (which is five

minutes after the first time point), and advisory prices and schedules for its third, fourth and fifth time points, each of which would be fifteen minutes apart. The RTD run that posts its results at ten minutes after the beginning of the hour (“RTD<sub>10</sub>”) will initialize at five minutes after the beginning of the hour and produce prices over a sixty minute optimization period. RTD<sub>10</sub> will produce binding prices and schedules for the interval beginning when it posts its results (i.e., at ten minutes after the hour) and ending at the first time point in its optimization period (i.e., fifteen minutes after the hour.) It will produce advisory prices and schedules for its second, third, fourth and fifth time points, each of which would be fifteen minutes after the preceding time point.

#### **17.1.2.1.2 Description of the Real-Time Dispatch Process**

##### **17.1.2.1.2.1 The First Pass**

The first RTD pass consists of a least bid cost, multi-period co-optimized dispatch for Energy, Regulation Service and Operating Reserves that treats all Fixed Block Units that are committed by RTC, or are otherwise instructed to be online or remain online by the ISO as if they were blocked on at their UOL<sub>N</sub> or UOL<sub>E</sub>, whichever is applicable. Resources meeting Minimum Generation Levels and capable of being started in ten minutes that have not been committed by RTC are treated as flexible (i.e. able to be dispatched anywhere between zero (0) MW and their UOL<sub>N</sub> or UOL<sub>E</sub>, whichever is applicable). The first pass establishes “physical base points” (i.e., real-time Energy schedules) and real-time schedules for Regulation Service and Operating Reserves for the first time point of the optimization period. Physical base points and schedules established for the first time point shall be binding and shall remain in effect until the results of the next run are posted. Physical base points and schedules established for all

subsequent time points shall be advisory. The first pass also produces information that is used to calculate the RTD Base Point Signals that the ISO sends to Suppliers.

When establishing physical base points, the ISO shall assume that each Generator will move toward the physical base point established during the first pass of the prior RTD run at its specified response rate.

#### **17.1.2.1.2.1.1 Upper and Lower Dispatch Limits for Dispatchable Resources Other Than Intermittent Power Resources That Depend on Wind as Their Fuel**

When setting physical base points for a Dispatchable Resource at the first time point, the ISO shall ensure that they do not fall outside of the bounds established by the Dispatchable Resource's lower and upper dispatch limits. A Dispatchable Resource's dispatch limits shall be determined based on whether it was feasible for it to reach the physical base point calculated by the last RTD run given its: (A) metered output level at the time that the RTD run was initialized; (B) response rate; (C) minimum generation level; and (D)  $UOL_N$  or  $UOL_E$ , whichever is applicable. If it was feasible for the Dispatchable Resource to reach that base point, then its upper and lower dispatch limits shall reflect the highest and lowest output levels it could achieve over the next RTD interval, given its  $UOL_N$  or  $UOL_E$ , as applicable, and starting from its previous base point. If it was not feasible for the Dispatchable Resource to reach that base point, then its upper and lower dispatch limits shall reflect the highest and lowest output levels it could achieve over the next RTD interval, given its  $UOL_N$  or  $UOL_E$ , as applicable, but instead starting from the feasible output level closest to its previous base point.

When setting physical base points for a Dispatchable Resource at later time points, the ISO shall ensure that they do not fall outside of the bounds established by the Resource's lower and upper dispatch limits for that time point. A Resource's dispatch limits at later time points

shall be based on its: (A) dispatch limits from the first time point; (B) response rate; (C) minimum generation; and (D)  $UOL_N$  or  $UOL_E$ , whichever is applicable.

The upper dispatch limit for a Dispatchable Resource at later time points shall be determined by increasing the upper dispatch limit from the first time point at the Resource's response rate, up to its  $UOL_N$  or  $UOL_E$ , whichever is applicable. The lower dispatch limit for a Dispatchable Resource at later time points shall be determined by decreasing the lower dispatch limit from the first time point at the Resource's response rate, down to its minimum generation level or to a Demand Side Resource's Demand Reduction level.

The RTD Base Point Signals sent to Dispatchable Resources shall be the same as the physical base points determined above.

#### **17.1.2.1.2.1.2 Upper and Lower Dispatch Limits for Intermittent Power Resources That Depend on Wind as Their Fuel**

For all time points of the optimization period, the Lower Dispatch Limit shall be zero and the Upper Dispatch Limit shall be the Wind Energy Forecast for that Resource. For Intermittent Power Resources depending on wind as their fuel in commercial operation as of January 1, 2002 with a name plate capacity of 12 MWs or fewer, the Upper and Lower Dispatch Limits shall be the output level specified by the Wind Energy Forecast.

#### **17.1.2.1.2.1.3. Setting Physical Basepoints for Fixed Generators**

When setting physical base points for Self-Committed Fixed Generators in any time point, the ISO shall consider the feasibility of the Resource reaching the output levels that it specified in its self-commitment request for each time point in the RTD run given: (A) its metered output at the time that the run was initialized; and (B) its response rate.

When setting physical base points for ISO-Committed Fixed Generators in any time point, the ISO shall consider the feasibility of the Resource reaching the output levels scheduled for it by RTC for each time point in the RTD run given: (A) its metered output at the time that the run was initialized; and (B) its response rate.

The RTD Base Point Signals sent to Self-Committed Fixed Generators shall follow the quarter hour operating schedules that those Generators submitted in their real-time self-commitment requests

The RTD Base Point Signals sent to ISO-Committed Fixed Generators shall follow the quarter hour operating schedules established for those Generators by RTC, regardless of their actual performance. To the extent possible, the ISO shall honor the response rates specified by such Generators when establishing RTD Base Point Signals. If a Self-Committed Fixed Generator's operating schedule is not feasible based on its real-time self-commitment requests then its RTD Base Point Signals shall be determined using a response rate consistent with the operating schedule changes.

#### **17.1.2.1.2.2 The Second Pass**

The second RTD pass consists of a least bid cost, multi-period, co-optimized dispatch for Energy, Regulation Service, and Operating Reserves that treats all Fixed Block Units that are committed by RTC, all Resources meeting Minimum Generation Levels and capable of starting in ten minutes that have not been committed by RTC and all units otherwise instructed to be online or remain online by the ISO, as flexible (i.e., able to be dispatched anywhere between zero (0) MW and their  $UOL_N$  or  $UOL_E$ , whichever is applicable), regardless of their minimum run-time status. The second pass calculates real-time Energy prices and real-time Shadow Prices for Regulation Service and Operating Reserves that the ISO shall use for settlement purposes

pursuant to Article 4, Rate Schedule 15.3, and Rate Schedule 15.4 of this ISO Services Tariff respectively. The ISO will not use schedules for Energy, Regulation Service and Operating Reserves established in the second pass to dispatch Resources.

The upper and lower dispatch limits used for ISO-Committed Fixed and Self-Committed Fixed Resources shall be the same as the physical base points calculated in the first pass.

**17.1.2.1.2.2.1 Upper and Lower Dispatch Limits for Dispatchable Resources Other Than Intermittent Power Resources That Depend on Wind as Their Fuel**

The upper dispatch limit for the first time point of the second pass for a Dispatchable Resource shall be the higher of: (A) its upper dispatch limit from the first pass; or (B) its “pricing base point” from the first time point of the prior RTD interval adjusted up within its Dispatchable range for any possible ramping since that pricing base point was issued less the higher of: (i) the physical base point established during the first pass of the RTD immediately prior to the previous RTD minus the Resource’s metered output level at the time that the current RTD run was initialized, or (ii) zero.

The lower dispatch limit for the first time point of the second pass for a Dispatchable Resource shall be the lower of: (A) its lower dispatch limit from the first pass; or (B) its “pricing base point” from the first time point of the prior RTD interval adjusted down within its Dispatchable range to account for any possible ramping since that pricing base point was issued plus the higher of: (i) the Resource’s metered output level at the time that the current RTD run was initialized minus the physical base point established during the first pass of the RTD immediately prior to the previous RTD; or (ii) zero.

The upper dispatch limit for the later time points of the second pass for a Dispatchable Resource shall be determined by increasing its upper dispatch limit from the first time point at the Resource’s response rate, up to its  $UOL_N$  or  $UOL_E$ , whichever is applicable. The lower

dispatch limit for the later time points of the second pass for such a Resource shall be determined by decreasing its lower dispatch limit from the first time point at the Resource's response rate, down to its minimum generation level.

#### **17.1.2.1.2.2 Upper and Lower Dispatch Limits for Intermittent Power Resources That Depend on Wind as Their Fuel**

For the first time point and later time points for Intermittent Power Resources that depend on wind as their fuel, the Lower Dispatch Limit shall be zero and the Upper Dispatch Limit shall be the Wind Energy Forecast for that Resource. For Intermittent Power Resources depending on wind as their fuel in commercial operation as of January 1, 2002 with a name plate capacity of 12 MWs or fewer, the Upper and Lower Dispatch Limits shall be the output level specified by the Wind Energy Forecast.

#### **17.1.2.1.2.3 The Third Pass**

The third RTD pass is reserved for future use.

#### **17.1.2.1.3 Variations in RTD-CAM**

When the ISO activates RTD-CAM, the following variations to the rules specified above in Sections 17.1.2.1.1 and 17.1.2.1.2 shall apply.

First, if the ISO enters reserve pickup mode: (i) the ISO will produce prices and schedules for a single ten minute interval (not for a multi-point co-optimization period); (ii) the ISO shall set Regulation Service schedules to zero as described in Rate Schedule 15.3 of this ISO Services Tariff; (iii) the ISO will have discretion to make additional Generator commitments before executing the three RTD passes; and (iv) the ISO will have discretion to allow the RTD Base Point Signal of each Dispatchable Generator to be set to the higher of the Generator's physical base point or its actual generation level.

Second, if the ISO enters maximum generation pickup mode: (i) the ISO will produce prices and schedules for a single five minute interval (not for a multi-point co-optimization period); (ii) the ISO shall set Regulation Service schedules to zero as described in Rate Schedule 15.3 of this ISO Services Tariff; (iii) the ISO will have discretion to make additional Generator commitments in the affected area before executing the three RTD passes; and (iv) the ISO will have discretion to either move the RTD Base Point Signal of each Generator within the affected area towards its  $UOL_E$  at its emergency response rate or set it at a level equal to its physical base point.

Third, if the ISO enters basepoints ASAP – no commitments mode it will produce prices and schedules for a single five minute interval (not for a multi-point co-optimization period).

Fourth, if the ISO enters basepoints ASAP – commit as needed mode: (i) the ISO will produce price and schedules for a single five minute interval (not for a multi-point co-optimization period); and (ii) the ISO may make additional commitments of Generators that are capable of starting within ten minutes before executing the three RTD passes.

Fifth, and finally, if the ISO enters re-sequencing mode it will solve for a ten-minute optimization period consisting of two five-minute time points.

#### **17.1.2.1.4 The Real-Time Commitment (“RTC”) Process and Automated Mitigation**

Attachment H of this Services Tariff shall establish automated market power mitigation measures that may affect the calculation of Real-Time LBMPs. To the extent that these measures are implemented they shall be incorporated into the RTC software through the establishment of a second, parallel, commitment evaluation that will assess the impact of the mitigation measures. The first evaluation, referred to as the “RTC evaluation,” will determine the schedules and prices that would result using an original set of offers and Bids before any

additional mitigation measures, the necessity for which will be considered in the RTC evaluation, are applied. The second evaluation, referred to as the “RT-AMP” evaluation, will determine the schedules and prices that would result from using the original set of offers and bids as modified by any necessary mitigation measures. Both evaluations will follow the rules governing RTC’s operation that are set forth in Article 4 and this Attachment B to this ISO Services Tariff.

In situations where Attachment H specifies that real-time automated mitigation measures be utilized, the ISO will perform the two parallel RTC evaluations in a manner that enables it to implement mitigation measures one RTC run (i.e., fifteen minutes) in the future. For example, RTC<sub>15</sub> and RT-AMP<sub>15</sub> will perform Resource commitment evaluations simultaneously. RT-AMP<sub>15</sub> will then apply the mitigation “impact” test, account for reference bid levels as appropriate and determine which Resources are actually to be mitigated. This information will then be conveyed to RTC<sub>30</sub> which will make Resource commitments consistent with the application of the mitigation measures (and will thus indirectly be incorporated into future RTD runs).

### **17.1.3 Day-Ahead LBMP Calculation Procedures**

LBMPs in the Day-Ahead Market are calculated using five passes. The first two passes are commitment and dispatch passes; the last three are dispatch only passes.

Pass 1 consists of a least cost commitment and dispatch to meet Bid Load and reliable operation of the NYS Power System that includes Day-Ahead Reliability Units.

It consists of several steps. Step 1A is a complete Security Constrained Unit Commitment (“SCUC”) to meet Bid Load. At the end of this step, committed Fixed Block Units, Imports, Exports, Virtual Supply, Virtual Load, Demand Side Resources and non-Fixed

Block Units are dispatched to meet Bid Load with Fixed Block Units treated as dispatchable on a flexible basis. For mitigation purposes, LBMPs are calculated from this dispatch. Following Step 1A, SCUC tests for automated mitigation procedure (“AMP”) activation.

If AMP is activated, Step 1B tests to determine if the AMP will be triggered by mitigating offer prices subject to mitigation that exceed the conduct threshold to their respective reference prices. These mitigated offer prices together with all originally submitted offer prices not subject to automatic mitigation are then used to commit generation and dispatch energy to meet Bid Load. This step is another iteration of the SCUC process. At the end of Step 1B, committed Fixed Block Units, Imports, Exports, Virtual Supply, Virtual Load, Demand Side Resources, and non-Fixed Block Units are again dispatched to meet Bid Load using the same mitigated or unmitigated Bids used to determine the commitment to meet Bid Load, with Fixed Block Units treated as dispatchable on a flexible basis. For mitigation purposes, LBMPs are again calculated from this dispatch. The LBMPs determined at the end of Step 1B are compared to the LBMPs determined at the end of Step 1A to determine the hours and zones in which the impact test is met.

In Step 1C, generation offer prices subject to mitigation that exceed the conduct threshold are mitigated for those hours and zones in which the impact test was met in Step 1B. The mitigated offer prices, together with the original unmitigated offer price of units whose offer prices were not subject to mitigation, or did not trigger the conduct or impact thresholds, are used to commit generation and dispatch energy to meet Bid Load. This step is also a complete iteration of the SCUC process. At the end of Step 1C, committed Fixed Block Units, Imports, Exports, virtual supply, virtual load, Demand Side Resources, and non-Fixed Block Units are

again dispatched to meet Bid Load, with Fixed Block Units treated as dispatchable on a flexible basis. For mitigation purposes, LBMPs are again calculated from this dispatch.

All Demand Side Resources and non-Fixed Block Units committed in the final step of Pass 1 (which could be either step 1A, 1B, or 1C depending on activation of ~~and~~ the AMP) are blocked on at least to minimum load in Passes 4 through 6. [All Energy Storage Resources dispatched in the final step of Pass 1 \(which could be either Step 1A, 1B, or 1C depending on activation of the AMP\) are blocked on at the dispatch that was determined in Pass 1 in Passes 2 through 4.](#) The resources required to meet local system reliability are determined in Pass 1.

Pass 2 consists of a least cost commitment and dispatch of Fixed Block Units, Imports, Exports, Demand Side Resources and non-Fixed Block Units to meet forecast Load requirements in excess of Bid Load, considering the Wind Energy Forecast, that minimizes the cost of incremental Minimum Generation and Start Up Bids, given revenues for Minimum Generation Energy based on LBMPs calculated in Pass 1, and assumes all Fixed Block Units are dispatchable on a flexible basis. Incremental Import Capacity needed to meet forecast Load requirements is determined in Pass 2. Fixed Block Units committed in this pass are not included in the least cost dispatches of Passes 5 or 6. Demand Side Resources and non-Fixed Block Units committed in this step are blocked on at least to minimum Load in Passes 4 through 6. Intermittent Power Resources that depend on wind as their fuel committed in this pass as a result of the consideration of the Wind Energy Forecast are not blocked in Passes 5 or 6.

Pass 3 is reserved for future use.

Pass 4 consists of a least cost dispatch to forecast Load. It is not used to set schedules or prices. It is used for operational purposes and provides a dispatch of Fixed Block Units, Imports, Exports, Demand Side Resources and non-Fixed Block Units committed in Passes 1 or 2.

Incremental Import Capacity committed in Pass 2 is re-evaluated and may be reduced if no longer required.

Pass 5 consists of a least cost dispatch of Fixed Block Units, Imports, Exports, Virtual Supply, Virtual Load, Demand Side Resources and non-Fixed Block Units committed to meet Bid Load, based where appropriate on offer prices as mitigated in Pass 1. Fixed Block Units are treated as dispatchable on a flexible basis. LBMPs used to settle the Day-Ahead Market are calculated from this dispatch. The Shadow Prices used to compute Day-Ahead Market clearing prices for Regulation Service and for Operating Reserves in Rate Schedules 3 and 4 of this ISO Services Tariff are also calculated from this dispatch. Final schedules for all Imports, Exports, Virtual Supply, Virtual Load, Demand Side Resources and non-Fixed Block Units in the Day-Ahead Market are calculated from this dispatch.

Pass 6 consists of a least cost dispatch of all Day-Ahead committed Resources, Imports, Exports, Virtual Supply, Virtual Load, based where appropriate on offer prices as mitigated in Pass 1, with the schedules of all Fixed Block Units committed in the final step of Pass 1 blocked on at maximum Capacity. Final schedules for Fixed Block Units in the Day-Ahead Market are calculated from this dispatch.

#### **17.1.4 Determination of Transmission Shortage Cost**

The applicable Transmission Shortage Cost depends on whether a particular transmission Constraint is associated with a transmission facility or Interface that includes a non-zero constraint reliability margin value. The ISO shall establish constraint reliability margin values for transmission facilities and Interfaces. Non-zero constraint reliability margin values established by the ISO are normally equal to 20 MW. The ISO shall post to its website a list of

transmission facilities and Interfaces assigned a constraint reliability margin value other than 20 MW.

For transmission facilities and Interfaces with a non-zero constraint reliability margin value, SCUC, RTC and RTD shall include consideration of a two step demand curve consisting of up to an additional 5 MW of available resource capacity at a cost of \$350/MWh and up to an additional 15 MW of available resource capacity at a cost of \$1,175/MWh when evaluating transmission Constraints associated with such facilities and Interfaces. In no event, however, shall the Shadow Price for such transmission Constraints exceed \$4,000/MWh.

For transmission facilities and Interfaces with a constraint reliability margin value of zero, the Shadow Price for transmission Constraints associated with such facilities and Interfaces shall not exceed \$4,000/MWh. SCUC, RTC and RTD shall not include consideration of the available resource capacity provided by the two step demand curve described above for such transmission Constraints.

In evaluating all transmission Constraints, the ISO will determine whether sufficient available resource capacity exists to solve each transmission Constraint at its applicable limit. If sufficient available resource capacity does not exist to solve the transmission Constraint at its otherwise applicable limit, the ISO shall increase the applicable limit for such transmission Constraint to an amount achievable by the available resource capacity plus 0.2 MW. For transmission facilities and Interfaces with a non-zero constraint reliability margin value, the ISO shall account for the 20 MW of available resource capacity from the two step demand curve described above in determining: (i) whether sufficient available resource capacity exists to solve transmission Constraints associated with such facilities and Interfaces at their otherwise

applicable limit; and (ii) the extent of any limit adjustment required to solve such transmission Constraints.

The ISO may periodically evaluate the Transmission Shortage Cost to determine whether it is necessary to modify the Transmission Shortage Cost to avoid future operational or reliability problems. The ISO will consult with its Market Monitoring Unit after it conducts this evaluation. If the ISO determines that it is necessary to modify the Transmission Shortage Costs in order to avoid future operational or reliability problems the resolution of which would otherwise require recurring operator intervention outside normal market scheduling procedures, in order to avoid among other reliability issues, a violation of NERC Interconnection Reliability Operating Limits or System Operating Limits, it may temporarily modify it for a period of up to ninety days, provided however the NYISO shall file such change with the Commission pursuant to Section 205 of the Federal Power Act within 45 days of such modification. 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: (i) consult with those entities as soon as reasonably possible after implementing a temporary modification and shall explain the reasons for the change; and (ii) notify Market Participants of any temporary modification.

The responsibilities of the ISO and the Market Monitoring Unit in evaluating and modifying the Transmission Shortage Cost, as necessary are addressed in Attachment O, Section 30.4.6.8.1 of this Market Services Tariff (“Market Monitoring Plan”).

#### **17.1.5 Zonal LBMP Calculation Method**

The computation described in Section 17.1.1 of this Attachment B is at the bus level. An eleven (11) zone model will be used for the LBMP billing related to Loads, [except for Energy](#)

[withdrawals by Eligible Generators for later injection onto the grid](#). The LBMP for a zone will be a Load weighted average of the Load bus LBMPs in the Load Zone. The Load weights which will sum to unity will be calculated from the load bus MW distribution. Each component of the LBMP for a zone will be calculated as a Load weighted average of the Load bus LBMP components in the zone. The LBMP for a zone  $j$  can be written as:

$$\gamma_j^Z = \lambda^R + \gamma_j^{L,Z} + \gamma_j^{C,Z}$$

where:

- $\gamma_j^Z =$  LBMP for zone  $j$ ,
- $\gamma_j^{L,Z} = \sum_{i=1}^n W_i \gamma_i^L$  is the Marginal Losses Component of the LBMP for zone  $j$ ;
- $\gamma_j^{C,Z} = \sum W_i \gamma_i^L$  is the Congestion Component of the LBMP for zone  $j$ ;
- $n =$  number of Load buses in zone  $j$  for which LBMPs are calculated; and
- $W_i =$  Load weighting factor for bus  $i$ .

The NYISO also calculates and posts zonal LBMP for four (4) external zones for informational purposes only. Settlements for External Transactions are determined using the Proxy Generator Bus LBMP. Each external zonal LBMP is equal to the LBMP of the Proxy Generator Bus associated with that external zone. The table below identifies which Proxy Generator Bus LBMP is used to determine each of the posted external zonal LBMPs.

External Zone	External Zone PTID	Proxy Generator Bus	Proxy Generator Bus PTID
HQ	61844	HQ_GEN_WHEEL	23651
NPX	61845	N.E._GEN_SANDY_POND	24062
OH	61846	O.H._GEN_BRUCE	24063
PJM	61847	PJM_GEN_KEYSTONE	24065

Consistent with the ISO Services Tariff, LBMPs at Proxy Generator Buses are determined using calculated bus prices as described in this Section 17.1.

#### **17.1.6 Real Time LBMP Calculation Methods for Proxy Generator Buses, Non-Competitive Proxy Generator Buses and Proxy Generator Buses Associated with Designated Scheduled Lines**

##### **17.1.6.1 Definitions**

**Interface ATC Constraint:** An Interface ATC Constraint exists when proposed economic transactions over an Interface between the NYCA and the Control Area with which one or more Proxy Generator Bus(es) are associated would exceed the transfer capability for the Interface or for an associated Proxy Generator Bus.

**Interface Ramp Constraint:** An Interface Ramp Constraint exists when proposed interchange schedule changes pertaining to an Interface between the NYCA and the Control Area with which one or more Proxy Generator Bus(es) are associated would exceed any Ramp Capacity limit imposed by the ISO for the Interface or for an associated Proxy Generator Bus.

**NYCA Ramp Constraint:** A NYCA Ramp Constraint exists when 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.

**Proxy Generator Bus Constraint:** Any of an Interface ATC Constraint, an Interface Ramp Constraint, or a NYCA Ramp Constraint (individually and collectively).

**External Interface Congestion:** The product of: (i) the portion of the Congestion Component of the LBMP at a Proxy Generator Bus that is associated with a Proxy Generator Bus Constraint and (ii) a factor, between zero and 1, calculated pursuant to ISO Procedures.

**Proxy Generator Bus Border LBMP:** The LBMP at a Proxy Generator Bus minus External Interface Congestion at that Proxy Generator Bus.

**Unconstrained RTD LBMP:** The LBMP as calculated by RTD less any congestion associated with a Proxy Generator Bus Constraint.

##### **17.1.6.2 General Rules**

Transmission Customers and Customers with External Generators and Loads can bid into the LBMP Market or participate in Bilateral Transactions. Those with External Generators may arrange LBMP Market sales and/or Bilateral Transactions with Internal or External Loads and

External Loads may arrange LBMP Market purchases and/or Bilateral Transactions with Internal Generators.

The Generator and Load locations for which LBMPs will be calculated will initially be limited to a pre-defined set of Proxy Generator Buses. LBMPs will be calculated for each Proxy Generator Bus within this limited set. When an Interface with multiple Proxy Generator Buses is constrained, the ISO will apply the constraint to all of the Proxy Generator Buses located at that Interface. Except as set forth in Sections 17.1.6.3 and 17.1.6.4, the NYISO will calculate the three components of LBMP for Transactions at a Proxy Generator Bus as provided in the tables below.

When determining the External Interface Congestion, if any, to apply to determine the LBMP for RTD intervals that bridge two RTC intervals, the NYISO shall use the External Interface Congestion associated with the second (later) RTC interval.

**17.1.6.2.1 Pricing rules for Dynamically Scheduled Proxy Generator Buses**

The pricing rules for Dynamically Scheduled Proxy Generator Buses are to be determined.

**17.1.6.2.2 Pricing rules for Variably Scheduled Proxy Generator Buses**

The pricing rules for Variably Scheduled Proxy Generator Buses are provided in the following table.

<b>Rule No.</b>	<b>Proxy Generator Bus Constraint affecting External Schedules at location <i>a</i></b>	<b>Direction of Proxy Generator Bus Constraint</b>	<b>Real-Time Pricing Rule (for location <i>a</i>)</b>
1	Unconstrained in RTC <sub>15</sub> , Rolling RTC and RTD	N/A	Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub>
2	The Rolling RTC used to schedule External Transactions in a given 15-minute interval is subject to a Proxy Generator Bus Constraint	Into NYCA or out of NYCA (Import or Export)	Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub> + Rolling RTC External Interface Congestion <sub><i>a</i></sub>

**17.1.6.2.3 Pricing rules for Proxy Generator Buses that are not Dynamically Scheduled or Variably Scheduled**

The pricing rules for Proxy Generator Buses that are not Dynamically Scheduled or Variably Scheduled Proxy Generator Buses are provided in the following table.

<b>Rule No.</b>	<b>Proxy Generator Bus Constraint affecting External Schedules at location <i>a</i></b>	<b>Direction of Proxy Generator Bus Constraint</b>	<b>Real-Time Pricing Rule (for location <i>a</i>)</b>
1	Unconstrained in RTC <sub>15</sub> , Rolling RTC and RTD	N/A	Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub>
3	RTC <sub>15</sub> is subject to a Proxy Generator Bus Constraint	Into NYCA or out of NYCA (Import or Export)	Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub> + RTC <sub>15</sub> External Interface Congestion <sub><i>a</i></sub>

**17.1.6.3 Rules for Non-Competitive Proxy Generator Buses and Associated Interfaces**

Real-Time LBMPs for an Interface that is associated with one or more Non-Competitive Proxy Generator Buses or for a Non-Competitive Proxy Generator Bus shall be determined as provided in the tables below. Non-Competitive Proxy Generator Buses are identified in Section 4.4.4 of the Services Tariff.

**17.1.6.3.1 Pricing rules for Non-Competitive, Dynamically Scheduled Proxy Generator Buses**

The pricing rules for Non-Competitive, Dynamically Scheduled Proxy Generator Buses are to be determined.

**17.1.6.3.2 Pricing rules for Non-Competitive, Variably Scheduled Proxy Generator Buses**

The pricing rules for Non-Competitive, Variably Scheduled Proxy Generator Buses are provided in the following table.

<b>Rule No.</b>	<b>Proxy Generator Bus Constraint affecting External Schedules at location <math>a</math></b>	<b>Direction of Proxy Generator Bus Constraint</b>	<b>Real-Time Pricing Rule (for location <math>a</math>)</b>
1	Unconstrained in $RTC_{15}$ , Rolling RTC and RTD	N/A	Real-Time $LBMP_a = RTD LBMP_a$
4	The Rolling RTC used to schedule External Transactions in a given 15-minute interval is subject to an Interface ATC or Interface RampConstraint	Into NYCA (Import)	If Rolling RTC Proxy Generator Bus $LBMP_a > 0$ , then Real-Time $LBMP_a = RTD LBMP_a + \text{Rolling RTC External Interface Congestion}_a$  Otherwise, Real-Time $LBMP_a = \text{Minimum of (i) } RTD LBMP_a \text{ and (ii) zero}$
5	The Rolling RTC used to schedule External Transactions in a given 15-minute interval is subject to an Interface ATC or Interface Ramp Constraint	Out of NYCA (Export)	If Rolling RTC Proxy Generator Bus $LBMP_a < 0$ , then Real-Time $LBMP_a = RTD LBMP_a + \text{Rolling RTC External Interface Congestion}_a$  Otherwise, Real-Time $LBMP_a = RTD LBMP_a$

### **17.1.6.3.3 Pricing rules for Non-Competitive Proxy Generator Buses that are not Dynamically Scheduled or Variably Scheduled Proxy Generator Buses**

The pricing rules for Non-Competitive Proxy Generator Buses that are not Dynamically Scheduled or Variably Scheduled Proxy Generator Buses are provided in the following table.

<b>Rule No.</b>	<b>Proxy Generator Bus Constraint affecting External Schedules at location <i>a</i></b>	<b>Direction of Proxy Generator Bus Constraint</b>	<b>Real-Time Pricing Rule (for location <i>a</i>)</b>
1	Unconstrained in RTC <sub>15</sub> , Rolling RTC and RTD	N/A	Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub>
6	RTC <sub>15</sub> is subject to an Interface ATC or Interface Ramp Constraint	Into NYCA (Import)	If RTC <sub>15</sub> Proxy Generator Bus LBMP <sub><i>a</i></sub> > 0, then Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub> + RTC <sub>15</sub> External Interface Congestion <sub><i>a</i></sub>  Otherwise, Real-Time LBMP <sub><i>a</i></sub> = Minimum of (i) RTD LBMP <sub><i>a</i></sub> and (ii) zero
7	RTC <sub>15</sub> is subject to an Interface ATC or Interface Ramp Constraint	Out of NYCA (Export)	If RTC <sub>15</sub> Proxy Generator Bus LBMP <sub><i>a</i></sub> < 0, then Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub> + RTC <sub>15</sub> External Interface Congestion <sub><i>a</i></sub>  Otherwise, Real-Time LBMP <sub><i>a</i></sub> = RTD LBMP <sub><i>a</i></sub>

#### **17.1.6.4 Special Pricing Rules for Proxy Generator Buses Associated with Designated Scheduled Lines**

Real-Time LBMPs for the Proxy Generator Buses associated with designated Scheduled Lines shall be determined as provided in the tables below. The Proxy Generator Buses that are associated with designated Scheduled Lines are identified in Section 4.4.4 of the Services Tariff.

##### **17.1.6.4.1 Pricing rules for Dynamically Scheduled Proxy Generator Buses that are associated with Designated Scheduled Lines**

The pricing rules for Dynamically Scheduled Proxy Generator Buses that are associated with designated Scheduled Lines are to be determined.

##### **17.1.6.4.2 Pricing rules for Variably Scheduled Proxy Generator Buses that are associated with Designated Scheduled Lines**

The pricing rules for Variably Scheduled Proxy Generator Buses that are associated with designated Scheduled Lines are provided in the following table.

<b>Rule No.</b>	<b>Proxy Generator Bus Constraint affecting External Schedules at location <math>a</math></b>	<b>Direction of Proxy Generator Bus Constraint</b>	<b>Real-Time Pricing Rule (for location <math>a</math>)</b>
1	Unconstrained in $RTC_{15}$ , Rolling RTC and RTD	N/A	Real-Time $LBMP_a = RTD LBMP_a$
4	The Rolling RTC used to schedule External Transactions in a given 15-minute interval is subject to an Interface ATC Constraint	Into NYCA (Import)	If Rolling RTC Proxy Generator Bus $LBMP_a > 0$ , then Real-Time $LBMP_a = RTD LBMP_a + \text{Rolling RTC External Interface Congestion}_a$  Otherwise, Real-Time $LBMP_a = \text{Minimum of (i) } RTD LBMP_a \text{ and (ii) zero}$
5	The Rolling RTC used to schedule External Transactions in a given 15-minute interval is subject to an Interface ATC Constraint	Out of NYCA (Export)	If Rolling RTC Proxy Generator Bus $LBMP_a < 0$ , then Real-Time $LBMP_a = RTD LBMP_a + \text{Rolling RTC External Interface Congestion}_a$  Otherwise, Real-Time $LBMP_a = RTD LBMP_a$

**17.1.6.4.3 Pricing rules for Proxy Generator Buses that are associated with Designated Scheduled Lines that are not Dynamically Scheduled or Variably Scheduled Proxy Generator Buses**

The pricing rules for Proxy Generator Buses that are associated with designated Scheduled Lines that are not Dynamically Scheduled or Variably Scheduled Proxy Generator Buses, are provided in the following table.

<b>Rule No.</b>	<b>Proxy Generator Bus Constraint affecting External Schedules at location <math>a</math></b>	<b>Direction of Proxy Generator Bus Constraint</b>	<b>Real-Time Pricing Rule (for location <math>a</math>)</b>
1	Unconstrained in $RTC_{15}$ , Rolling RTC and RTD	N/A	Real-Time $LBMP_a = RTD LBMP_a$
6	$RTC_{15}$ is subject to an Interface ATC Constraint	Into NYCA (Import)	If $RTC_{15}$ Proxy Generator Bus $LBMP_a > 0$ , then Real-Time $LBMP_a = RTD LBMP_a + RTC_{15} \text{ External Interface Congestion}_a$  Otherwise, Real-Time $LBMP_a = \text{Minimum of (i) } RTD LBMP_a \text{ and (ii) zero}$

Rule No.	Proxy Generator Bus Constraint affecting External Schedules at location <i>a</i>	Direction of Proxy Generator Bus Constraint	Real-Time Pricing Rule (for location <i>a</i> )
7	RTC <sub>15</sub> is subject to an Interface ATC Constraint	Out of NYCA (Export)	If RTC <sub>15</sub> Proxy Generator Bus LBMP <sub>a</sub> < 0, then Real-Time LBMP <sub>a</sub> = RTD LBMP <sub>a</sub> + RTC <sub>15</sub> External Interface Congestion <sub>a</sub>  Otherwise, Real-Time LBMP <sub>a</sub> = RTD LBMP <sub>a</sub>

**17.1.6.5 Method of Calculating Marginal Loss and Congestion Components of Real-Time LBMP at Non-Competitive Proxy Generator Buses and Proxy Generator Buses that are Subject to the Special Pricing Rule for Designated Scheduled Lines**

Under the conditions specified below, the Marginal Losses Component and the Congestion Component of the Real-Time LBMP, calculated pursuant to the preceding paragraphs in Sections 17.1.6.3 and 17.1.6.4, shall be constructed as follows:

When the Real-Time LBMP is set to zero and that zero price was not the result of using the RTD, RTC or SCUC-determined LBMP;

$$\text{Marginal Losses Component of the Real-Time LBMP} = \text{Losses}_{\text{RTD PROXY GENERATOR BUS}}$$

and

$$\text{Congestion Component of the Real-Time LBMP} = -(\text{Energy}_{\text{RTD REF BUS}} + \text{Losses}_{\text{RTD PROXY GENERATOR BUS}})$$

where:

$\text{Energy}_{\text{RTD REF BUS}}$  = The marginal Bid cost of providing Energy at the reference Bus, as calculated by RTD for that 5-minute interval; and

$\text{Losses}_{\text{RTD PROXY GENERATOR BUS}}$  = The Marginal Losses Component of the LBMP as calculated by RTD for that 5-minute interval at the Non-Competitive Proxy Generator Bus or Proxy Generator Bus associated with a designated Scheduled Line.

**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) a real-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 Case Resources BPCG; (ix) a BPCG for Demand Side Resources providing synchronized Operating Reserves and / or Regulation Service in the Day-Ahead Market; and (x) a BPCG for Demand Side Resources providing synchronized Operating Reserves and / or Regulation Service 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. [Energy Storage Resources that satisfy this eligibility criteria shall be eligible to receive a Day-Ahead Bid Production Cost guarantee payment regardless of whether the Resource Self-Manages its Energy Level.](#)

#### 18.2.1.2 Non-Eligibility (includes both partial and complete exclusions).

Notwithstanding Section 18.2.1.1, 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 =

$$\text{Max} \left[ \sum_{h=1}^N \left( \int_{MGH_{gh}^{DA}}^{EH_{gh}^{DA}} C_{gh}^{DA} + MGC_{gh}^{DA} MGH_{gh}^{DA} + SUC_{gh}^{DA} NSUH_{gh}^{DA} - LBMP_{gh}^{DA} EH_{gh}^{DA} - NASR_{gh}^{DA} \right), 0 \right]$$

**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  $g$  or withdrawn by Generator  $g$ , which is eligible to withdraw Energy. 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  $h$  in 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* which 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 Regulation Capacity Bid to provide that amount of Regulation Service in that hour; 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 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 =

$$\max \left[ \sum_{h=1}^N (DecBid_{th}^{DA} - LBMP_{th}^{DA}) * SchImport_{th}^{DA}, 0 \right]$$

Where;

$N$  = number of hours in the Day-Ahead Market day;

$DecBid_{th}^{DA}$  = Decremental Bid, in \$/MWh, supplied for Import t for hour h;

$LBMP_{th}^{DA}$  = Day-Ahead LBMP, in \$/MWh, for hour h at the Proxy Generator Bus that is the source of the Import t and

$SchImport_{th}^{DA}$  = 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 operating 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).**

18.4.1.2.1 Notwithstanding Section 18.4.1.1, 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 ~~r~~Real-~~t~~Time ~~m~~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 **b**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.

[18.4.1.2.3 Notwithstanding Section 18.4.1.1, an Energy Storage Resource with a ISO-Managed Energy Level for any hour of the Real-Time Market day shall not be eligible to receive a real-time Bid Production Cost guarantee payment for that day, provided however, an Energy Storage Resource shall be eligible for a real-time Bid Production Cost guarantee payment in accordance with Section 18.4.1.1.3 of this ISO Services Tariff regardless of whether the Energy Level is ISO-Managed.](#)

#### 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  $g$ , [which is not an Energy Storage Resource](#) =

$$Max \left[ \left( \sum_{i \in M} \left( \int_{\max(E_{gi}^{DA}, MGI_{gi}^{RT})}^{\max(E_{gi}^{RT}, MGI_{gi}^{RT})} C_{gi}^{RT} + MGC_{gi}^{RT} * (MGI_{gi}^{RT} - MGI_{gi}^{DA}) - LBMP_{gi}^{RT} * (E_{gi}^{RT} - E_{gi}^{DA}) \right) * \frac{S_i}{3600} \right) - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - RRAP_{gi} + RRAC_{gi} + \sum_{j \in L} SUC_{gj}^{RT} * (NSUI_{gj}^{RT} - NSUI_{gj}^{DA}) \right], 0$$

Real-Time Bid Production Cost Guarantee for Generator g, which is an Energy Storage

Resource =

$$\text{Max} \left( 0, \sum_{i \in M} (\text{InjBPCG}_{gi} + \text{WthBPCG}_{gi}) \right)$$

where, when an Energy Storage Resource has a real-time schedule to inject Energy:

$$\begin{aligned} \text{InjBPCG}_{gi} = & \left( \left( \int_{\max(EI_{gi}^{DA}, 0)}^{EI_{gi}^{RT}} C_{gi}^{RT} - \text{LBMP}_{gi}^{RT} * (EI_{gi}^{RT} - \max(EI_{gi}^{DA}, 0)) \right) * \frac{S_i}{3600} \right) \\ & - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - \text{RRAP}_{gi} + \text{RRAC}_{gi} \end{aligned}$$

and, when an Energy Storage Resource has a real-time schedule to withdraw Energy =

$$\begin{aligned} \text{WthBPCG}_{gi} = & \left( \left( \int_{\min(EI_{gi}^{DA}, 0)}^{EI_{gi}^{RT}} C_{gi}^{RT} - \text{LBMP}_{gi}^{RT} * (EI_{gi}^{RT} - \min(EI_{gi}^{DA}, 0)) \right) * \frac{S_i}{3600} \right) \\ & - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - \text{RRAP}_{gi} + \text{RRAC}_{gi} \end{aligned}$$

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 including through an adjustment to the Resource's self-commitment schedule, 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, which Bid or mitigated Bid may include costs pursuant to Section 4.1.8;

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, which Bid or mitigated Bid may include costs pursuant to Section 4.1.8;

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 hour  $j$ ;

$LBMP_{gi}^{RT}$  = 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 or withdrawn 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;

$AEI_{ig}$  = either, (1) 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; or (2) average Actual Energy Withdrawal by Generator  $g$  in interval  $i$  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 Regulation Capacity and Regulation Movement Bids 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; (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 Additional Eligibility**

Notwithstanding Section 18.5.1.2, a Supplier shall be eligible to receive a Bid Production Cost guarantee payment for a Generator producing energy during Supplemental Event Intervals occurring as a result of an ISO emergency under Section 4.4.4.1.2 of this ISO Services Tariff regardless of bid mode used for the day.

### **18.5.2 Formula for Determining BPCG for Generators in Supplemental Event Intervals**

Real-Time Bid Production Cost Guarantee Payment for Generator g, which is not an Energy Storage Resource =

$$\sum_{i \in P} \left( \max \left( \left( \begin{array}{c} \max(EI_{gi}^{RT}, MGI_{gi}^{RT}) \\ \int \\ \max(EI_{gi}^{DA}, MGI_{gi}^{RT}) \end{array} C_{gi}^{RT} + MGC_{gi}^{RT} * (MGI_{gi}^{RT} - MGI_{gi}^{DA}) \right) * \frac{S_i}{3600} \right. \right. \\ \left. \left. - LBMP_{gi}^{RT} * (EI_{gi}^{RT} - EI_{gi}^{DA}) - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - RRAP_{gi} + RRAC_{gi} \right), 0 \right)$$

Real-Time Bid Production Cost Guarantee for Generator g, which is an Energy Storage

Resource =

$$\text{Max} \left( 0, \sum_{i \in P} (InjBPCG_{gi} + WthBPCG_{gi}) \right)$$

where, when an Energy Storage Resource has a real-time schedule to inject Energy:

$$\text{InjBPCG}_{gi} = \left( \left( \begin{array}{c} EI_{gi}^{RT} \\ \int \\ \max(EI_{gi}^{DA}, 0) \end{array} C_{gi}^{RT} - LBMP_{gi}^{RT} * (EI_{gi}^{RT} - \max(EI_{gi}^{DA}, 0)) \right) * \frac{S_i}{3600} \right) \\ - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - RRAP_{gi} + RRAC_{gi}$$

and, when an Energy Storage Resource has a real-time schedule to withdraw Energy =

$$\text{WthBPCG}_{gi} = \left( \left( \begin{array}{c} EI_{gi}^{RT} \\ \int \\ \min(EI_{gi}^{DA}, 0) \end{array} C_{gi}^{RT} - LBMP_{gi}^{RT} * (EI_{gi}^{RT} - \min(EI_{gi}^{DA}, 0)) \right) * \frac{S_i}{3600} \right) \\ - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - RRAP_{gi} + RRAC_{gi}$$

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 External Transactions**

External Transactions are not eligible to receive Bid Production Cost guarantee payments in the Real-Time Market.

**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:

$$\text{CurInitCost}_d = \left( \sum_{h=1}^N (\text{Min}(\text{ActCur}_d^h, \text{SchdCur}_d^h)) / \left( \sum_{h=1}^N \text{SchdCur}_d^h \right) \right) * \text{CurCost}_d$$

$$\text{MinCurCost}_d^h = \text{Min} \left( (\text{max}(\text{ActCur}_d^h, 0), \text{MinCur}_d^h) \right) * \text{MinCurBid}_d^h$$

$$\text{IncrCurCost}_d^h = \left( \begin{array}{c} \text{max}(\text{MinCur}_d^h, \text{min}(\text{SchdCur}_d^h, \text{ActCur}_d^h)) \\ \int_{\text{MinCur}_d^h} \text{IncrCurBid}_d^h \end{array} \right)$$

$$\text{CurRev}_d^h = \text{LBMP}_{dh}^{DA} * \text{min}(\text{max}(\text{ActCur}_d^h, 0), \text{SchdCur}_d^h)$$

$N$  = number of hours in the Day-Ahead Market day.

$\text{CurInitCost}_d$  = 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  $h$ ;

$IncrCurCost_d^h$	=	incremental Curtailment cost credit for Day-Ahead Demand Reduction Provider d for hour h;
$CurCost_d$	=	total bid Curtailment Initiation Costs for Day-Ahead Demand Reduction Provider d for the day;
$CurRev_d^h$	=	actual revenue for Day-Ahead Demand Reduction Provider d in hour h;
$ActCur_d^h$	=	actual Energy curtailed by Day-Ahead Demand Reduction Provider d in hour h expressed in terms of MWh;
$SchdCur_d^h$	=	Energy scheduled Day-Ahead to be curtailed by Day-Ahead Demand Reduction Provider d in hour h expressed in terms of MWh;
$MinCurBid_d^h$	=	minimum Curtailment initiation Bid submitted by Day-Ahead Demand Reduction Provider d for hour h expressed in terms of \$/MWh;
$IncrCurBid_d^h$	=	Bid cost submitted by Day-Ahead Demand Reduction Provider d for hour h expressed in terms of \$/MWh;
$MinCur_d^h$	=	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
$LBMP_{dh}^{DA}$	=	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 and / or Regulation Service In The Day-Ahead Market**

**18.10.1 Eligibility for BPCG for Demand Side Resources Providing Synchronized Operating Reserves and / or Regulation Service in the Day-Ahead Market**

Any Supplier that bids a Demand Side Resource that is committed by the ISO to provide synchronized Operating Reserves and/or Regulation Service 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 and / or Regulation Service in the Day-Ahead Market**

A Bid Production Cost guarantee payment to a Demand Side Resource with a synchronized Operating Reserves and/or Regulation Service schedule in the Day-Ahead Market shall be calculated as follows:

BPCG for Demand Side Resource d Providing synchronized Operating Reserves and/or Regulation Service 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 Regulation Capacity Bid to provide that amount of Regulation Service in that hour; 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 and / or Regulation Service In The Real-Time Market**

**18.11.1 Eligibility for BPCG for Demand Side Resources Providing Synchronized Operating Reserves and / or Regulation Service in the Real-Time Market**

Any Supplier that bids a Demand Side Resource that is committed by the ISO to provide synchronized Operating Reserves and/or Regulation Service 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 and / or Regulation Service in the Real-Time Market**

A Bid Production Cost guarantee payment to a Demand Side Resource with a synchronized Operating Reserves and/or Regulation Service schedule in the real-time Market shall be calculated as follows:

BPCG for Demand Side Resource *d* Providing synchronized Operating Reserves and/or Regulation Service in Real-Time =

$$\max \left( - \sum_{i \in L} (NASR_{di}^{TOT} - NASR_{di}^{DA}), 0 \right)$$

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 Regulation Capacity and Regulation Movement Bids placed by Demand Side Resource *d* to provide Regulation Service in that hour at the time it was committed to provide Ancillary Services; 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

$NASR_{ai}^{DA}$  = 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

$$TotMWReq_{g,s} = MinOpMW_{g,s} * n_{g,s}$$

Where:

$TotMWReq_{g,s}$  = Total amount of Energy that Generator g, when started in hour s, must provide for its start-up costs not to be prorated

$MinOpMW_{g,s}$  = 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:

$$n_{g,s} = \max(LastHrDASched_{g,s}, LastMinRunHr_{g,s})$$

Where:

$LastHrDASched_{g,s}$  = 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

$LastMinRunHr_{g,s}$  = 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

$$ProratedSUC_{g,s} = SubmittedSUC_{g,s} * \frac{\sum_{h=s}^{n_{g,s}} MinOpEnergy_{g,h,s}}{TotalMWReq_{g,s}}$$

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:

$$MinOpEnergy_{g,h,s} = \min(MetActEnergy_{g,h}, MinOpMW_{g,s})$$

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

- a. 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  $MinOpMW_{g,s}$ .
- b. 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.

## **23.1. Purpose and Objectives**

23.1.1 These ISO market power mitigation measures (“Mitigation Measures”) are intended to provide the means for the ISO to mitigate the market effects of any conduct that would substantially distort competitive outcomes in the ISO Administered Markets, while avoiding unnecessary interference with competitive price signals. Consistent with the provisions of the ISO’s Market Monitoring Plan ([“Plan”](#)) that is set forth in Attachment O to the ISO Services Tariff, these Mitigation Measures are intended to minimize interference with open and competitive markets, and thus to permit, to the maximum extent practicable, price levels to be determined by competitive forces under the prevailing market conditions. To that end, the Mitigation Measures authorize the mitigation only of specific conduct that exceeds well-defined thresholds specified below.

23.1.2 In addition, the ISO and its Market Monitoring Unit shall monitor the markets the ISO administers for conduct that the ISO or the Market Monitoring Unit determines constitutes an abuse of market power but that does not trigger the thresholds specified below for the imposition of mitigation measures by the ISO. If the ISO identifies or is made aware of any such conduct, and in particular conduct exceeding the thresholds for presumptive market effects specified in Section 23.3.2.3 below, it shall make a filing under Section 205 of the Federal Power Act, 16 U.S.C. § 824d (1999) (“§ 205”) with the Commission requesting authorization to apply appropriate mitigation measures. Any such filing shall identify the particular conduct the ISO believes warrants mitigation, shall propose a specific mitigation measure for the conduct, shall incorporate or address the

recommendation of its Market Monitoring Unit, and shall set forth the ISO's justification for imposing that mitigation measure. The Market Monitoring Unit's reporting obligations are specified in Sections 30.4.5.3 and 30.4.5.4 of Attachment O. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.1 of Attachment O.

## 23.2 Conduct Warranting Mitigation

### 23.2.1 Definitions

The following definitions are applicable to this Attachment H:

For purposes of Section 23.4.5 of this Attachment H, “**Additional CRIS MW**” shall mean the MW of Capacity for which CRIS was requested for an Examined Facility pursuant to the provisions in ISO OATT Sections 25, 30, or 32 (OATT Attachments S, X, or Z), including either: (i) all, or a portion, of the MW of Capacity of that Examined Facility for which CRIS had not been obtained in prior Class Years through a prior Class Year process or through a transfer completed in accordance with OATT Section 25 (OATT Attachment S); and/or (ii) all, or a portion, of an increase in the Capacity of that Examined Facility. Additional CRIS MW does not include any MW quantity of CRIS that is exempt from an Offer Floor pursuant to Section 23.4.5.7.7(a) or (b), Section 23.4.5.7.8, or an increase of 2 MW or less in an Examined Facility’s MW quantity of CRIS obtained pursuant to Section 30.3.2.6 of Attachment X to the OATT.

For purposes of Section 23.4.5 of this Attachment H, “**Affiliated Entity**” shall mean, with respect to a person or Entity:

- i) all persons or Entities that directly or indirectly control such person or Entity;
- ii) all persons or Entities that are directly or indirectly controlled by or under common control with such person or Entity, and (1) are authorized under ISO Procedures to participate in a market for Capacity administered by the ISO, or (2) possess, directly or indirectly, an ownership, voting or equivalent interest of ten percent or more in a Mitigated Capacity Zone Installed Capacity Supplier;
- iii) all persons or Entities that provide services to such person or Entity, or for which such person or Entity provides services, if such services relate to the determination or submission of offers for Unforced Capacity in a market administered by the ISO or offers of capacity from a Generator electrically located in a MCZ Import Constrained Locality; or
- iv) all persons or Entities, except if for ISP UCAP MW or an RMR Generator, with which such person or Entity has any form of agreement under which such person or Entity has retained or has conferred rights of (i) Control of Unforced Capacity or (ii) the ability to determine the quantity or price of offers to supply capacity from a Generator that has Capacity Resource Interconnection Service, pursuant to the applicable provisions of Attachment X, Attachment S and Attachment Z and is electrically located in an MCZ Import Constrained Locality, even if such capacity does not meet the requirements to be Unforced Capacity.

In the foregoing definition, “**control**” means the possession, directly or indirectly, of the power to direct the management or policies of a person or Entity, and shall be rebuttably presumed from an ownership, voting or equivalent interest of ten percent or more.

**Catastrophic Failure:** shall mean a Forced Outage initially suffered by a Generator which would have reasonably required a repair time of at least 270 days, from the date of the event

resulting in the Forced Outage, had it, or a comparable Forced Outage been suffered at a generating facility that is reasonably the same as or similar to the Generator's, the owner of which is intending to return it to service. Repair time includes the reasonable number of days for initial clean up, safety inspections, engineering assessment; damage assessment, cost estimates; site prep and clean up, equipment orders, and actual repair, provided the foregoing are necessitated by the Catastrophic Failure. The determination that a Generator has suffered a Catastrophic Failure shall be based on a technical/engineering evaluation, shall be made by the ISO, and may be made at any time following the event that caused the Forced Outage provided that adequate information is provided to the ISO to support such determination.

**“Class Year Study”** means a Class Year Interconnection Facilities Study as that term is defined in OATT Section 25 (OATT Attachment S).

**“Cleared UCAP”** means the amount of MW (rounded down to the nearest tenth of a MW) that had been subject to an Offer Floor but has cleared in accordance with Section 23.4.5.7.

**“Commenced Construction”** shall mean (a) all of the following site preparation work is completed: ingress and egress routes exist; the site on which the project will be located is cleared and graded; there is power service to the site; footings are prepared; and foundations have been poured consistent with purchased equipment specifications and project design; or (b) the following financial commitments have been made: (i) (A) an engineering, procurement, and construction contract (“EPC”) has been executed by all parties and is effective; or (B) contracts (collectively, “EPC Equivalents”) for all of the following have been executed by all parties and is effective: (1) project engineering, (2) procurement of all major equipment, and (3) construction of the project, and (ii) the cumulative payments made by the developer under the EPC or EPC Equivalents to the counterparties to those respective agreements is equal to at least thirty (30) percent of the total costs of the EPC or EPC Equivalents.

**“Constrained Area”** shall mean: (a) the In-City area, including any areas subject to transmission constraints within the In-City area that give rise to significant locational market power; and (b) any other area in the New York Control Area that has been identified by the ISO as subject to transmission constraints that give rise to significant locational market power, and that has been approved by the Commission for designation as a Constrained Area.

For purposes of Section 23.4.5 of this Attachment H, **“Control”** with respect to Unforced Capacity shall mean the ability to determine the quantity or price of offers to supply Unforced Capacity from a Mitigated Capacity Zone Installed Capacity Supplier submitted into an ICAP Spot Market Auction; but excluding ISP UCAP MW or UCAP from an RMR Generator.

For purposes of Section 23.4.5.7 **“CRIS MW”** shall mean the MW of Capacity for which CRIS was assigned to a Generator or UDR project pursuant to ISO OATT Sections 25, 30, or 32 (OATT Attachments S, X, or Z).

**“Developer”** shall have the meaning specified in the ISO's Open Access Transmission Tariff.

**“Electric Facility”** shall mean a Generator or an electric transmission facility.

For purposes of Section 23.4.5 of this Attachment H, **“Entity”** shall mean a corporation, partnership, limited liability corporation or partnership, firm, joint venture, association, joint-stock company, trust, unincorporated organization or other form of legal or juridical organization or entity.

**Exceptional Circumstances:** shall mean one or more unavoidable circumstances, as determined by the ISO, that individually or collectively render as unavailable the data necessary for the ISO to perform an audit and review of a Market Party, pursuant to Section 23.4.5.6.2 of this Services Tariff. Exceptional Circumstances may include, but are not limited to: the inaccessibility of the physical facility; the inaccessibility of necessary documentation or other data; and the unavailability of information regarding the regulatory obligations with which the Market Party will be required to comply in order to return its Generator to service which regulatory obligations are not yet known but which will be made known by the applicable regulatory authority under existing laws and regulations provided that none of the above described circumstances are the result of delay or inaction by the Market Party. The magnitude of the repair cost, alone, shall not be an Exceptional Circumstance.

**“Exempt Renewable Technology”** shall mean, in all Mitigated Capacity Zones, an Intermittent Power Resource solely powered by wind or solar energy.

For purposes of Section 23.4.5 of this Attachment H, **“Going-Forward Costs”** shall mean: either (a) the costs, including but not limited to mandatory capital expenditures necessary to comply with federal or state environmental, safety or reliability requirements that must be met in order to supply Installed Capacity, net of anticipated energy and ancillary services revenues, as determined by the ISO as specified in Section 23.4.5.3, for each of the following instances, as applicable, of supplying Installed Capacity that could be avoided if an Installed Capacity Supplier otherwise capable of supplying Installed Capacity were either (1) to cease supplying Installed Capacity and Energy for a period of one year or more while retaining the ability to re-enter such markets, or (2) to retire permanently from supplying Installed Capacity and Energy; or (b) the opportunity costs of foregone sales outside of a Mitigated Capacity Zone, net of costs that would have been incurred as a result of the foregone sale if it had taken place.

For purposes of Section 23.4.5 of this Attachment H, **“Indicative Mitigation Net CONE”** shall mean the capacity price calculated by the NYISO for informational purposes only if there is not an effective ICAP Demand Curve and the Commission (i) has accepted an ICAP Demand Curve for the Mitigated Capacity Zone that will become effective when the Mitigated Capacity Zone is first effective, in which case, the Indicative Mitigation Net CONE shall be the capacity price on such ICAP Demand Curve for the Mitigated Capacity Zone corresponding to the average amount of excess capacity above the Indicative NCZ Locational Minimum Installed Capacity Requirement, as applicable, expressed as a percentage of that requirement that formed the basis for the ICAP Demand Curve accepted by the Commission; or, (ii) has not accepted an ICAP Demand Curve for the Mitigated Capacity Zone, but the ISO has filed an ICAP Demand Curve for the Mitigated Capacity Zone pursuant to Services Tariff Section 5.14.1.2.2.4.11, in which case the Indicative Mitigation Net CONE shall be the capacity price on such ICAP Demand Curve corresponding to the average amount of excess capacity above the Indicative NCZ Locational Minimum Installed Capacity Requirement, expressed as a percentage of that requirement, that formed the basis for such ICAP Demand Curve.

**“Initial Decision Period”** shall have the meaning specified in Section 25 (Attachment S) of the ISO’s Open Access Transmission Tariff.

**“Interconnection Customer”** shall have the meaning specified in Section 32 (Attachment Z) of the ISO’s Open Access Transmission Tariff.

**“Interconnection Facilities Study Agreement”** shall have the meaning specified in Section 30 (Attachment X) of the ISO’s Open Access Transmission Tariff.

**“Market Monitoring Unit”** shall have the same meaning in these Mitigation Measures as it has in Attachment O.

**“Market Party”** shall mean any person or entity that is, or for purposes of the determinations to be made pursuant to Section 23.4.5.7 of this Attachment H proposes or plans a project that would be, a buyer or a seller in; or that makes bids or offers to buy or sell in; or that schedules or seeks to schedule Transactions with the ISO in or affecting any of the ISO Administered Markets including through the submission of bids or offers into any External Control Area, or any combination of the foregoing.

For purposes of Section 23.4.5 of this Attachment H, **“Mitigated UCAP”** shall mean one or more megawatts of Unforced Capacity that are subject to Control by a Market Party that has been identified by the ISO as a Pivotal Supplier.

For purposes of Section 23.4.5 of this Attachment H, **“Mitigation Net CONE”** shall mean the capacity price on the currently effective ICAP Demand Curve for the Mitigated Capacity Zone corresponding to the average amount of excess capacity above the Mitigated Capacity Zone Installed Capacity requirement, expressed as a percentage of that requirement, that formed the basis for the ICAP Demand Curve approved by the Commission.

**“NCZ Examined Project”** shall mean any Generator or UDR project that is not exempt pursuant to 23.4.5.7.8 and either (i) is in a Class Year on the date the Commission accepts the first ICAP Demand Curve to apply to a Mitigated Capacity Zone, ~~or~~ (ii) meets the criteria specified in 23.4.5.7.3(II), or (iii) meets the criteria specified in 23.4.5.7.3(III) but the time period therein has passed on the date the Commission accepts the first ICAP Demand Curve. An NCZ Examined Project may be at any phase of development or in operation or an Installed Capacity Supplier.

For purposes of Section 23.4.5 of this Attachment H, **“Net CONE”** shall mean the localized levelized embedded costs of a peaking unit in a Mitigated Capacity Zone, net of the likely projected annual Energy and Ancillary Services revenues of such unit, as determined in connection with establishing the Demand Curve for a Mitigated Capacity Zone pursuant to Section 5.14.1.2 of the Services Tariff, or as escalated as specified in Section 23.4.5.7 of Attachment H.

**“New Capacity”** shall mean a new Generator, a substantial addition to the capacity of an existing Generator, or the reactivation of all or a portion of a Generator that has been out of service for five years or more that commences commercial service after the effective date of this definition.

For purposes of Section 23.4.5 of this Attachment H, **“Offer Floor”** for a Mitigated Capacity Zone Installed Capacity Supplier that is not a Special Case Resource shall mean the lesser of (i) a numerical value equal to 75% of the Mitigation Net CONE translated into a seasonally adjusted monthly UCAP value (“Mitigation Net CONE Offer Floor”), or (ii) the numerical value that is the first year value of the Unit Net CONE determined as specified in Section 23.4.5.7, translated into a seasonally adjusted monthly UCAP value using an appropriate class outage rate, (“Unit Net CONE Offer Floor”). The Offer Floor for a Mitigated Capacity Zone Installed Capacity Supplier that is a Special Case Resource shall mean a numerical value determined as specified in

Section 23.4.5.7.5. The Offer Floor for Additional CRIS MW shall mean a numerical value determined as specified in Section 23.4.5.7.6.

**“Owner”** shall have the meaning specified in Section 31.1.1 of the ISO’s Open Access Transmission Tariff.

For purposes of Section 23.4.5 of this Attachment H, **“Pivotal Supplier”** shall mean (i) for the New York City Locality, a Market Party that, together with any of its Affiliated Entities, (a) Controls 500 MW or more of Unforced Capacity, and (b) Controls Unforced Capacity some portion of which is necessary to meet the New York City Locality Locational Minimum Installed Capacity Requirement in an ICAP Spot Market Auction; (ii) for the G-J Locality, a Market Party that, together with any of its Affiliated Entities, (a) Controls 650 MW or more of Unforced Capacity; and (b) Controls Unforced Capacity some portion of which is necessary to meet the G-J Locality Locational Minimum Installed Capacity Requirement in an ICAP Spot Market Auction; and (iii) for each Mitigated Capacity Zone except the New York City Locality and the G-J Locality, if any, a Market Party that Controls at least the quantity of MW of Unforced Capacity specified for the Mitigated Capacity Zone and accepted by the Commission. Unforced Capacity that are MW of an External Sale of Capacity shall not be included in the foregoing calculations

**“Project Cost Allocation”** shall have the meaning specified in Section 25 (Attachment S) of the ISO’s Open Access Transmission Tariff.

For purposes of Section 23.4.5 of this Attachment H, **“Responsible Market Party”** shall mean the Market Party that is authorized, in accordance with ISO Procedures, to submit offers in an ICAP Spot Market Auction to sell Unforced Capacity from a specified Installed Capacity Supplier.

**“Revised Project Cost Allocation”** shall have the meaning specified in Section 25 (Attachment S) of the ISO’s Open Access Transmission Tariff.

**“Self Supply LSE”** shall mean a Load Serving Entity in one or more Mitigated Capacity Zones that operates under a long-standing business model to meet more than fifty percent of its Load obligations through its own generation and that is a Public Power Entity, “Single Customer Entity,” or “Vertically Integrated Utility.” For purposes of this definition only: (i) “Vertically Integrated Utility” means a utility that owns generation, includes such generation in a non-bypassable charge in its regulated rates, earns a regulated return on its investment in such generation, and that as of the date of its request for a Self Supply Exemption, has not divested more than seventy-five percent of its generation assets owned on May 20, 1996; and (ii) “Single Customer Entity” means an LSE that serves at retail only customers that are under common control with such LSE, where such control means holding 51% or more of the voting securities or voting interests of the LSE and all its retail customers.

**“Subsequent Decision Period”** shall have the meaning specified in Section 25 (Attachment S) of the ISO’s Open Access Transmission Tariff.

For purposes of Section 23.4.5 of this Attachment H, **“Surplus Capacity”** shall mean the amount of Installed Capacity, in MW, available in a Mitigated Capacity Zone in excess of the Locational Minimum Installed Capacity Requirement for such Mitigated Capacity Zone.

**“Total Evaluated CRIS MW”** shall mean the Additional CRIS MW requested plus either (i) if the Installed Capacity Supplier previously received an exemption under Sections 23.4.5.7.2(b),

23.4.5.7.6(b), 23.4.5.7.7 or 23.4.5.7.8, all prior Additional CRIS MW since the facility was last exempted under Sections 23.4.5.7.2(b), 23.4.5.7.6(b), or 23.4.5.7.8, or (ii) for all other Installed Capacity Suppliers, all MW of Capacity for which an Examined Facility obtained CRIS pursuant to the provisions in ISO OATT Sections 25, 30, or 32 (OATT Attachments S, X, or Z).

For purposes of Section 23.4.5 of this Attachment H, “**UCAP Offer Reference Level**” shall mean a dollar value equal to the projected clearing price for each ICAP Spot Market Auction determined by the ISO on the basis of the applicable ICAP Demand Curve and the total quantity of Unforced Capacity from all Installed Capacity Suppliers in a Mitigated Capacity Zone for the period covered by the applicable ICAP Spot Market Auction.

For purposes of Section 23.4.5 of this Attachment H, “**Unit Net CONE**” shall mean localized levelized embedded costs of a specified Installed Capacity Supplier, including interconnection costs, and for an Installed Capacity Supplier located outside a Mitigated Capacity Zone including embedded costs of transmission service, in either case net of likely projected annual Energy and Ancillary Services revenues, and revenues associated with other energy products (such as energy services and renewable energy credits, as determined by the ISO, translated into a seasonally adjusted monthly UCAP value using an appropriate class outage rate. The Unit Net CONE of an Installed Capacity Supplier that has functions beyond the generation or transmission of power shall include only the embedded costs allocated to the production and transmission of power, and shall not net the revenues from functions other than the generation or transmission of power.

### **23.2.2 Conduct Subject to Mitigation**

Mitigation Measures may be applied: (i) to the bidding, scheduling or operation of an “Electric Facility”; or (ii) as specified in Section 23.2.4.2.

### **23.2.3 Conditions for the Imposition of Mitigation Measures**

23.2.3.1 To achieve the foregoing purpose and objectives, Mitigation Measures should only be imposed to remedy conduct that would substantially distort or impair the competitiveness of any of the ISO Administered Markets.

Accordingly, the ISO shall seek to impose Mitigation Measures only to remedy conduct that:

23.2.3.1.1 is significantly inconsistent with competitive conduct; and

23.2.3.1.2 would result in a material change in one or more prices in an ISO Administered Market or production cost guarantee payments (“guarantee payments”) to a Market Party.

23.2.3.2 In general, the ISO shall consider a Market Party's or its Affiliates' conduct to be inconsistent with competitive conduct if the conduct would not be in the economic interest of the Market Party or its Affiliates in the absence of market power. The categories of conduct that are inconsistent with competitive conduct include, but may not be limited to, the three categories of conduct specified in Section 23.2.4 below.

#### **23.2.4 Categories of Conduct that May Warrant Mitigation**

23.2.4.1 The following categories of conduct, whether by a single firm or by multiple firms acting in concert, may cause a material effect on prices or guarantee payments in an ISO Administered Market if exercised from a position of market power. Accordingly, the ISO shall monitor the ISO Administered Markets for the following categories of conduct, and shall impose appropriate Mitigation Measures if such conduct is detected and the other applicable conditions for the imposition of Mitigation Measures are met:

23.2.4.1.1 Physical withholding of an Electric Facility, that is, not offering to sell or schedule the output of or services provided by an Electric Facility capable of serving an ISO Administered Market. Such withholding may include, but not be limited to, (i) falsely declaring that an Electric Facility has been forced out of service or otherwise become unavailable, (ii) refusing to offer Bids or schedules for an Electric Facility when such conduct would not be in the economic interest of the Market Party or its Affiliates in the absence of market power [\(includes refusing to offer Bids or schedules to withdraw Energy for a Generator that must withdraw Energy in order to be able to later inject Energy\)](#); (iii); making an

unjustifiable change to one or more operating parameters of a Generator that reduces its ability to provide Energy or Ancillary Services or (iv) operating a Generator in real-time at a lower output level than the Generator would have been expected to produce had the Generator followed the ISO's dispatch instructions, in a manner that is not attributable to the Generator's verifiable physical operating capabilities and that would not be in the economic interest of the Market Party or its Affiliates in the absence of market power.

For purposes of this Section and Section 23.4.3.2, the term "unjustifiable change" shall mean a change in an Electric Facility's operating parameters that is: (a) not attributable to the Electric Facility's verifiable physical operating capabilities, and (b) is not a rational competitive response to economic factors other than market power.

23.2.4.1.2 Economic withholding of an Electric Facility, that is, submitting Bids for an Electric Facility that are unjustifiably high so that (i) the Electric Facility is not or will not be dispatched or scheduled, or (ii) the Bids will set a market clearing price; or submitting Bids for a Withdrawal-Eligible Generator to withdraw Energy that are unjustifiably high, so that (i) the Electric Facility is or will be dispatched or scheduled to withdraw Energy, or (ii) the Bids will set a market clearing price.

23.2.4.1.3 Uneconomic production from an Electric Facility, that is, increasing the output of an Electric Facility to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.

23.2.4.2 Mitigation Measures may also be imposed, subject to FERC's approval, to mitigate the market effects of a rule, standard, procedure or design feature of an ISO Administered Market that allows a Market Party or its Affiliate to manipulate market prices or otherwise impair the efficient operation of that market, pending the revision of such rule, standard, procedure or design feature to preclude such manipulation of prices or impairment of efficiency.

23.2.4.3 Taking advantage of opportunities to sell at a higher price or buy at a lower price in a market other than an ISO Administered Market shall not be deemed a form of withholding or otherwise inconsistent with competitive conduct.

23.2.4.4 The ISO and the Market Monitoring Unit shall monitor the ISO Administered Markets for other categories of conduct, whether by a single firm or by multiple firms acting in concert, that have material effects on prices or guarantee payments in an ISO Administered Market. The ISO shall: (i) seek to amend the foregoing list as may be appropriate, in accordance with the procedures and requirements for amending the Plan, to include any such conduct that would substantially distort or impair the competitiveness of any of the ISO Administered Markets; and (ii) seek such other authorization to mitigate the effects of such conduct from the FERC as may be appropriate. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.2 of Attachment O.

## **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 or facility into the area in which the Generator or generation is located has a Shadow Price greater than \$0.04/MWh, indicating an active constraint, 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 or facility into the area in which the generation is located has a Shadow Price greater than \$0.04/MWh, indicating an active constraint, 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 (i) generating output that is subject to a forced outage, subject to verification by the ISO as may

be appropriate that an outage was forced, (ii) capacity that is out of service for maintenance in accordance with an ISO maintenance schedule, or (iii) generating capacity that is not Bid in the Real-Time Market, because and to the extent it would have to use unauthorized natural gas to operate, subject to verification by the ISO as may be appropriate that operation would require the use of unauthorized natural gas. See Section 23.3.1.4.6.2.1.1 below.

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 an 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 Incremental Energy and Minimum Generation Bids: An increase exceeding 300 percent or \$100 per MWh, whichever is lower; provided, however, that Incremental Energy or Minimum Generation Bids below \$25 per MWh shall be deemed not to constitute economic withholding [when evaluating Bids to produce Energy](#).

23.3.1.2.1.1.1 Threshold for Bids to withdraw Incremental Energy: an increase exceeding 300 percent or \$100 per MWh, whichever is lower. However, the threshold for Bids to withdraw Incremental Energy that have an associated reference level that is between -\$25 and \$25 per MWh (inclusive) is, instead, \$75 per MWh.

23.3.1.2.1.1.2 Additional Thresholds used to assess Bids for Generators that the ISO evaluates as a price spread for purposes of scheduling and dispatch.

The following hourly and daily thresholds will be employed to evaluate the spread between the minimum and maximum dollar values included in a Withdrawal-Eligible Generator's multi-step incremental Energy Bid. The time periods over which the comparisons are performed are specified below.

(a) Hourly Threshold (applies to both the Day-Ahead and Real-Time Markets)—the Incremental Energy Bid spread is compared to the Incremental Energy reference level spread for the same market hour. The Bid spread is determined by subtracting the least Incremental Energy Bid price from the greatest Incremental Energy Bid price. This value is compared to the reference level spread, which is determined by subtracting the Incremental Energy reference level price that corresponds to the least Incremental Energy Bid price from the Incremental Energy reference level price that corresponds to the greatest Incremental Energy Bid price. A Bid spread that exceeds the reference level spread by more than 300 percent or by more than \$100 per MWh, whichever is lower, exceeds the conduct threshold.

(b) Daily Threshold (only applies to the Day-Ahead Market)—the Incremental Energy Bid spread across the Day-Ahead market day is compared to the Incremental Energy reference level spread. The Bid spread is determined by subtracting the least Incremental Energy Bid price submitted for any hour of the Day-Ahead market day (“Hour X”) from the greatest Incremental Energy Bid price submitted for any hour of the same market-day (“Hour Y”). Hour X and Hour Y can be the same market hour. This value is compared to the reference level spread, which is determined by subtracting the Incremental Energy reference level price Bid that corresponds to the least Incremental Energy Bid price in Hour X from the Incremental Energy reference level price that corresponds to the greatest Incremental Energy Bid price in Hour Y. A Bid spread that exceeds the reference level spread by more than 300 percent or by more than \$100 per MWh, whichever is lower, exceeds the conduct threshold.

23.3.1.2.1.2 Operating Reserves and Regulation Service Bids:

23.3.1.2.1.2.1 Operating Reserves and Regulation Capacity 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.

23.3.1.2.1.2.2 Regulation Movement Bids: A 300 percent increase.

23.3.1.2.1.3 Start-Up 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, and temporal minimum and maximum parameters related to the withdrawal and injection of Energy by Withdrawal-Eligible Generators.

23.3.1.2.1.5 Bid parameters expressed in units other than time or dollars, including the MW component of a Minimum Generation Bid (also referred to as the “minimum operating level”): 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, and operating parameters related to the withdrawal and injection of Energy by Withdrawal-Eligible Generators).

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 or facility into the area in which a Generator is located has a Shadow Price greater than \$0.04/MWh, indicating an active constraint, the lower of the thresholds specified for areas that are not Constrained Areas or a threshold determined in accordance with the following formula:

$$Threshold = \frac{2\% * Average Price * 8760}{Constrained Hours}$$

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 \$0.04/MWh, indicating an active constraint, 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 \$0.04/MWh, indicating an active constraint, 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 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.

23.3.1.2.2.6 For intervals in which an interface or facility into the area in which a Generator is located has a Shadow Price greater than \$0.04/MWh, indicating an active constraint in the Day-Ahead Market or in the Real-Time Market, the additional thresholds used to assess Bids for Generators that the ISO evaluates as a price spread for purposes of scheduling and dispatch are set forth below. The evaluation method is described in Section 23.3.1.2.1.1.2 of these Mitigation Measures.

(a) Hourly Threshold (applies to both the Day-Ahead and Real-Time Markets)—the Incremental Energy Bid spread is compared to the Incremental Energy reference level spread for the same market hour. The Bid spread is determined by subtracting the least Incremental Energy Bid price from the greatest Incremental Energy Bid price. This value is compared to the reference level spread, which is determined by subtracting the Incremental Energy reference level price that corresponds to the least Incremental Energy Bid price from the Incremental Energy reference level price that corresponds to the greatest Incremental Energy Bid price. A Bid spread that exceeds the reference level spread by more than the lower of the threshold specified for areas that are not Constrained Areas, or a threshold determined in accordance with the formulae set forth in Section 23.3.1.2.2.1 (real-time) or Section 23.3.1.2.2.3 (Day-Ahead) of these Mitigation Measures, exceeds the conduct threshold.

(b) Daily Threshold (only applies to the Day-Ahead Market)—the Incremental Energy Bid spread across the Day-Ahead market day is compared to the Incremental Energy reference level spread. The Bid spread is determined by

subtracting the least Incremental Energy Bid price submitted for any hour of the Day-Ahead market day (“Hour X”) from the greatest Incremental Energy Bid price submitted for any hour of the same market-day (“Hour Y”). Hour X and Hour Y can be the same market hour. This value is compared to the reference level spread, which is determined by subtracting the Incremental Energy reference level price Bid that corresponds to the least Incremental Energy Bid price in Hour X from the Incremental Energy reference level price that corresponds to the greatest Incremental Energy Bid price in Hour Y. A Bid spread that exceeds the reference level spread by more than the lower of the threshold specified for areas that are not Constrained Areas, or a threshold determined in accordance with the formula set forth in Section 23.3.1.2.2.3 (Day-Ahead) of these Mitigation Measures, exceeds the conduct threshold.

- 23.3.1.2.3 The following thresholds shall be employed by the ISO to identify economic withholding that requires the mitigation of a Generator that is committed outside the ISO’s economic evaluation process to protect NYCA or local area reliability in an area that is not a designated Constrained Area. Whether the thresholds specified in Sections 23.3.1.2.3.3(i) through 23.3.1.2.3.3(vi) below have been exceeded shall be determined with respect to a reference level determined as specified in Section 23.3.1.4 of these Mitigation Measures.
- If provisions 23.3.1.2.3.1 and 23.3.1.2.3.2 below are met for a Generator in the New York Control Area that is not located in a designated Constrained Area, the ISO shall substitute a reference level for each Bid, or component of a Bid, for

which the applicable threshold specified in provisions 23.3.1.2.3.3(i) through 23.3.1.2.3.3(vi) below is exceeded. Where mitigation is determined to be appropriate, the mitigated results will be used in all aspects of the NYISO's settlement process.

23.3.1.2.3.1 The Generator was committed outside the ISO's economic merit order selection process to protect or maintain New York Control Area or local system reliability as a Day-Ahead Reliability Unit ("DARU") or via a Supplemental Resource Evaluation ("SRE"), or was committed as a DARU or via SRE and was also dispatched Out-of-Merit above its minimum generation level to protect or maintain New York Control Area or local system reliability; and

23.3.1.2.3.2 One of the following three (i) – (iii) conditions in this Section 23.3.1.2.3.2 must be satisfied in order for mitigation to be applied:

- i the Market Party (including its Affiliates) that owns or offers the Generator is the only Market Party that could effectively solve the reliability need for which the Generator was committed or dispatched, or
- ii when evaluating an SRE that was issued to address a reliability need that multiple Market Parties' Generators are capable of solving, the NYISO only received Bids from one Market Party (including its Affiliates), or
- iii when evaluating a DARU, if the Market Party was notified of the need for the reliability commitment of its Generator prior to the close of the Day-Ahead Market.

23.3.1.2.3.3 The Bids or Bid components submitted for the Generator that were accepted outside the economic evaluation process to protect or maintain New York Control Area or local system reliability:

- i exceeded the Generator's Minimum Generation Bid reference level by the greater of 10% or \$10/MWh, or
- ii. exceeded the Generator's Incremental Energy Bid reference level by the greater of 10% or \$10/MWh, or
- iii. exceeded the Generator's Start-Up Bid reference level by 10%, or
- iv. exceeded the Generator's minimum run time, start-up time, and minimum down time reference levels by more than one hour in aggregate, or
- v. exceeded the Generator's minimum generation MW reference level by more than 10%, or
- vi. decreased the Generator's maximum number of stops per day below the Generator's reference level by more than one stop per day, or to one stop per day.

23.3.1.2.4 For In-City Generators committed in the Day-Ahead Market for local reliability, additional Mitigation Measures are specified in Section 23.5.2.1.

**23.3.1.3 Thresholds for Identifying Uneconomic Production and Uneconomic Withdrawal of Energy**

23.3.1.3.1 The following thresholds 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.

23.3.1.3.2 The following thresholds will be employed by the ISO to identify uneconomic withdrawals of Energy by Withdrawal-Eligible Generators that may warrant the imposition of a mitigation measure:

23.3.1.3.2.1 Energy withdrawn at an LBMP that is at least 300 percent or \$75/MWh, whichever is greater, more than the Withdrawal-Eligible Generator's applicable reference level and that causes or contributes to transmission congestion; provided, however, that schedules to withdraw Energy that are determined by the ISO based on the economics of an offer to withdraw Energy, including the Incremental Energy Bid spread of a Withdrawal-Eligible Generator, shall not be considered uneconomic withdrawals under this Section 23.3.1.3.2.1; or

23.3.1.3.2.2 Real-time withdrawals by a Withdrawal-Eligible Generator resulting in different real-time operation 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 – 23.3.1.4.6 below, a reference level for each component of a Generator's Bid to produce Energy shall be calculated on the basis of the following methods, listed in the order of preference subject to the existence of sufficient data.:

A reference level for each component of a Withdrawal-Eligible Generator's Bid to produce or withdraw Energy shall be calculated consistent with Sections 23.3.1.4.1.3 or 23.3.1.4.2 below, 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 most recent 90 day period for which the necessary input data are available to the ISO's reference level calculation systems, adjusted for changes in fuel prices consistent with Section 23.3.1.4.6, below. 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 Calculate incremental energy and minimum generation reference levels for a Generator using the mean of the LBMP at the Generator's location during the lowest-priced 50 percent of the hours that the Generator was dispatched over the most recent 90 day period for which the necessary LBMP data are available to the ISO's reference level calculation systems, adjusted for changes in fuel prices consistent with Section 23.3.1.4.6, below. 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 as a Day-Ahead Reliability Unit or via a 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 and Ancillary Service Bids are intended to reflect the Generator's marginal costs. The ISO's determination of a Generator's Energy marginal costs shall include an assessment of the Generator's incremental operating costs in accordance with the following formula:

$$\begin{aligned} & (\text{heat rate} * \text{fuel costs}) + (\text{emissions rate} * \text{emissions allowance price}) \\ & + (\text{other variable operating and maintenance costs}) \\ & + \text{opportunity costs} \end{aligned}$$

Opportunity cost is the cost, in dollars, representing (a) the total net revenue in the future time periods that is expected to be forgone by being dispatched by the ISO in the current time period, or (b) the total net cost in future time periods that is expected to be avoided by being dispatched by the ISO in the current time period.

Opportunity costs are limited to costs that the ISO reasonably determines to be appropriate based on such data as may be furnished by the Market Party or otherwise available to the ISO. Reference levels shall also include 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.

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, or if the reference level produced does not reasonably approximate a Generator's marginal cost, 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 Incremental Energy Bids for New Capacity for the three year and six month period following the New Capacity's first production of Energy while synchronously interconnected to the New York State Transmission System 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 fuel price-adjusted peak LBMPs over the twelve months prior to the New Capacity's first production of Energy while synchronously interconnected to the New York State Transmission System of the New Capacity in the Load 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 Section 23.3.1.4.3 shall apply only to net additions of capacity during the applicable three year and six month 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 consistent with Section 23.3.1.4.6 below. 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

23.3.1.4.4.3 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:

#### 23.3.1.4.4.3.1 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.

$$LateDayAdjusted_{g,i} = StrtUpRef_g + \max\left(0, MinGenRef_{g,i} * BidMinGen_{g,i} * \sum_{h=0}^{Z_{g,i}-1} SR_{g,h,i}\right)$$

Where:

*LateDayAdjusted<sub>g,i</sub>* = calculated start-up reference level for Generator g for hour i in \$ (reflects the applicable start-up reference level (*StrtUpRef<sub>g</sub>*), plus the expected net cost of operating on the day following the Dispatch Day)

*StrtUpRef<sub>g</sub>* = 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<sub>g,i</sub>* = 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<sub>g,i</sub>* = Generator g's Day-Ahead minimum operating level for hour i, in MW

*Z<sub>g,i</sub>* = 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<sub>g,h,i</sub>* = 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

23.3.1.4.4.3.2 Calculation of the shortfall ratio for use in Section 23.3.1.4.4.3.1, 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  $|AvgBidMinGen_{g,h,i} - BidMinGen_{g,i}| < 5MW$ ) or by less than 10% (i.e., if both  $BidMinGen_{g,i} < 1.1 * AvgBidMinGen_{g,h,i}$  and  $BidMinGen_{g,i} > 0.9 * AvgBidMinGen_{g,h,i}$ ),

Where:

$AvgBidMinGen_{g,h,i}$  = 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

$BidMinGen_{g,i}$  = The minimum operating level submitted in the Day-Ahead Market for Generator g for hour i, in MW

and in all cases in which  $AvgBidMinGen_{g,h,i}$  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  $SR_{g,h,i}$  value will be calculated using the primary method. Otherwise, the  $SR_{g,h,i}$  value will be calculated using the alternative method.

***Primary Method of Calculating the Shortfall Ratio***

$$SR_{g,h,i} = 1 - \frac{1}{7} * \sum_{d=1}^7 \frac{LBMP_{g,h,i,d}}{MinGenRef_{g,h,i,d}}$$

Where:

$LBMP_{g,h,i,d}$  = 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

$MinGenRef_{g,h,i,d}$  = 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***

$$SR_{g,h,i} = 1 - \frac{AvgLBMP_{g,h,i}}{\left( AvgRefRate_{g,h,i} * \frac{RefRate2_{g,i}}{RefRate1_{g,h,i}} \right)}$$

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 The ISO is not required to calculate real-time reference levels for the three Operating Reserve products (Spinning Reserve, 10-Minute Non-Synchronized Reserves and 30-Minute Reserves) because Generators that are capable of providing these products and that are submitting Bids into the Real-Time Market

are automatically assigned a real-time Operating Reserves Availability Bid of zero for the amount of Operating Reserves they are capable of providing.

The ISO shall calculate real-time reference levels for Regulation Capacity in accordance with Sections 23.3.1.4.1.1, 23.3.1.4.1.3 or 23.3.1.4.2 of these Mitigation Measures. The ISO shall calculate real-time reference levels for Regulation Movement in accordance with Sections 23.3.1.4.1.3 or 23.3.1.4.2.1 of these Mitigation Measures and shall not calculate real-time Reference levels for Regulation Movement in accordance with Section 23.3.1.4.1.1.

The ISO shall calculate Day-Ahead reference levels for the three Operating Reserves products in accordance with Sections 23.3.1.4.1.1, 23.3.1.4.1.3 or 23.3.1.4.2 of these Mitigation Measures. The ISO shall calculate Day-Ahead reference levels for Regulation Capacity in accordance with Sections 23.3.1.4.1.1, 23.3.1.4.1.3 or 23.3.1.4.2 of these Mitigation Measures. The ISO shall calculate Day-Ahead reference levels for Regulation Movement in accordance with Sections 23.3.1.4.1.3 or 23.3.1.4.2.1 of these Mitigation Measures and shall not calculate Day-Ahead Reference levels for Regulation Movement in accordance with Section 23.3.1.4.1.1.

23.3.1.4.6 Reflecting Fuel Costs in Reference Levels. The ISO shall use the best fuel cost information available to it to adjust reference levels to reflect appropriate fuel costs.

23.3.1.4.6.1 ISO Reporting Obligation. If the ISO did not utilize the best fuel cost information available to it when it adjusted reference levels to reflect appropriate fuel costs, and the ISO's failure to utilize the best fuel cost information available

to it affected market clearing prices or had an impact on guarantee payments that cannot be corrected, then the ISO shall report any market clearing price and uncorrected guarantee payment impacts to FERC staff and to its Market Participants. The ISO is not required to report, or to otherwise act, if no market impact is identified.

23.3.1.4.6.2 Market Parties shall monitor Generator reference levels and shall endeavor to timely (as that term is defined in Section 23.3.1.4.6.8 below) contact the ISO to request an adjustment to a Generator's reference level(s) when the Generator's fuel type or fuel price change.

23.3.1.4.6.2.1 Subject to the exceptions set forth in Section 23.3.1.4.6.2.1.2 below, the ISO shall not permit charges for unauthorized natural gas use to be included as a component in the development of a Generator's reference levels and Market Parties shall not be eligible to recover costs associated with unauthorized natural gas use.

23.3.1.4.6.2.1.1 What constitutes "unauthorized" natural gas use is specified in each natural gas pipeline's or local distribution company's ("LDC's") applicable tariff, rate schedule or customer contract. Unauthorized natural gas use may result from, but is not limited to, the following circumstances: (i) consumption of natural gas in violation of the terms of an Operational Flow Order ("OFO") issued by the relevant natural gas LDC or pipeline; (ii) violation of instructions issued by the relevant natural gas LDC or pipeline restricting consumption of natural gas or use of natural gas imbalance service, when such instructions are issued consistent with the LDC's or pipeline's authority under a tariff, rate schedule or contract;

(iii) consumption of natural gas during a period of authorized interruption of service by the relevant natural gas LDC or pipeline, determined in accordance with the terms of the applicable tariff, rate schedule or contract; or (iv) use of natural gas balancing services that are explicitly identified in the relevant natural gas LDC's or pipeline's applicable tariff, rate schedule or contract as unauthorized use or penalty gas.

23.3.1.4.6.2.1.2 If and to the extent a Market Party has obtained specific authorization from the relevant natural gas LDC or pipeline to use gas that would otherwise be unauthorized, such use shall not be considered unauthorized use by the ISO. Market Parties shall make every effort to clearly document authorization they obtain from the LDC or pipeline. Documentation obtained after the fact will be considered.

23.3.1.4.6.3 Screening of fuel type and fuel price information. The ISO may use automated processes and/or require manual review of fuel type and fuel price information submitted by Market Parties to test the accuracy of the information submitted in order to prevent market clearing prices and guarantee payments from being incorrectly calculated.

23.3.1.4.6.4 Consistent with the rules specified in this Section 23.3.1.4.6 of the Mitigation Measures and the procedures that the ISO develops to implement these rules, Market Parties shall notify the ISO of changes in fuel type or fuel price by (i) submitting revised fuel type or fuel price information to the ISO's Market Information System along with the Generator's Bid(s), or (ii) by directly contacting the ISO to request a reference level update consistent with ISO

procedures, or (iii) by utilizing both of the available notification methods.

Revised fuel type or fuel price information that exceeds, or is rejected based upon, the thresholds that the ISO uses to automatically screen fuel type or fuel price information that is submitted to the ISO's Market Information System along with a Generator's Bid(s) shall be submitted by directly contacting the ISO to request a reference level update, consistent with ISO procedures.

23.3.1.4.6.4.1 Exception—changes in fuel price or fuel type that are offered to support Incremental Energy or Minimum Generation Bids that exceed \$1,000/MWh must be submitted in accordance with Section 23.7.3 (for a Generator) or Section 23.7.4 (for a Demand Side Resource) of these Mitigation Measures.

23.3.1.4.6.5 Following the completion of the ISO's automated and/or manual screening processes, the ISO shall use fuel type and fuel price information that Market Parties or their representatives submit to develop Generator reference levels unless (i) the information submitted is inaccurate, or (ii) the information was not timely submitted, and the Market Party's failure to timely submit the information is not excused by the ISO in accordance with Section 23.3.1.4.6.8 below, or (iii) consistent with Section 23.3.1.4.6.9 below.

23.3.1.4.6.6 The ISO may not always have sufficient time to complete its screening of proposed fuel type or fuel price changes prior to the relevant Day-Ahead Market day or Real-Time Market hour. *If* fuel type or fuel price information (i) is timely submitted or, where untimely, the submission of fuel type or fuel price information is excused in accordance with Section 23.3.1.4.6.8 below, and (ii) the fuel type or fuel price information that the Market Party submitted is proven to

have been accurate or to have understated the actual cost incurred for that component, and (iii) the Bid(s) were tested using reference levels that reflected outdated fuel type and/or fuel price information and the Bid(s) were mitigated or a sanction was imposed pursuant to Section 23.4.3 of these Mitigation Measures, *then* the ISO shall (a) re-perform any test(s) that resulted in a sanction being imposed pursuant to Section 23.4.3 of these Mitigation Measures, using the accurate fuel type and/or fuel price information and use the revised results to calculate the appropriate sanction (if any), and (b) determine if the Bids for the Generator would have failed the relevant conduct test(s) if accurate fuel type and/or fuel price information had been used to develop reference levels. The ISO shall then restore any original (as-submitted) Bid(s) that would not have failed the relevant conduct test(s) if accurate fuel type and/or fuel price information had been used to develop the Generator's reference levels, and use the restored Bid(s) to determine a settlement. Otherwise the ISO shall use the Generator's correct or corrected reference level(s) to determine a settlement.

23.3.1.4.6.7 The ISO shall publicly post the thresholds it employs to automatically screen fuel type and fuel price information that is submitted to the ISO's Market Information System for potentially inaccurate fuel type and fuel price data inputs.

23.3.1.4.6.8 For purposes of this Section 23.3.1.4.6, "timely" notice or submission to the Real-Time Market shall mean the submission of fuel type and/or fuel price information using the methods specified in Section 23.3.1.4.6.4 of these Mitigation Measures prior to market close for the relevant Real-Time Market hour. For purposes of this Section 23.3.1.4.6, "timely" notice or submission to

the Day-Ahead Market shall mean the submission of fuel type and/or fuel price information using the methods specified in Section 23.3.1.4.6.4 of these Mitigation Measures at least 15 minutes prior to the close of the Day-Ahead Market (*i.e.*, by 4:45 a.m.). Market Parties are not expected to submit invoices or other supporting data with their Day-Ahead Market or Real-Time Market fuel type and fuel price information, but are expected to retain invoices and other supporting data consistent with the data retention requirements set forth in the Plan, and to be able to produce such information within a reasonable timeframe when asked to do so by the ISO or by its Market Monitoring Unit.

It may not always be possible for a Market Party to timely update a Generator's fuel type or fuel price to reflect unexpected real-time changes or events in advance of the first affected market-hour. Upon a showing of extraordinary circumstances, the ISO may retroactively reflect in Real-Time Market reference levels fuel type or fuel price information that was not timely submitted by a Market Party. While it should ordinarily be possible for a Market Party to timely submit updated fuel type and fuel price information for use in developing a Generator's Day-Ahead Market reference levels, the ISO may retroactively accept and utilize late-submitted Day-Ahead Market fuel type or fuel price information upon a showing of extraordinary circumstances.

23.3.1.4.6.8.1 Exception—changes in fuel price or fuel type that are offered to support Incremental Energy or Minimum Generation Bids that exceed \$1,000/MWh must be submitted in accordance with the submission deadlines specified in Section

23.7.3 (for a Generator) or Section 23.7.4 (for a Demand Side Resource) of these Mitigation Measures.

23.3.1.4.6.9 If (i) the ISO determines, following consultation with the Market Party and review by the Market Monitoring Unit, that the Market Party or its representative has submitted inaccurate fuel type or fuel price information that was biased in the Market Party's favor, or (ii) if a Market Party is subject to a penalty or sanction under Section 23.4.3.3.3 of these Mitigation Measures for submitting inaccurate fuel price or fuel type information, *then* the ISO shall cease using the fuel type and fuel price information submitted to the ISO's Market Information System along with the Generator's Bid(s) to develop reference levels for the affected Generator(s) in the relevant (Day-Ahead or real-time) market for the duration(s) set forth below, unless the Market Party demonstrates to the ISO that the questioned conduct is consistent with competitive behavior.

23.3.1.4.6.9.1 The first time the ISO ceases using the fuel type and fuel price information submitted to the ISO's Market Information System along with the Bid(s) for a Generator to develop Day-Ahead or real-time reference levels for that Generator, it shall do so for 30 days. The 30-day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

23.3.1.4.6.9.2 Subject to Section 23.3.1.4.6.9.3 below, the second time the ISO ceases using the fuel type and fuel price information submitted to the ISO's Market Information System along with the Bid(s) for a Generator to develop Day-Ahead or real-time reference levels for that Generator, it shall do so for 60 days. The 60-

day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required. Subject to Section 23.3.1.4.6.9.3 below, any subsequent time the ISO ceases using the fuel type and fuel price information submitted to the ISO's Market Information System along with the Bid(s) for a Generator to develop Day-Ahead or real-time reference levels for that Generator, it shall do so for 120 days. The 120-day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

23.3.1.4.6.9.3 If the bidders of a Generator that has previously been mitigated under this Section 23.3.1.4.6.9 becomes and remains continuously eligible to submit fuel type and fuel price information in the Day-Ahead or Real-Time Market (as appropriate) for a period of one year or more, then the ISO shall apply the mitigation measure set forth in Section 23.3.1.4.6.9 of the Mitigation Measures as if the Generator had not previously been subject to the mitigation measure.

23.3.1.4.6.9.4 Market Parties that transfer, sell, assign, or grant to another Market Party the right or ability to Bid a Generator that is subject to the mitigation measure described in this Section 23.3.1.4.6.9 are required to inform the new Market Party that the Generator has been mitigated under this measure, and to inform the new Market Party of the expected duration of such mitigation.

23.3.1.4.6.9.5 For purposes of this Section 23.3.1.4.6.9, submitted fuel type information shall be considered biased in a Market Party's favor if (a) the Market Party submitted revised fuel type information for a Generator for at least 100 hours during the previous 90 days, and (b) for at least one hour the fuel type that a

Market Party submits for the Generator is not the most economic fuel type available to the Generator, taking into consideration fuel availability, operating conditions, and relevant regulatory or reliability requirements, and (c) as a result of the change(s) in fuel type, the fuel prices that the ISO uses to develop reference levels for a Generator exceeded the fuel price that the ISO would have used to develop reference levels for that Generator by greater than the higher of 10% or \$0.50/MMBtu, on average, over the previous 90 days. For purposes of calculating the average, only hours in which the Market Party changed the Generator's fuel type to a more expensive fuel type will be considered. The Day-Ahead and Real-Time Markets shall be considered separately for purposes of this analysis.

23.3.1.4.6.9.6 For purposes of this Section 23.3.1.4.6.9, submitted fuel price information shall be considered biased in a Market Party's favor if (a) the Market Party submitted revised fuel price information for a Generator for at least 100 hours during the previous 90 days, and (b) the fuel price that the Market Party submitted to the ISO's Market Information System for use in developing reference levels for a Generator exceeded the greater of the actual fuel price (as substantiated by supplier quotes or invoices) or the ISO's indexed fuel price, by greater than the higher of 10% or \$0.50/MMBtu, on average, over the previous 90 days. For purposes of calculating the average, only hours in which the fuel price submitted exceeds the ISO's indexed fuel price will be considered. The Day-Ahead and Real-Time Markets shall be considered separately for purposes of this analysis.

23.3.1.4.6.9.7 The responsibilities of the Market Monitoring Unit that are addressed in Section 23.3.1.4.6.9 of the Mitigation Measures are also addressed in Section 30.4.6.2.3 of the Plan.

23.3.1.4.6.10 In order to adjust (i) Bid-based incremental energy, minimum generation and start-up reference levels, and (ii) LBMP-based incremental energy and minimum generation reference levels to more accurately reflect fuel costs, the ISO may calculate distinct Bid- and LBMP-based reference levels for each fuel type or blend of fuel types that a Generator is capable of burning, and shall fuel index each of the distinct Bid- or LBMP-based reference levels that it calculates for fuel types that are amenable to fuel indexing. Where a Generator can draw on multiple natural gas sources that each have distinct, posted, market clearing prices, the ISO may calculate distinct Bid-Based or LBMP-based reference levels for each such available supply source.

23.3.1.4.7 Except as otherwise authorized in accordance with Section 23.3.1.4.6.8 above, Market Parties shall timely report significant changes to the cost components used to develop their Generator's reference levels to the ISO in order to permit the revised costs to be timely reflected in the Generator reference levels. However, if the ISO uses published index prices to fuel index a Generator's reference level when that Generator is burning a fuel type that is amenable to fuel indexing (which may include a blend of two indexed fuel types), the Market Party is not required to report fuel prices that are less than the published index price that the ISO relies on.

23.3.1.4.8 Reflecting opportunity costs in Reference Levels. The ISO shall use the information available to it to adjust reference levels to reflect appropriate opportunity costs.

23.3.1.4.8.1 Prohibition of duplicative and evasive cost submissions and Bids. Costs that are submitted or Bid as fuel costs shall not also be submitted or Bid as opportunity costs. A cost shall not be submitted or Bid in two parts, as both a fuel costs and an opportunity cost, in order to evade applicable screening thresholds. Fossil generators shall not submit or Bid fuel costs, including but not limited to balancing costs, as opportunity costs. Energy Storage Resources shall not submit or Bid the cost they expect to incur to withdraw Energy as a fuel cost.

If the ISO identifies a potentially duplicative or evasive Bid or cost submission that appears to violate this prohibition, it shall inform the Market Monitoring Unit of the potential Market Violation.

23.3.1.4.8.2 ISO Reporting Obligation. If the ISO did not adjust reference levels to reflect timely (as that term is defined in Section 23.3.1.4.8.9 below) submitted, appropriate opportunity costs, and the ISO's failure to adjust reference levels to reflect such opportunity costs affected market clearing prices or had an impact on guarantee payments that cannot be corrected, then the ISO shall report any market clearing price and uncorrected guarantee payment impacts to FERC staff and to its Market Participants. The ISO is not required to report, or to otherwise act, if no market impact is identified.

23.3.1.4.8.3 Market Parties shall monitor Generator reference levels and shall endeavor to timely (as that term is defined in Section 23.3.1.4.8.9 below) contact the ISO to

request an adjustment to a Generator's reference level(s) when changes in opportunity costs are expected to impact the Generator's reference levels.

23.3.1.4.8.4 Screening of opportunity cost submissions. The ISO may use automated processes and/or require manual review of opportunity cost submissions by Market Parties in order to prevent market clearing prices and guarantee payments from being incorrectly calculated.

23.3.1.4.8.5 Consistent with the rules specified in this Section 23.3.1.4.8 of the Mitigation Measures and the procedures that the ISO develops to implement these rules, Market Parties shall notify the ISO of changes in opportunity costs by (i) submitting revised opportunity cost information to the ISO's Market Information System along with the Generator's Bid(s), or (ii) by directly contacting the ISO to request a reference level update consistent with ISO procedures, or (iii) by utilizing both of the available notification methods. Revised opportunity cost information that exceeds, or is rejected based upon, the thresholds that the ISO uses to automatically screen opportunity cost information that is submitted to the ISO's Market Information System along with a Generator's Bid(s) shall be submitted by directly contacting the ISO to request a reference level update, consistent with ISO procedures.

23.3.1.4.8.6 Following the completion of the ISO's automated and/or manual screening processes, the ISO shall use opportunity cost information that Market Parties or their representatives submit to develop Generator reference levels unless (i) the information submitted is inaccurate, or (ii) the information was not timely

submitted, and the Market Party's failure to timely submit the information is not excused by the ISO in accordance with Section 23.3.1.4.8.9 below.

23.3.1.4.8.7 The ISO may not always have sufficient time to complete its screening of proposed opportunity cost changes prior to the relevant Day-Ahead Market day or Real-Time Market hour. If opportunity cost information (i) is timely submitted or, where untimely, the submission is excused in accordance with Section 23.3.1.4.8.9 below, and (ii) the opportunity cost information that the Market Party submitted is proven to have been accurate or to have understated the actual cost incurred for that component, and (iii) the Bid(s) were tested using reference levels that reflected outdated opportunity cost information and the Bid(s) were mitigated or a sanction was imposed pursuant to Section 23.4.3 of these Mitigation Measures, then the ISO shall (a) re-perform any test(s) that resulted in a sanction being imposed pursuant to Section 23.4.3 of these Mitigation Measures, using the accurate opportunity cost information and use the revised results to calculate the appropriate sanction (if any), and (b) determine if the Bids for the Generator would have failed the relevant conduct test(s) if accurate opportunity cost information had been used to develop reference levels. The ISO shall then restore any original (as-submitted) Bid(s) that would not have failed the relevant conduct test(s) if accurate opportunity cost information had been used to develop the Generator's reference levels, and use the restored Bid(s) to determine a settlement. Otherwise the ISO shall use the Generator's correct or corrected reference level(s) to determine a settlement.

23.3.1.4.8.8 The ISO shall publicly post the thresholds it employs to automatically screen opportunity cost information that is submitted to the ISO's Market Information System for inputs that require manual review before they can be permitted to take effect.

23.3.1.4.8.9 For purposes of this Section 23.3.1.4.8, "timely" notice or submission to the Real-Time Market shall mean the submission of opportunity cost information using the methods specified in Section 23.3.1.4.8.5 of these Mitigation Measures prior to market close for the relevant Real-Time Market hour. For purposes of this Section 23.3.1.4.8, "timely" notice or submission to the Day-Ahead Market shall mean the submission of opportunity cost information using the methods specified in Section 23.3.1.4.8.5 of these Mitigation Measures prior to the close of the Day-Ahead Market. Market Parties are not expected to submit supporting data with their Bids that include revised opportunity cost information, but are expected to retain a record of how the submitted opportunity cost was determined and other supporting data consistent with the data retention requirements set forth in the Plan, and to be able to produce such information within a reasonable timeframe when asked to do so by the ISO or by its Market Monitoring Unit.

It may not always be possible for a Market Party to timely update a Generator's opportunity cost to reflect unexpected real-time changes or events in advance of the first affected market-hour. Upon a showing of extraordinary circumstances, the ISO may retroactively reflect in Real-Time Market reference levels opportunity cost information that was not timely submitted by a Market Party. While it should ordinarily be possible for a Market Party to timely submit

updated opportunity cost information for use in developing a Generator's Day-Ahead Market reference levels, the ISO may retroactively accept and utilize late-submitted Day-Ahead Market opportunity cost information upon a showing of extraordinary circumstances.

## **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 Bid Production Cost guarantee payments to a Market Party for a Generator 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 30.4.6.2.4 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 30.4.6.2.5 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 and Bids that only violate the conduct thresholds

specified in Sections 23.3.1.2.1.1.2(b) or 23.3.1.2.2.6(b) of these Mitigation Measures, 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 (which may include a Demand Side Resource participating in the Operating Reserves or Regulation Service Markets) that would be subject to mitigation, or from other information available to the ISO that the conduct and associated price or guarantee payment effect(s) 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 Bid Production Cost guarantee payments to a Market Party for a Generator for a day, or an increase of 100 percent in any other guarantee payment over the time period used by the ISO to calculate the guarantee payment.

### **23.3.3 Consultation with a Market Party**

#### **23.3.3.1 Consultation Process**

23.3.3.1.1 *Consultation initiated by the ISO to determine if mitigation is appropriate:*

Applies to Market-Party-specific and/or Generator-specific mitigation, but not to mitigation that is applied pursuant to Sections 23.3.1.2.3, 23.3.2.2.3, or 23.5.2 of these mitigation measures. 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.

23.3.3.1.2 *Consultation initiated by a Market Party when it anticipates that its Generator's marginal costs or other Bid parameters may exceed the Generator's reference level(s) by more than the relevant threshold(s).* 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.

23.3.3.1.3 *Results of consultation process addressing 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.

23.3.3.1.4 *Consultation initiated by a Market Party regarding reference levels.* Upon request, the ISO shall consult with a Market Party or its representative with respect to the information and analysis used to determine reference levels under Section 23.3.1.4 for that Market Party's Generator(s). If cost data or other information submitted by a Market Party's Generator(s) indicates to the satisfaction of the ISO that the reference levels for that Market Party should be changed, revised reference levels shall be proposed by the ISO, communicated to the Market Monitoring Unit for its review and comment and, following the ISO's consideration of any recommendations that the Market Monitoring Unit is able to timely provide, communicated to the Market Party, and implemented by the ISO as soon as practicable. Changes to the reference levels addressed pursuant to the terms of this Section 23.3.3.1.4 shall be implemented on a going-forward basis commencing no earlier than the date that the Market Party's consultation request is received. 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.

23.3.3.1.5 *Information required to support consultation regarding Bids and reference levels.* Market Parties shall ensure that the information they submit to the ISO,

including but not limited to fuel price and fuel type information, is accurate. Except as set forth in Section 23.3.1.4.6.8, the ISO may not retroactively revise a reference level to reflect additional fuel costs if a Market Party or its representative did not timely submit accurate fuel cost information. Unsupported speculation by a Market Party does not present a valid basis for the ISO to determine that Bids that a Market Party submitted are consistent with competitive behavior, or to determine that submitted costs are appropriate for inclusion in the ISO's development of reference levels. Consistent with Sections 30.6.2.2 and 30.6.3.2 of the Plan, the Market Party shall retain the documents and information supporting its Bids and the costs it proposes to include in reference levels.

### **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 both real-time guarantee payment mitigation and mitigation of Generators committed outside the economic evaluation process in the Day-Ahead or Real-Time Markets to protect or preserve system reliability in accordance with Section 23.3.1.2.3 of these Mitigation Measures 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 For real-time guarantee payment mitigation determined pursuant to

Sections 23.3.1.2.1 or 23.3.1.2.2, and 23.3.2.1.2 of these Mitigation Measures, 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 For real-time guarantee payment mitigation determined pursuant to

Sections 23.3.1.2.1 or 23.3.1.2.2, and 23.3.2.1.2 of these Mitigation Measures, 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 The following notice rules apply to guarantee payment mitigation determined pursuant to Section 23.3.1.2.3 of these Mitigation Measures.

23.3.3.3.1.3.1 For mitigation of a Generator's Minimum Generation Bid, Start-Up Bid or Incremental Energy Bid resulting from its DARU or SRE commitment, the ISO shall send an e-mail or other notification to potentially impacted Market Parties that comply with Section 23.3.3.3.1.2.2 of these Mitigation Measures within ten business days after the relevant market day, and shall undertake reasonable efforts to provide notification to such Market Parties within two business days after the relevant market day. The e-mail shall identify the date of the proposed mitigation and the Bid(s) or Bid components that the NYISO proposes to mitigate for all or part of the relevant market day.

As soon as it is able to do so, the NYISO will commence electronically posting settlement results informing Market Parties of Bid(s) that failed the Section

23.3.1.2.3 test and sending an e-mail or other notification to potentially impacted Market Parties that comply with Section 23.3.3.3.1.2.2 of these Mitigation Measures. The settlement results posting shall include the mitigated bid(s). The posting of settlement results ordinarily occurs two days after the relevant real-time market day.

23.3.3.3.1.3.2 For mitigation of a Generator's Minimum Generation Bid, Start-Up Bid or Incremental Energy Bid resulting from an Out-of-Merit dispatch above the Generator's DARU or SRE commitment, the ISO shall send an e-mail or other notification to potentially impacted Market Parties that comply with Section 23.3.3.3.1.2.2 of these Mitigation Measures within 10 business days after the relevant market day. The e-mail shall identify the date of the proposed mitigation and the bid(s) or bid components that the NYISO proposes to mitigate for all or part of the relevant market day.

23.3.3.3.1.3.3 For mitigation based on a Generator's minimum run time, start-up time, minimum down time, minimum generation MWs, or maximum number of stops per day, [or for mitigation based on temporal or operating parameters related to the withdrawal and injection of Energy by Withdrawal-Eligible Generators](#), the ISO shall send an e-mail or other notification to potentially impacted Market Parties that comply with Section 23.3.3.3.1.2.2 of these Mitigation Measures within 10 business days after the relevant market day. The e-mail shall identify the date of the proposed mitigation and the conduct failing Bid(s) or Bid components.

23.3.3.3.1.4 Market Parties that want to consult with the ISO regarding real-time guarantee payment impact test results, or regarding mitigation applied in accordance with Section 23.3.1.2.3 of these Mitigation Measures, 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”).

23.3.3.3.1.4.1 Consultation Requests must be received by the ISO’s customer relations department within 15 business days after the ISO (i) posts new or revised real-time guarantee payment impact test settlement results, or (ii) either posts new or revised real-time guarantee payment impact test settlement results or sends an e-mail informing a Market Party of the results of a test performed pursuant to Section 23.3.1.2.3 of these Mitigation Measures for the relevant market day. Consultation Requests received outside the 15 business day period shall be rejected by the ISO.

23.3.3.3.1.4.2 The ISO may send more than one notice informing a Market Party of the same instance of mitigation. Notices that identify real-time guarantee payment impact test or Section 23.3.1.2.3 mitigation 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.

23.3.3.3.1.4.3 If consultation was timely requested and completed addressing a particular set of real-time guarantee payment impact test results, or addressing a particular instance of mitigation applied in accordance with Section 23.3.1.2.3 of these Mitigation Measures, a Market Party may not again request consultation regarding the same real-time guarantee payment impact test results, or the same application of Section 23.3.1.2.3 mitigation, unless revised settlement results, that are not due to the previously completed consultation and that change the dollar impact of the relevant instance of mitigation, are posted.

23.3.3.3.1.5 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 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.

23.3.3.3.1.5.1 Market Parties shall ensure that the information they submit to the ISO, including but not limited to fuel price and fuel type information, is accurate. Except as set forth in Section 23.3.1.4.6.8, the ISO may not retroactively revise a reference level to reflect additional fuel costs if a Market Party or its representative did not timely submit accurate fuel cost information. Except as set forth in Section 23.3.1.4.8.9, the ISO may not retroactively revise a reference level to reflect additional opportunity costs if a Market Party or its representative did not timely submit accurate opportunity cost information.

23.3.3.3.1.6 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 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.

23.3.3.3.1.7 Following the submission of a Consultation Request that satisfies the timing and Bid identification requirements of Section 23.3.3.3.1.4, above, consultation shall be performed in accordance with Section 23.3.3.1 of these Mitigation Measures, as supplemented by the following rules:

23.3.3.3.1.7.1 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 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.

23.3.3.3.1.7.2 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 (i) 50 business days after the new or revised real-time guarantee payment impact test settlement results for the relevant market day were posted, or (ii) 50 business days after the earlier of the posting of new or revised Section 23.3.1.2.3 mitigation settlement results for the relevant market day, or the issuance of an e-mail in accordance with Section 23.3.3.3.1.3, above. 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, 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 30.4.6.2.7 of Attachment O.

23.3.3.3.1.7.3 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.

23.3.3.3.1.8 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 Tests and Applying Mitigation in Accordance with Section 23.3.1.2.3 of these Mitigation Measures**

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, or identified possible mitigation under Section 23.3.1.2.3 of these Mitigation Measures may contact the ISO within 15 business days after new or revised impact test settlement results are posted, or possible mitigation under Section 23.3.1.2.3 of these Mitigation Measures is identified, to request that the reference levels used to perform the testing and 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 permitted gas balancing charges;

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;

and;

23.3.3.3.2.1.6 demonstrated opportunity costs that exceed the opportunity cost used in calculating the Generator's reference level.

23.3.3.3.2.2 The ~~six~~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 23.3.3.3.1.7.2 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, or the Section 23.3.1.2.3 test, as appropriate, for the affected day. Only the reference levels used to perform real-time guarantee payment mitigation and/or mitigation pursuant to Section 23.3.1.2.3 of these Mitigation Measures, 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 appropriate test(s) using reference levels that reflect the verifiable costs that the Generator incurred and shall apply mitigation if the Generator's Bids fail conduct and impact, or the Section 23.3.1.2.3 test, 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 ~~six~~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.

## **23.4 Mitigation Measures**

### **23.4.1 Purpose and Terms**

If conduct is detected that meets the criteria specified in Section 23.3, the appropriate mitigation measure described in this Section shall be applied by the ISO. The conduct specified in Sections 23.3.1.1 to 23.3.1.3 shall be remedied by (1) the prospective application of a default bid measure, or (2) the application of a default bid to correct guarantee payments, as further described in Section 23.4.2.2.4, below, [or \(3\) the application of the sanction described in Section 23.4.3 of these Mitigation Measures if \(x\) a Withdrawal-Eligible Generator located outside the Constrained Area engages in conduct that violates Section 23.3.1.2.1.1.2\(a\) of these Mitigation Measures that has an LBMP impact that exceeds the applicable threshold, or \(y\) a Withdrawal-Eligible Generator engages in conduct that violates Sections 23.3.1.2.1.1.2\(b\) or 23.3.1.2.2.6\(b\) of these Mitigation Measures that has an LBMP impact that exceeds the applicable threshold in the Day-Ahead Market](#). If a Market Party or its Affiliates engage in physical withholding by providing the ISO false information regarding the derating or outage of an Electric Facility or does not operate a Generator in conformance with ISO dispatch instructions such that the prospective application of a default bid is not feasible, or if otherwise appropriate to deter either physical or economic withholding, the ISO shall apply the sanction described in Section 23.4.3.

Terms with initial capitalization not defined in Section 23.4 shall have the meaning set forth in the Open Access Transmission Tariff.

### **23.4.2 Default Bid**

#### **23.4.2.1 Purpose**

A default bid shall be designed to cause a Market Party to Bid as if it faced workable competition during a period when (i) the Market Party does not face workable competition, and

(b) has responded to such condition by engaging in the physical or economic withholding of an Electric Facility. In designing and implementing default bids, the ISO shall seek to avoid causing an Electric Facility to Bid below its marginal cost.

#### **23.4.2.2 Implementation**

23.4.2.2.1 If the criteria contained in Section 23.3 are met, the ISO may substitute a default bid or bid parameter for a Bid or bid parameter submitted for an Electric Facility, or require the Market Party to use the default bid or bid parameter in the Bids it submits for an Electric Facility. The default bid or bid parameter shall establish a maximum or minimum value for one or more components of the submitted Bid or Bid parameters, equal to a reference level for that component determined as specified in Section 23.3.1.4.

23.4.2.2.2 An Electric Facility subject to a default bid shall be paid the LBMP or other market clearing price applicable to the output from the facility. Accordingly, a default bid shall not limit the price that a facility may receive unless the default bid determines the LBMP or other market clearing price applicable to that facility.

23.4.2.2.3 If an Electric Facility is mitigated using the automated mitigation procedures described in Section 23.3.2.2.3 of these mitigation measures to a default bid for an Incremental Energy Bid other than a default bid determined as specified in Section 23.3.1.4, the Electric Facility shall receive an additional payment for each interval in which such mitigation occurs equal to the product of:

- (i) the amount of Energy in that interval scheduled or dispatched to which the incorrect default bid was applied;
- (ii) the difference between (a) the lesser of the

applicable unmitigated bid and a default bid determined in accordance with Section 23.3.1.4, and (b) the applicable LBMP or other relevant market price in each such interval, if (a) greater than (b), or zero otherwise; and (iii) the length of that interval.

If an Electric Facility is mitigated to a default bid for a Start-Up Bid or a Minimum Generation Bid other than a default bid determined as specified in Section 23.3.1.4 of these Mitigation Measures, or if an Electric Facility is mitigated to a default bid for an Incremental Energy Bid other than a default bid determined as specified in Section 23.3.1.4 of these Mitigation Measures based on mitigation procedures other than the automated mitigation procedures described in Section 23.3.2.2.3 of these Mitigation Measures, then the ISO shall determine if the Bids would have failed the relevant conduct test(s) if correctly determined default bids had been used. The ISO shall then restore any original (as-submitted) Bid(s) that would not have failed the relevant conduct test(s) if correctly determined default bids had been used, and use the restored Bid(s) to determine a settlement. Otherwise, the ISO shall use the Generator's correct or corrected default bid(s) to determine a settlement.

23.4.2.2.4 Except as may be specifically authorized by the Commission:

23.4.2.2.4.1 The ISO shall not use a default bid to determine revised market clearing prices for periods prior to the imposition of the default bid.

23.4.2.2.4.2 The ISO shall only be permitted to apply default bids to determine revised real-time guarantee payments to a Market Party in accordance with the provisions of Section 23.3.3.3 of these Mitigation Measures.

- 23.4.2.2.5 Automated implementation of default bid mitigation measures shall be subject to the following requirements.
- 23.4.2.2.5.1 Automated mitigation measures shall not be applied if the price effects of the measures would cause the average day-ahead energy price in the mitigated locations or zones to rise over the entire day.
- 23.4.2.2.5.2 Automated mitigation measures as specified in Section 23.3.2.2.3 shall be applied to Minimum Generation Bids and start-up costs Bids meeting the applicable conduct and impact tests. When mitigation of Minimum Generation Bids is warranted, mitigation shall be imposed from the first hour in which the impact test is met to the last hour in which the impact test is met, or for the duration of the mitigated Generator's minimum run time, whichever is longer.
- 23.4.2.2.5.3 The posting of the Day-Ahead schedule may be delayed if necessary for the completion of automated mitigation procedures.
- 23.4.2.2.5.4 Bids not mitigated under automated procedures shall remain subject to mitigation by other procedures specified herein as may be appropriate.
- 23.4.2.2.5.5 The role of automated mitigation measures in the determination of Day-Ahead market clearing prices is described in Section 17.1.3 of Attachment B of the ISO Services Tariff.
- 23.4.2.2.6 A Real-Time automated mitigation measure shall remain in effect for the duration of any hour in which there is an RTC interval for which such mitigation is deemed warranted.

23.4.2.2.7 A default bid shall not be imposed on a Generator that is not in the New York Control Area and that is electrically interconnected with another Control Area.

### **23.4.3 Sanctions**

#### **23.4.3.1 Types of Sanctions**

The ISO may impose financial penalties on a Market Party in amounts determined as specified below.

#### **23.4.3.2 Imposition**

The ISO shall impose financial penalties as provided in this Section 23.4.3, if the ISO determines in accordance with the thresholds and other standards specified in this Attachment H that: (i) a Market Party has engaged in physical withholding, including providing the ISO false information regarding the derating or outage of an Electric Facility; or (ii) a Market Party or its Affiliates have failed to follow the ISOs dispatch instructions in real-time, resulting in a different output level than would have been expected had the Market Party's or the Affiliate's generation followed the ISO's dispatch instructions, and such conduct has caused a material increase in one or more prices or guarantee payments in an ISO Administered Market; or (iii) a Market Party has made unjustifiable changes to one or more operating parameters of a Generator that reduce its ability to provide Energy or Ancillary Services; or (iv) a Load Serving Entity has been subjected to a Penalty Level payment in accordance with Section 23.4.4 below; or (v) a Market Party has submitted inaccurate fuel type or fuel price or opportunity cost information that is used by the ISO in the development of a Resource's reference level, where the inaccurate reference level that is developed, in turn, directly or indirectly impacts guarantee payments or market clearing prices paid to the Market Party; or (vi) a Market Party has submitted inaccurate information other than

fuel type or fuel price information that is used by the ISO in the development of a Resource's reference level, where the inaccurate reference level that is developed, in turn, directly or indirectly impacts guarantee payments or market clearing prices paid to the Market Party; or (vii) the opportunity to submit Incremental Energy Bids into the real-time market that exceed Incremental Energy Bids made in the Day-Ahead Market or mitigated Day-Ahead Incremental Energy Bids where appropriate, has been revoked for a Market Party's Generator pursuant to Sections 23.4.7.2 and 23.4.7.3 of these Mitigation Measures; or (viii) a Market Party has engaged in economic withholding in the Day-Ahead Market by submitting Incremental Energy Bids that violate the conduct thresholds specified in Sections 23.3.1.2.1.1.2(b) or 23.3.1.2.2.6(b) of these Mitigation Measures and cause an LBMP impact that exceeds the applicable threshold; or (ix) a Market Party has engaged in economic withholding of a Withdrawal-Eligible Generator located outside the Constrained Area by submitting Incremental Energy Bids that violate the conduct threshold specified in Section 23.3.1.2.1.1.2(a) of these Mitigation Measures and cause an LBMP impact that exceeds the applicable threshold.

### **23.4.3.3 Base Penalty Amount**

23.4.3.3.1 Except for financial penalties determined pursuant to Sections 23.4.3.3.2, 23.4.3.3.3, and 23.4.3.3.4 below, financial penalties shall be determined by the product of the Base Penalty Amount, as specified below, times the appropriate multiplier specified in Section 23.4.3.4:

MW meeting the standards for mitigation during Mitigated Hours \* Penalty market-clearing price.

23.4.3.3.1.1 For purposes of determining a Base Penalty Amount, the term "Mitigated Hours" shall mean: (i) for a Day-Ahead Market, the hours in which MW were

withheld; (ii) for a Real-Time Market, the hours in the calendar day in which MW were withheld; and (iii) for load Bids, the hours giving rise to Penalty Level payments.

23.4.3.3.1.1.1 For purposes of determining a Base Penalty Amount for economic withholding related to Bids that the ISO evaluates as a price spread for purposes of scheduling and dispatch, the term “Mitigated Hours” shall instead mean:

(i) for the Day-Ahead Market, for Withdrawal-Eligible Generators located outside the Constrained Area, all hours of the day in which an LBMP impact is determined after the NYISO replaces all Incremental Energy Bids that violate the conduct thresholds specified in Sections 23.3.1.2.1.1.2(a) or 23.3.1.2.1.1.2(b) of these Mitigation Measures with reference levels; or

(ii) for the Day-Ahead Market, for Withdrawal-Eligible Generators located in the Constrained Area, all hours of the day in which an LBMP impact is determined after the NYISO replaces all Incremental Energy Bids that violate the conduct thresholds specified in Section 23.3.1.2.2.6(b) of these Mitigation Measures with reference levels; or

(iii) for the Real-Time Market, for Withdrawal-Eligible Generators located outside the Constrained Area, all hours of the day in which an LBMP impact is determined after the NYISO replaces all Incremental Energy Bids that violate the conduct thresholds specified in Sections 23.3.1.2.1.1.2(a) of these Mitigation Measures with reference levels.

In each of the above cases, the “MW meeting the standards for mitigation during Mitigated Hours” shall be all scheduled MW.

23.4.3.3.1.2 For purposes of determining a Base Penalty Amount, the term “Penalty market-clearing price” shall mean: (i) for a withholding seller, the LBMP or other market-clearing price at the generator bus of the withheld resource (or in the relevant Load Zone, if a clearing price is not calculated at the generator bus); and (ii) for a Load Serving Entity, its zonal LBMP.

23.4.3.3.1.2.1 For purposes of determining a Base Penalty Amount for economic withholding related to Bids that the ISO evaluates as a price spread for purposes of scheduling and dispatch, the “Penalty market-clearing price” shall instead mean the difference between the market clearing price that was set and the market clearing price would instead be determined if reference levels are substituted for conduct-failing Incremental Energy Bids.

#### **23.4.3.3.2 Failure to Follow ISO Dispatch Instructions**

The financial penalty for failure to follow ISO’s dispatch instructions in real-time, resulting in real-time operation at a different output level than would have been expected had the Market Party’s or the Affiliate’s generation followed the ISO’s dispatch instructions, if the conduct violates the thresholds set forth in Sections 23.3.1.1.1.2, or 23.3.1.3.1.2 of these Mitigation Measures, and if a Market Party or its Affiliates, or at least one Generator, is determined to have had impact in accordance with Section 23.3.2.1 of these Mitigation Measures, shall be:

One and a half times the estimated additional real time LBMP and Ancillary Services revenues earned by the Generator, or Market Party and its

Affiliates, meeting the standards for impact during intervals in which MW were not provided or were overproduced.

**23.4.3.3.3 Submission of Inaccurate Fuel Type, ~~and/or~~ Fuel Price or Opportunity Cost Information**

If inaccurate fuel type, ~~and/or~~ fuel price or opportunity cost information was submitted by or for a Market Party, and the reference level that the ISO developed based on that inaccurate information impacted guarantee payments or market clearing prices paid to the Market Party in a manner that violates the thresholds specified in this Section 23.4.3.3.3, then, following consultation with the Market Party regarding the appropriate fuel type, ~~and/or~~ fuel price or opportunity cost, the ISO shall apply the penalty set forth below, unless: (i) the Market Party shows that the information was submitted in compliance with the requirements of Section 4.1.9 of the ISO Services Tariff (Cost Recovery for Units Responding to Local Reliability Rules Addressing Loss of Generator Gas Supply), or (ii) the total penalty calculated for a particular Day-Ahead or Real-Time Market day is less than \$5,000, in which case the ISO will not apply a penalty.

**23.4.3.3.3.1 Inaccurate Fuel Type and/or Fuel Price Information Conduct and Market Impact Tests**

**23.4.3.3.3.1.1 Inaccurate Fuel Type and/or Fuel Price Information Conduct Test and Inaccurate Opportunity Cost Conduct Test**

Inaccurate Fuel Price/Type Conduct Test—Using the higher of (a) a revised reference level calculated using the Generator's actual fuel costs, or (b) the reference level that would have been in place for the Generator but for the submission of inaccurate fuel type and/or fuel price information, test the Bids to

determine if they violate the relevant conduct threshold in accordance with the appropriate provision(s) of Section 23.3.1.2 of these Mitigation Measures.

Inaccurate Opportunity Cost Conduct Test—using the higher of (a) a revised reference level calculated using the Generator’s demonstrated opportunity cost, or (b) the reference level that would have been in place for the Generator but for the submission of inaccurate opportunity cost information, test the Bids to determine if they violate the relevant conduct threshold in accordance with the appropriate provision(s) of Section 23.3.1.2 of these Mitigation Measures.

**23.4.3.3.3.1.2 Inaccurate Fuel Type and/or Fuel Price Information Impact Test and Inaccurate Opportunity Cost Conduct Test**

Inaccurate Fuel Price/Type Impact Test—uUsing the higher of (a) a revised reference level calculated using the Generator’s actual fuel costs, or (b) the reference level that would have been in place for the Generator but for the submission of inaccurate fuel type and/or fuel price information, test the Bids for both LBMP and guarantee payment impact in accordance with the appropriate provisions of Section 23.3.2.1 of these Mitigation measures.

Inaccurate Opportunity Cost Impact Test—using the higher of (a) a revised reference level calculated using the Generator’s demonstrated opportunity cost, or (b) the reference level that would have been in place for the Generator but for the submission of inaccurate opportunity cost information, test the Bids for both LBMP and guarantee payment impact in accordance with the appropriate provisions of Section 23.3.2.1 of these Mitigation measures.

23.4.3.3.3.1.2.1 The ISO shall perform the guarantee payment impact tests for Generators that are committed in the Day-Ahead Market for local reliability or in

the Real-Time Market via an SRE, and that are not located in a Constrained Area, at the 50% increase Constrained Area threshold specified in Section 23.3.2.1.2 of these Mitigation Measures.

#### 23.4.3.3.3.1.3 Day-Ahead Reliability Commitments in a Constrained Area

Consistent with Section 23.5.2 of these Mitigation Measures, the conduct and impact thresholds for In-City Generators committed in the Day-Ahead Market for local reliability shall each be zero.

#### 23.4.3.3.3.2 Inaccurate Fuel Type and/or Fuel Price and/or Opportunity Cost Information Penalty Calculation

If the results of the impact test indicate that the Market Party's Bid had either LBMP or guarantee payment impact then the ISO shall charge the Market Party a penalty, calculated separately for the Day-Ahead Market and the Real-Time Market for each penalized day, for each of its Generators, as follows:

Daily Penalty (for either the Day-Ahead Market or the Real-Time Market) =

$$\begin{aligned} & \text{Multiplier} \times \max [\sum_g \blacktriangle \text{BPCG payment}_g + \\ & \sum_h \sum_g (\text{Market Party MWh}_{gh} \times \blacktriangle \text{LBMP@PTID}_{gh}) + \\ & \max (\sum_h \text{TCC Revenue Calc for Market Party}_h, 0), 0] \end{aligned}$$

Where:

$g$  = each of the Market Party's Generators.

$h$  = (a) for the purpose of calculating Day-Ahead Market penalties for a given day,  $h$  is each hour of that day in which inaccurate fuel type or fuel price or opportunity cost information was supplied in the Day-Ahead Market for any of the Market Party's Generators, provided that one of the Day-Ahead Bids in that hour "h" for at least one of the Market Party's Generators failed ~~the~~ an LBMP or

guarantee payment impact test described in Section 23.4.3.3.1.2 of these Mitigation Measures, or (b) for the purpose of calculating Real-Time Market penalties for a given day,  $h$  is each hour of that day in which inaccurate fuel type or fuel price or opportunity cost information was supplied in the Real-Time Market for any of the Market Party's Generators, provided that one of the Real-Time Bids in that hour " $h$ " for at least one of the Market Party's Generators failed ~~the~~ an LBMP or guarantee payment impact test described in Section 23.4.3.3.1.2 of these Mitigation Measures.

Multiplier = a factor of 1.0 or 1.5. Determined as specified below.  
For violations related to fuel price and/or fuel type submissions, ~~t~~The ISO shall use a 1.0 Multiplier if the Market Party has not been penalized for inaccurately reporting fuel type or fuel price information over the 6 months prior to the market-day for which the penalty is being calculated. In all other cases the ISO shall use a 1.5 Multiplier.

For violations related to opportunity cost submissions, the ISO shall use a 1.0 Multiplier if the Market Party has not been penalized for inaccurately reporting opportunity cost information over the 6 months prior to the market-day for which the penalty is being calculated. In all other cases the ISO shall use a 1.5 Multiplier.

▲  $BPCG\ payment_g = (a)$  for the purpose of calculating Day-Ahead Market penalties for a given day, the change in the Day-Ahead Market guarantee payment -for that day for Generator  $g$  determined when the ISO performs the guarantee payment impact test in accordance with Section 23.3.2.1.2 of these

Mitigation Measures, or (b) for the purpose of calculating Real-Time Market penalties for a given day, the change in the Real-Time guarantee payment for that day for Generator g determined when the ISO performs the guarantee payment impact test in accordance with Section 23.3.2.1.2 of these Mitigation Measures.

Market Party  $MWh_{gh}$  = (a) for the purpose of calculating Day-Ahead Market penalties, the MWh of Energy scheduled in the Day-Ahead Market for Generator g in hour h; or (b) for the purpose of calculating Real-Time Market penalties, the maximum of (1) the MWh of Energy that Generator g was scheduled to produce in the Day-Ahead Market in hour h, or (2) the MWh of Energy that Generator g was scheduled to produce in the Real-Time Market in hour h, or (3) the MWh of Energy produced by Generator g that was scheduled to produce energy in hour h in the Real-Time Market.

▲  $LBMP@PTID_{gh}$  = (a) for the purpose of calculating Day-Ahead Market penalties, the change in the Day-Ahead Market LBMP for hour h at the location of Generator g, as determined when the ISO performs the relevant LBMP impact test in accordance with Section 23.3.2.1.1 or 23.3.2.1.3 of these Mitigation Measures, or (b) for the purpose of calculating Real-Time Market penalties, the change in the real-time LBMP for hour h at the location of Generator g, as determined when the ISO performs the relevant LBMP impact test in accordance with Section 23.3.2.1.1 or 23.3.2.1.3 of these Mitigation Measures.

TCC Revenue Calc for Market Party<sub>h</sub> = (a) for the purpose of calculating Day-Ahead Market penalties, the change in TCC Revenues that the Market Party receives for hour h, determined when the ISO performs the relevant Day-Ahead

Market LBMP impact test, or (b) for the purpose of calculating Real-Time Market penalties, zero.

#### **23.4.3.3.4 Virtual Bidding ~~Penalty~~ Penalties**

23.4.3.3.4.1 If the opportunity to submit Incremental Energy Bids into the Real-Time Market that exceed Incremental Energy Bids made in the Day-Ahead Market or mitigated Day-Ahead Incremental Energy Bids where appropriate, has been revoked on a Market Party's Generator pursuant to Sections 23.4.7.2 and 23.4.7.3 of these Mitigation Measures, then the following virtual market penalty may be imposed on the Market Party:

Virtual market penalty = (Virtual Load MWs) \* (Amount by which the hourly integrated real-time LBMP exceeds the day-ahead LBMP applicable to the Virtual Load MWs)

WHERE:

Virtual Load MWs are the scheduled MWs of Virtual Load Bid by the Market Party in the hour for which an increased real-time Bid for the Market Party's Generator failed the test specified in Section 23.4.7.2 of these Mitigation Measures; and

LBMP is the LBMP at which the Virtual Load MWs settled in the Day-Ahead and real-time Markets.

23.4.3.3.4.2 If the opportunity to submit Incremental Energy Bids into the Real-Time Market that are less than the Incremental Energy Bids submitted in the Day-Ahead Market (or the mitigated Day-Ahead Incremental Energy Bids where appropriate), has been revoked on a Market Party's Generator pursuant to

Sections 23.4.7.2 and 23.4.7.3 of these Mitigation Measures, then the following virtual market penalty may be imposed on the Market Party:

Virtual market penalty = (Virtual Supply MWs) \* (Amount by which the hourly integrated real-time LBMP is less than the day-ahead LBMP applicable to the Virtual Supply MWs)

WHERE:

Virtual Supply MWs are the scheduled MWs of Virtual Supply Bid by the Market Party in the hour for which a reduced real-time Bid for the Market Party's Generator failed the test specified in Section 23.4.7.2 of these Mitigation Measures; and  
LBMP is the LBMP at which the Virtual Supply MWs settled in the Day-Ahead and real-time Markets.

#### **23.4.3.3.5 No Revisions to Real-Time LBMPs**

Real-Time LBMPs shall not be revised as a result of the imposition of a financial obligation as specified in this Section 23.4.3.3, except as may be specifically authorized by the Commission.

#### **23.4.3.4 Multipliers**

The Base Penalty Amount specified in Section 23.4.3.3.1 shall be subject to the following multipliers:

23.4.3.4.1 For the first instance of a type of conduct by a Market Party meeting the standards for mitigation, the multiplier shall be one (1).

23.4.3.4.2 For the second instance within the current or the two immediately previous capability periods of substantially similar conduct in the same market by a Market Party or its Affiliates, the multiplier shall be one (1),

23.4.3.4.3 For the third instance within the current or the two immediately previous capability periods of substantially similar conduct in the same market by a Market Party or its Affiliates, the multiplier shall be two (2),

23.4.3.4.4 For the fourth or any additional instance within the current or immediately previous capability period of substantially similar conduct in the same market by a Market Party or its Affiliates, the multiplier shall be three (3).

#### **23.4.3.5 Dispute Resolution**

23.4.3.5.1 Parties with of disputes arising from or relating to the imposition of a sanction under this Section 23.4.3 may utilize the dispute resolution provisions of the ISO Services Tariff. The scope of any such proceeding shall include resolution of any dispute as to legitimate justifications, under applicable legal, regulatory or policy standards, for any conduct that is asserted to warrant a penalty. Any or all of the issues in any such proceeding may be resolved by agreement of the parties.

23.4.3.5.2 Payment of a financial penalty may be withheld pending conclusion of any arbitration or other alternate dispute resolution proceeding instituted pursuant to the preceding paragraph and any petition to FERC for review under the Federal Power Act of the determination in such dispute resolution proceeding; provided, however, that interest at the ISO's average cost of borrowing shall be payable on any part of the penalty that is withheld, and that is determined to be payable at the

conclusion of the dispute resolution/FERC review process from the date of the infraction giving rise to the penalty to the date of payment. The exclusive remedy for the inappropriate imposition of a financial penalty, to the exclusion of any claim for damages or any other form of relief, shall be a determination that a penalty should not have been imposed, and a refund with interest of paid amounts of a penalty determined to have been improperly imposed, as may be determined in the applicable dispute resolution proceedings.

23.4.3.5.3 This Section 23.4.3 shall not be deemed to provide any right to damages or any other form of relief that would otherwise be barred by Section 30.11 of Attachment O or Section 23.6 of this Attachment H.

23.4.3.5.4 This Section 23.4.3 shall not restrict the right of any party to make such filing with the Commission as may otherwise be appropriate under the Federal Power Act.

#### **23.4.3.6 Disposition of Penalty Funds**

Except as specified in Section 23.4.4.3.2, amounts collected as a result of the imposition of financial penalties shall be credited against costs collectable under Rate Schedule 1 of the ISO Services Tariff.

### **23.4.4 Load Bid Measure**

#### **23.4.4.1 Purpose**

As initially implemented, the ISO market rules allow loads to choose to purchase power in either the Day-Ahead Market or in the Real-Time Market, but provide other Market Parties less flexibility in opting to sell their output in the Real-Time Market. As a result of this and other design features, certain bidding practices may cause Day-Ahead LBMPs not to achieve the

degree of convergence with Real-Time LBMPs that would be expected in a workably competitive market. A temporary mitigation measure is specified below as an interim remedy if conditions warrant action by the ISO until such time as the ISO develops and implements an effective long-term remedy, if needed. These measures shall only be imposed if persistent unscheduled load causes operational problems, including but not limited to an inability to meet unscheduled load with available resources. The ISO shall post a description of any such operational problem on its web site.

#### **23.4.4.2 Implementation**

23.4.4.2.1 Day-Ahead LBMPs and Real-Time LBMPs in each load zone shall be monitored to determine whether there is a persistent hourly deviation between them in any zone that would not be expected in a workably competitive market. Monitoring of Day-Ahead and real-time LBMPs shall include examination of the following two metrics (along with any additional monitoring tools and procedures that the ISO determines to be appropriate to achieve the purpose of this Section 23.4.4):

- (1) The ISO shall compute a rolling average of the hourly deviation of real-time zonal LBMPs from Day-Ahead zonal LBMPs. The hourly deviation shall be measured as:  $(\text{zonal LBMP}_{\text{real time}} - \text{zonal LBMP}_{\text{day ahead}})$ . Each observation of the rolling-average time series shall be a simple average of all the hourly deviations over the previous four weeks, or such other averaging period determined by the ISO to be appropriate to achieve the purpose of this Section 23.4.4.
- (2) The ISO shall also compute the rolling average *percentage* deviation of real-time zonal LBMPs from Day-Ahead zonal LBMPs. This percentage deviation

shall be calculated by dividing the rolling-average hourly deviation (defined in Section 23.4.4.2.1 (1) above) by the rolling-average level of Day-Ahead zonal LBMP over the same time period, using the averaging period(s) described in Section 23.4.4.2.1 (1), above.

23.4.4.2.2 The ISO shall also estimate and monitor the average percentage of each Load Serving Entity's load scheduled in the Day-Ahead Market, using a methodology intended to identify a sustained pattern of under-bidding as accurately as the ISO deems practicable. The average percentage will be computed over a specified time period determined by the ISO to be appropriate to achieve the purpose of this mitigation measure.

23.4.4.2.3 If the ISO determines that (i) the relationship between zonal LBMPs in a zone in the Day-Ahead Market and the Real-Time Market is not what would be expected under conditions of workable competition, (ii) one or more Load Serving Entities have been meeting a substantial portion of their loads with purchases in the Real-Time Market, and (iii) that this practice has contributed to an unwarranted divergence of LBMP between the two markets, then the following mitigation measure may be imposed. Any such measure shall be rescinded upon a determination by the ISO that any one or more of the foregoing conditions is not met.

#### **23.4.4.3 Description of the Measure**

23.4.4.3.1 The ISO may require a Load Serving Entity engaging in the purchasing practice described above to purchase or schedule all of its expected power requirements in the Day-Ahead Market. A Load Serving Entity subject to this

requirement may purchase up to a specified portion of its actual load requirements (the “Allowance Level”) in the Real-Time Market without penalty, as determined by the ISO to be appropriate in recognition of the uncertainty of load forecasting.

23.4.4.3.2 Effective with the imposition of the foregoing requirement, all purchases in the Real-Time Market in excess of this Allowance Level (the “Penalty Level”) shall be settled at a specified premium over the applicable zone LBMP. Revenues from such premiums, if any, shall be rebated on a *pro rata* basis to the Market Parties that scheduled energy for delivery to load within New York in the Day-Ahead Market for the day in which the revenues were collected.

23.4.4.3.3 The Allowance Level and the Penalty Level shall be established by the ISO at levels deemed effective and appropriate to mitigate the market effects described in this Section 23.4.4. In addition, the Penalty Level payments shall be waived in any hour in which the Allowance Level is exceeded because of unexpected system conditions.

## **23.4.5 Installed Capacity Market Mitigation Measures**

- 23.4.5.1 If and to the extent that sufficient installed capacity is not under a contractual obligation to be available to serve load in New York and if physical or economic withholding of installed capacity would be likely to result in a material change in the price for installed capacity in all or some portion of New York, the ISO, in consideration of the comments of the Market Parties and other interested parties, shall amend this Attachment H, in accordance with the procedures and requirements for amending the Plan, to implement appropriate mitigation measures for installed capacity markets.
- 23.4.5.2 Offers to sell Mitigated UCAP in an ICAP Spot Market Auction shall not be higher than the higher of (a) the UCAP Offer Reference Level for the applicable ICAP Spot Market Auction, or (b) the Going-Forward Costs of the Installed Capacity Supplier supplying the Mitigated UCAP. Where an Installed Capacity Supplier is a Pivotal Supplier in some, but not all, Mitigated Capacity Zones in which it has Resources, such Installed Capacity Supplier's offer to sell Mitigated UCAP in any ICAP Spot Market Auction for any Resource for which it is a Pivotal Supplier shall not be higher than the higher of (a) the lowest of the UCAP Offer Reference Levels for each Mitigated Capacity Zone in which such Installed Capacity Supplier has Resources; or (b) if an Offer for a Resource has an applicable Going-Forward Cost, such Going-Forward Cost.
- 23.4.5.3 An Installed Capacity Supplier's Going-Forward Costs for an ICAP Spot Market Auction shall be determined upon the request of the Responsible Market Party for that Installed Capacity Supplier. The Going-Forward Costs shall be

determined by the ISO after consultation with the Responsible Market Party, provided such consultation is requested by the Responsible Market Party not later than 50 business days prior to the deadline for offers to sell Unforced Capacity in such auction, and provided such request is supported by a submission showing the Installed Capacity Supplier's relevant costs in accordance with specifications provided by the ISO. Such submission shall show (1) the nature, amount and determination of any claimed Going-Forward Cost, and (2) that the cost would be avoided if the Installed Capacity Supplier is taken out of service or retired, as applicable. If the foregoing requirements are met, the ISO shall determine the level of the Installed Capacity Supplier's Going-Forward Costs and shall seasonally adjust such costs not later than 7 days prior to the deadline for submitting offers to sell Unforced Capacity in such auction. A Responsible Market Party shall request an updated determination of an Installed Capacity Supplier's Going-Forward Costs not less often than annually, in the absence of which request the Installed Capacity Supplier's offer cap shall revert to the UCAP Offer Reference Level. An updated determination of Going-Forward Costs may be undertaken by the ISO at any time on its own initiative after consulting with the Responsible Market Party. Any redetermination of an Installed Capacity Supplier's Going-Forward Costs shall conform to the consultation and determination schedule specified in this paragraph. The costs that an Installed Capacity Supplier would avoid as a result of retiring should only be included in its Going-Forward Costs if the owner or operator of that Installed Capacity Supplier

actually plans to mothball or retire it if the Installed Capacity revenues it receives are not sufficient to cover those costs.

23.4.5.4 Mitigated UCAP shall be offered in each ICAP Spot Market Auction in accordance with Section 5.14.1.1 of the ISO Services Tariff and applicable ISO procedures, unless (a) it has been exported to an External Control Area or sold to meet Installed Capacity requirements outside the Mitigated Capacity Zone in which the ICAP Supplier is a Pivotal Supplier is located in a transaction that does not constitute physical withholding under the standards specified below, or (b) it is Net Unforced Capacity of a Behind-the-Meter Net Generation Resource that is sold to its Host Load in a transaction that does not constitute physical withholding under the standards specified in Section 23.4.5.4.1(b).

23.4.5.4.1 (a) An export to an External Control Area or sale to meet an Installed Capacity requirement outside the Mitigated Capacity Zone in which the ICAP Supplier or Generator with CRIS MW is electrically located (either of the foregoing being referred to as “External Sale of Capacity”) may be subject to audit and review by the ISO to assess whether such action constituted physical withholding of UCAP from a Mitigated Capacity Zone. “External Sale UCAP” shall mean the UCAP equivalent of the External Sale of Capacity if known, or otherwise the reasonably projected UCAP equivalent as determined by the ISO. External Sale UCAP shall be deemed to have been physically withheld on the basis of a comparison between the net revenues from UCAP sales that would have been earned by the sale of the External Sale UCAP in a Mitigated Capacity Zone and the net revenues earned from the External Sale of Capacity. The comparison shall be made for the period for which capacity is committed (the “Comparison

Period”) in each of the shortest term organized capacity markets (the “External Reconfiguration Markets”) for the area and during the period in which the External Sale of Capacity occurred. External Sale UCAP shall be deemed to have been withheld from a Mitigated Capacity Zone if: (1) the Responsible Market Party for the External Sale UCAP could have made all or a portion of the External Sale UCAP available to be offered in the Mitigated Capacity Zone by buying out of its external capacity obligation through participation in an External Reconfiguration Market and timely meeting the requirements to be qualified as an Installed Capacity Supplier; (2) the net revenues over the Comparison Period from sale in the Mitigated Capacity Zone of the External Sale UCAP that could have been made available for sale in that Locality would have been greater by 15% or more, provided that the net revenues were at least \$2.00/kilowatt-month more than the net UCAP revenues from that portion of the External Sale UCAP over the Comparison Period; and (3) the Responsible Market Party for the External Sale UCAP is a Pivotal Supplier, or would otherwise have been deemed a Pivotal Supplier if the External Sale UCAP had been available to be offered in the Mitigated Capacity Zone for the Comparison Period.

(b) Any Mitigated UCAP that is Net Unforced Capacity of a Behind-the-Meter Net Generation Resource that is not offered into the ICAP Spot Market Auction in accordance with Section 23.4.5.2 may be subject to audit and review by the ISO, and shall be deemed to have been physically withheld unless (i) the Responsible Market Party has obtained a determination from the ISO pursuant to Section 23.4.5.4.3(b) that the sale to its Host Load would not constitute physical

withholding, and (ii) the Mitigated UCAP that was the subject of the determination pursuant to Section 23.4.5.4.3(b) is actually sold to its Host Load.

23.4.5.4.2 If Mitigated UCAP or External Sale UCAP is not offered or sold as specified above, the Responsible Market Party for such Installed Capacity Supplier or Generator electrically located in a MCZ Import Constrained Locality shall pay the ISO an amount equal to the product of (A) 1.5 times the difference between the Market-Clearing Price for the Mitigated Capacity Zone in the ICAP Spot Market Auction with and without the inclusion of the Mitigated UCAP or External Sale UCAP and (B) the total of (1) the amount of Mitigated UCAP or External Sale UCAP not offered or sold as specified above, and (2) all other megawatts of Unforced Capacity in the Mitigated Capacity Zone under common Control with such Mitigated UCAP or External Sale UCAP. If the failure to offer was associated with the same period as an External Sale of Capacity, and the failure caused or contributed to an increase in UCAP prices in the Mitigated Capacity Zone of 15 percent or more, provided such increase is at least \$2.00/kilowatt-month, the Responsible Market Party for such Generator or UDR project electrically located in a MCZ Import Constrained Locality shall be required to pay to the ISO an amount equal to 1.5 times the difference between the average Market-Clearing Price for the Mitigated Capacity Zone in the ICAP Spot Market Auctions for the relevant Comparison Period with and without the External Sale of Capacity in those auctions, times the total of (1) the amount of External Sale UCAP not offered or sold as specified above, and (2) all other megawatts of Unforced Capacity in the Mitigated Capacity Zone under common

Control with such External Sale UCAP. The ISO will distribute any amounts recovered in accordance with the foregoing provisions among the LSEs serving Loads in regions affected by the withholding in accordance with ISO Procedures.

23.4.5.4.3 (a) Reasonably in advance of the deadline for submitting offers in an External Reconfiguration Market the Responsible Market Party for External Sale UCAP may request the ISO to provide a projection of ICAP Spot Auction clearing prices for the Mitigated Capacity Zone over the Comparison Period for the External Reconfiguration Market. Such requests, and the ISO's response, shall be made in accordance with the deadlines specified in ISO Procedures. Prior to completing its projection of ICAP Spot Auction clearing prices for the Mitigated Capacity Zone over the Comparison Period for the External Reconfiguration Market, the ISO shall consult with the Market Monitoring Unit regarding such price projection. The Responsible Market Party shall be exempt from a physical withholding penalty as specified in Section 23.4.5.4.2, below, if at the time of the deadline for submitting offers in an External Reconfiguration Market its offers, if accepted, would reasonably be expected to produce net revenues from the External Sale of Capacity that exceed the net revenues that would have been realized from sale of the External Sale UCAP in the Mitigated Capacity Zone at the ICAP Spot Auction prices projected by the ISO. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.8(a) of Attachment O to this Services Tariff.

(b) At least fifteen business days in advance of the opening of the ICAP Spot Market Auction, a Behind-the-Meter Net Generation Resource can request that the ISO make a determination that the sale of Net Unforced Capacity in a Mitigated Capacity Zone to its Host Load does not constitute physical withholding. The Responsible Market Party shall be exempt from a physical withholding penalty as specified in Section 23.4.5.4.2 if the ISO determines that the Behind-the-Meter Net Generation Resource has demonstrated that the Host Load's actual consumption is planned to exceed its Adjusted Host Load, and it has a documented transaction to provide Net Unforced Capacity to its Host Load. Prior to reaching its decision on a request by a Behind-the-Meter Net Generation Resource that its sale of Net Unforced Capacity to its Host Load would not constitute physical withholding, the ISO shall provide its preliminary determination to the Market Monitoring Unit for review and comment. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.8(b) of Attachment O to this Services Tariff.

23.4.5.5 Control of Unforced Capacity shall be rebuttably presumed from (i) ownership of an Installed Capacity Supplier, or (ii) status as the Responsible Market Party for an Installed Capacity Supplier, but may also be determined on the basis of other evidence. For purposes of determining if a Responsible Market Party is a Pivotal Supplier in a Mitigated Capacity Zone, the presumption of Control of Unforced Capacity can be rebutted by demonstrating to the reasonable satisfaction of the ISO that the ability to determine the price and quantity of offers

to supply Unforced Capacity has been conveyed to a person or entity that is not an Affiliated Entity without limitation or condition, but cannot be rebutted by the sale of Unforced Capacity in a Capability Period or Monthly Auction. For any Mitigated Capacity Zone, if the presumption has not been rebutted, and if two or more Market Parties each have rights or obligations with respect to Unforced Capacity from an Installed Capacity Supplier that could reasonably be anticipated to affect the quantity or price of Unforced Capacity transactions in an ICAP Spot Market Auction, the ISO may attribute Control of the affected MW of Unforced Capacity from the Installed Capacity Supplier to each such Market Party. Prior to reaching its decision regarding whether the presumption of control of Unforced Capacity has been rebutted, the ISO shall provide its preliminary determination to the Market Monitoring Unit for review and comment. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.9 of Attachment O to this Services Tariff.

**23.4.5.6 Audit, Review, and Penalties for Physical Withholding to Increase Market-Clearing Prices; Alignment with Generator Deactivation Process**

**23.4.5.6.1 Audit and Review of Proposals or Decisions to Remove or Derate Installed Capacity from a Mitigated Capacity Zone**

Any proposal or decision by a Market Participant to retire or otherwise remove an Installed Capacity Supplier from a Mitigated Capacity Zone Unforced Capacity market, or to derate the amount of Installed Capacity available from such supplier, may be subject to audit and review by the ISO if the ISO determines that such action could reasonably be expected to affect Market-Clearing Prices in one or more ICAP Spot Market Auctions for a Mitigated Capacity

Zone in which the Resource(s) that is the subject of the proposal or decision is located, subsequent to such action; provided, however, no audit and review shall be necessary if the Installed Capacity Supplier is a Generator that is being retired or removed from a Mitigated Capacity Zone as the result of a Forced Outage that began on or after May 1, 2015 that was determined by the ISO to be a Catastrophic Failure. Such an audit or review shall assess whether the proposal or decision has a legitimate economic justification or is based on an effort to withhold Installed Capacity physically in order to affect prices. The ISO shall provide the preliminary results of its audit or review to the Market Monitoring Unit for its review and comment. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.10 of Attachment O to this Services Tariff.

#### **23.4.5.6.2 Audit and Review of the Reclassification of a Generator in a Mitigated Capacity Zone From a Forced Outage to an ICAP Ineligible Forced Outage**

This Section 23.4.5.6.2 shall apply to a Market Party whose Installed Capacity Supplier is a Generator that began a Forced Outage on or after May 1, 2015.

23.4.5.6.2.1 Any reclassification of an Installed Capacity Supplier that is a Generator in a Mitigated Capacity Zone from a Forced Outage to an ICAP Ineligible Forced Outage by a Market Party or otherwise, pursuant to the terms of Section 5.18.2.1 of this Services Tariff, may be subject to audit and review by the ISO if the ISO determines that such reclassification could reasonably be expected to affect the Market-Clearing Price in one or more ICAP Spot Market Auctions for a Mitigated Capacity Zone in which the Generator(s) that is the subject of the reclassification is located, subsequent to such action; provided, however, if the Market Party's Generator experienced the Forced Outage as a result of a Catastrophic Failure, the

reclassification of a Generator in a Mitigated Capacity Zone from a Forced Outage to an ICAP Ineligible Forced Outage shall not be subject to audit and review pursuant to this Section 23.4.5.6.2.

The audit and review pursuant to the above paragraph shall assess whether the reclassification of the Generator in a Mitigated Capacity Zone from a Forced Outage to an ICAP Ineligible Forced Outage had a legitimate economic justification or is based on an effort to withhold Installed Capacity physically in order to affect prices.

The ISO shall provide the preliminary results of its audit or review to the Market Monitoring Unit for its review and comment. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.10 of Attachment O to this Services Tariff.

23.4.5.6.2.2 The audit and review pursuant to Section 23.4.5.6.2.1 shall be deferred by the ISO beyond the time period established in ISO Procedures for the audit and review of a reclassification of a Generator from a Forced Outage to an ICAP Ineligible Forced Outage if the Generator was in a Forced Outage for at least 180 days before the reclassification and one or more Exceptional Circumstances delayed the acquisition of data necessary for the ISO's audit and review.

The ISO shall conduct the audit and review after its receipt of data that it determines is necessary for the audit and review; provided, however, if, at the time the ISO acquires the necessary data, the Market Party has Commenced Repair of the Generator, or the Generator is determined by the ISO to have had a

Catastrophic Failure, the Market Party shall not be subject to an audit and review pursuant to Section 23.4.5.6.2.1 of this Services Tariff. A Generator that Commenced Repair while in an ICAP Ineligible Forced Outage but that ceased or unreasonably delayed that repair shall be subject to audit and review by the ISO pursuant to Section 23.4.5.6.2.1 of this Services Tariff.

The ISO shall provide the preliminary results of its audit or review to the Market Monitoring Unit for its review and comment. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.10 of Attachment O.

23.4.5.6.2.3 The audit and review of the removal of a Generator from a Forced Outage to an ICAP Ineligible Forced Outage, and the determinations of Catastrophic Failure and Exceptional Circumstances, will be pursuant to specific timelines established in ISO Procedures.

23.4.5.6.2.4 The audit and review pursuant to Sections 23.4.5.6.2.1, and 23.4.5.6.2.2 shall be conducted to determine whether the decision not to repair a Generator had a legitimate economic justification, consistent with competitive behavior; that is, whether the cost of repair, including the risk-adjusted cost of capital, could not reasonably be expected to be recouped over the reasonably anticipated remaining life of the generator. The elements of such audit and review may include, as appropriate, the historical revenue and maintenance cost data for the purpose of the baseline, the duration of the repair, the costs including, but not limited to, capital expenditures necessary to comply with federal or state environmental, safety or reliability requirements that must be met in order to operate the

Generator, the anticipated capacity, energy and ancillary services revenues following the repair, the projected costs of operating the Generator following the repair, any benefits that would be foregone from using the site for a purpose other than as the existing Generator (e.g., repowering), and other relevant data.

The criteria for the audit and review provided in this Services Tariff Section 23.4.5.6.2.4 may be incorporated, as appropriate, in an audit and review required to be conducted pursuant to other provisions in this Services Tariff Section 23.4.

23.4.5.6.2.5 For a requesting Market Party, a determination that the Market Party has experienced Exceptional Circumstances shall be made by the ISO by the 160th day of the Generator's Forced Outage. The ISO shall use reasonable efforts to issue a determination that a Market Party has experienced Exceptional Circumstances after it has Commenced Repair and requests reclassification to an ICAP Ineligible Force Outage by the 40th day after the ISO's receipt of data necessary to conduct the analysis.

For a requesting Market Party, a determination that a Generator has experienced a Catastrophic Failure shall be made by the ISO by the 160<sup>th</sup> day of the Forced Outage. If the ISO has determined that Exceptional Circumstances will delay the submission of data necessary for the ISO to perform an audit and review pursuant to Section 23.4.5.6.2.1 or 23.4.5.6.2, the ISO shall use reasonable efforts to issue a determination that the Generator has experienced a Catastrophic Failure by the 40<sup>th</sup> day after receipt of data necessary to conduct the analysis.

### **23.4.5.6.3 Penalties for Withholding Installed Capacity Physically In Order To Affect Prices**

If the ISO determines that either: i) pursuant to Section 23.4.5.6.1, the proposal or decision by a Market Party to retire or otherwise remove an Installed Capacity Supplier from a Mitigated Capacity Zone, or to de-rate the amount of Installed Capacity available from such supplier, or ii) pursuant to Section 23.4.5.6.2, the ISO determines that the reclassification of an Installed Capacity Supplier that is a Generator from a Forced Outage to an ICAP Ineligible Forced Outage constitutes physical withholding, and would increase the Market-Clearing Price in one or more ICAP Spot Market Auctions for a Mitigated Capacity Zone by five percent or more, provided such increase is at least \$.50/kilowatt-month, for each such violation of the above requirements the Market Party shall be assessed an amount equal to the product of (A) 1.5 times the difference between the Market Clearing Price for the Mitigated Capacity Zone in the ICAP Spot Market Auctions with and without the inclusion of the withheld UCAP in those auctions, and (B) the total of (1) the number of megawatts withheld in the month and (2) all other megawatts of Installed Capacity in the Mitigated Capacity Zone under common Control with such withheld megawatts in the month. The requirement to pay such amounts shall continue until the Market Party demonstrates that the removal from service, retirement, or de-rate, as described in Section 23.4.5.6.1, or reclassification as described in Section 23.4.5.6.2 is justified by economic considerations other than the effect of such action on Market-Clearing Prices in the ICAP Spot Market Auctions for the Mitigated Capacity Zone. The ISO will distribute any amount recovered in accordance with the foregoing provisions among the LSEs serving Loads in the Mitigated Capacity Zone(s) wherein the Market-Clearing Price was affected for the month corresponding to the penalty accordance with ISO Procedures.

#### **23.4.5.6.4 Aligning Physical Withholding Audits and Reviews with the Generator Deactivation Process**

The rules in this Section 23.4.5.6.4 apply to Market Participants that initiate the Generator Deactivation Process that is set forth in Attachment FF to the ISO OATT by submitting a Generator Deactivation Notice for a Generator. They provide an opportunity for such a Market Participant to receive a final physical withholding determination from the ISO before the Market Participant deactivates the Generator. Nothing in Attachment FF to the OATT or in this Section 23.4.5.6.4 of the ISO Services Tariff should be read as limiting the ISO's authority to impose a physical withholding penalty on a Generator that deactivates. Capitalized terms that appear in this Section 23.4.5.6.4 that are not defined in Article 2 to the ISO Services Tariff are defined in Section 38.1 of Attachment FF to the ISO OATT.

23.4.5.6.4.1 If the ISO has issued notice to the Market Participant in accordance with Section 38.7.4 of Attachment FF to the ISO OATT that it has received all of the data and information it requires to perform its duties under both the Generator Deactivation Process that is set forth in Attachment FF to the ISO OATT and Section 23 of the ISO Services Tariff, then the ISO shall complete a physical withholding review of the proposed deactivation, if needed, in accordance with Section 23.4.5.6 of the ISO Services Tariff and issue a final physical withholding determination to the Market Party in accordance with the process set forth in Sections 23.4.5.6.4.2.1 or 23.4.5.6.4.2.2 of the ISO Services Tariff.

If the ISO has not issued a notice to the Market Participant in accordance with Section 38.7.4 of Attachment FF to the ISO OATT that it has received all of the data and information it requires to perform its duties under both Attachment FF to the ISO OATT and Section 23 of the ISO Services Tariff, then the ISO is

*not* required to issue a final physical withholding determination to the Market Party for the Generator prior to the Generator's deactivation.

**23.4.5.6.4.2 Aligning Issuance of Final Physical Withholding Determination with the Generator Deactivation Process**

**23.4.5.6.4.2.1 Based on deactivation date.** At least sixty days before the date the Generator determines it will timely (consistent with Section 38.14.1 of Attachment FF to the ISO OATT) deactivate, the Market Participant (which is also a Market Party) may notify the ISO in writing of the updated deactivation date and request that the ISO issue a final physical withholding determination to the Market Party. The ISO shall issue its final determination at least 30 days before the updated deactivation date specified in the Market Participant's written notice.

Exception: The earliest date the ISO shall be required to issue a final physical withholding determination is 90 days after the Generator Deactivation Assessment Start Date.

The ISO's final physical withholding determination shall only be valid if the Generator becomes Retired or enters into a Mothball Outage within a window that starts five days before the date specified in the Market Participant's notice to the ISO and concludes ten days after the date specified in the Market Participant's notice to the ISO.

**23.4.5.6.4.2.2 Based on date of irrevocable action or inaction.** If the Market Participant identifies and the ISO, in consultation with the Market Monitoring Unit, agrees that there is a point in the process of deactivating a Generator after which the deactivation process will become, essentially and practicably,

irreversible, then the ISO shall inform the Market Participant in writing of the first such act, decision not to act, or event that the ISO agrees will have irreversible consequences.

The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.12 of Attachment O to this Services Tariff.

23.4.5.6.4.2.2.1 At least sixty days before the date the irreversible action, inaction or event specified by the ISO in its notice to the Market Participant will be taken, occur or come to pass (the “trigger date”), the Market Participant may notify the ISO in writing of the trigger date and request that the ISO issue a final physical withholding determination to the Market Party. The Market Participant’s notice must explain why the date it selected is the appropriate trigger date. If the ISO determines that the trigger date specified by the Market Participant is reasonable, then the ISO shall issue its final physical withholding determination at least 30 days before the trigger date specified in the Market Participant’s notice.

Exception: The earliest date the ISO shall be required to issue a final physical withholding determination is 90 days after the Generator Deactivation Assessment Start Date.

23.4.5.6.4.2.2.2 If the ISO determines that the trigger date the Market Participant specified is not reasonable, then the ISO shall promptly notify the Market Participant of its determination and the reasons therefor in writing. The ISO is not required to issue a final physical withholding determination unless the Market

Party provides additional information within two business days of the issuance of the ISO's written determination that causes the ISO to change its decision.

23.4.5.6.4.2.2.3 The ISO's final physical withholding determination shall only be valid if (a) the specified irreversible action, inaction or event is taken or occurs within a window that starts five days before the trigger date specified in the Market Participant's notice to the ISO and concludes ten days after the trigger date specified in the Market Participant's notice to the ISO, and (b) the Generator timely (consistent with Section 38.14.1 of Attachment FF to the ISO OATT) enters into a Mothball Outage or becomes Retired. Except where the ISO possesses contrary information, the ISO shall accept the Market Participant's reasonable assessment of the date by which an irrevocable failure to act occurs.

23.4.5.6.4.3 The Market Party shall promptly send a written notice to the ISO rescinding a written notice that it previously submitted under Sections 23.4.5.6.4.2.1 or 23.4.5.6.4.2.2.1 of the ISO Services Tariff if it determines that the deactivation date or trigger date it specified in its written notice to the ISO is no longer accurate.

#### **23.4.5.7 Buyer-Side Market Power Mitigation Measures for Installed Capacity**

Unless exempt as specified below, offers to supply Unforced Capacity from a Mitigated Capacity Zone Installed Capacity Supplier: (i) shall equal or exceed the applicable Offer Floor; and (ii) can only be offered in the ICAP Spot Market Auctions. Except for Offer Floors applied pursuant to Section 23.4.5.7.9.5.2 (*i.e.*, after the revocation of a Competitive Entry Exemption,) Section 23.4.5.7.13.3 (*i.e.*, after the revocation of a Renewable Exemption) or Section 23.4.5.7.14.5 (*i.e.*, after the revocation of Self Supply Exemption), the ISP UCAP MW, or when

the Installed Capacity Supplier is an RMR Generator, the Offer Floor shall apply to offers for Unforced Capacity from the Installed Capacity Supplier, if it is not a Special Case Resource, starting with the Capability Period for which the Installed Capacity Supplier first offers to supply UCAP. Offer Floors applied pursuant to Section 23.4.5.7.9.5.2 shall apply to offers for Unforced Capacity from an Installed Capacity Supplier starting with all ICAP auction activity subsequent to the date of the revocation. Offer Floors shall cease to apply to that portion of a resource's UCAP (rounded down to the nearest tenth of a MW) that has cleared for any twelve, not-necessarily-consecutive, months (such cleared amount, "Cleared UCAP") in which the resource's MW were not ISP UCAP MW or MW of an RMR Generator. Offer Floors shall also cease to apply for the period an Installed Capacity Supplier is an Interim Service Provider but only in the amount of its ISP UCAP MW, or an RMR Generator in which case the Installed Capacity Supplier's offers of UCAP shall be as set forth in Section 23.4.5.7.12. Offer Floors shall be adjusted annually using the most recent inflation rate that is the twelve month percentage change in the index for the general component of the escalation factor ("Inflation Rate") that is the most recent of (a) the Inflation Rate identified in the index accepted by the Commission after a periodic review in an ICAP Demand Curve Reset Filing Year, as of October 1 of the ICAP Demand Curve Reset Filing Year, and (b) the Inflation Rate in the Annual Update of the relevant effective ICAP Demand Curves published under Section 5.14.1.2.2.1 of the Services Tariff.

23.4.5.7.1 Unforced Capacity from an Installed Capacity Supplier that is subject to an Offer Floor may not be used to satisfy any LSE Unforced Capacity Obligation for Mitigated Capacity Zone Load unless such Unforced Capacity is obtained through participation in an ICAP Spot Market Auction.

23.4.5.7.2 An Installed Capacity Supplier, in a Mitigated Capacity Zone for which the Commission has accepted an ICAP Demand Curve, shall be exempt from an Offer Floor if: (a) the price that is equal to the (x) average of the ICAP Spot Market Auction price for each month in the two Capability Periods, beginning with the Summer Capability Period commencing three years from the start of the year of the Class Year (the “Starting Capability Period”) is projected by the ISO, in accordance with Section 23.4.5.7.15, to be higher than (y) the numerical value equal to 75 percent of the Mitigation Net CONE that would be applicable to such supplier in the same two (2) Capability Periods (utilized to compute (x)), (b) the price that is equal to the average of the ICAP Spot Market Auction prices in the six Capability Periods beginning with the Starting Capability Period is projected by the ISO, in accordance with Section 23.4.5.7.15, to be higher than the reasonably anticipated Unit Net CONE of the Installed Capacity Supplier, (c) it has been determined to be exempt pursuant to Section 23.4.5.7.9 (the “Competitive Entry Exemption”), (d) it has been determined, and in the quantity of MW for which it has been determined, to be exempt pursuant to Section 23.4.5.7.13 (the “Renewable Exemption”), or (e) it has been determined, and in the quantity of MW for which it has been determined, to be exempt pursuant to Section 23.4.5.7.14 (the “Self Supply Exemption”). For purposes of the determinations pursuant to (a) and (b) of this section, (I) if the Class Year is not bifurcated under OATT Section 25.5.10 (referred to herein as “not Bifurcated”) or if the Class Year is so bifurcated (referred to herein a “Bifurcated Class Year”, “Class Year X-1”, and “Class Year X-2”) and the Examined Facility remains in

the Class Year through Class Year X-2, the ISO shall identify Unit Net CONE and the projected ICAP Spot Market Auction prices in accordance with Section 23.4.5.7.15, for each Examined Facility promptly after it (i) has accepted its Project Cost Allocation (as defined below) and deliverable MW, if any, from the Final Decision Round and (ii) along with all other remaining members, has posted any associated Security pursuant to OATT Section 25 (OATT Attachment S) (for purposes of Section 23.4, a project that “remains a member of the completed Class Year”), and if a Class Year that is not Bifurcated, it shall do so concurrently for an Expected CRIS Transferee and a Category III Examined Facility (as defined in 23.4.5.7.3); and (II) if the Examined Facility is a member of a Bifurcated Class Year and the Examined Facility (i) completes the decision and settlement phase as part of Class Year X-1 and has accepted its Project Cost Allocation and deliverable MW, if any, and (ii) along with all other members of Class Year X-1 has posted any associated Security pursuant to OATT Section 25 (OATT Attachment S), the ISO shall include in the Unit Net CONE of an Examined Facility with a Project Cost Allocation for shared upgrade facilities the amount required if all the Class Year projects accept their Project Cost Allocations and post Security, and identify the Unit Net CONE and the relevant projected ICAP Demand Curve price to be used no later than the date the ISO reports to all Class Year Developers all of the Acceptance Notices and Non-Acceptance Notices that were received from all of the Developers in the Class Year X-1.

For purposes of Section 23.4.5.7 *et seq*, “Project Cost Allocation” shall mean the singular Project Cost Allocation or two Project Cost Allocations (*i.e.*, one for System Deliverability Upgrades (“SDUs”) and one for System Upgrade Facilities, as applicable, from the Final Decision Round.

The first year value of an Examined Facility’s Unit Net CONE calculated pursuant to Section 23.4.5.7 and Section 23.4.5.7.3.2 will be established in accordance with Section 23.4.5.7.3.7 at the time such Examined Facility first offers UCAP, and will be used by the ISO in subsequent mitigation exemption or Offer Floor determinations for Additional CRIS MW. A Unit Net CONE determination received pursuant to Sections 23.4.5.7.2, 23.4.5.7.6 or 23.4.5.7.7 shall only be final for the relevant Examined Facility (A) if the Examined Facility accepts its Project Cost Allocation or deliverable MW, if any, and the Examined Facility remains a member of the completed Class Year (whether it is Bifurcated, Class Year X-1, or Class Year X-2 or at the time of the completion of ~~its applicable~~ the Class Year with which it is examined is an Expected CRIS Transferee or a Category III Examined Facility, (B) on the date the ISO issues a notice to stakeholders that the Class Year decisional process of which the Examined Facility is a member or with which it is examined has been completed, and (C) as specified in the ISO’s notice to the Examined Facility of the final exemption and Offer Floor determination for the quantity of CRIS MW accepted in such Class Year at the time of its completion (or transferred CRIS if an Expected CRIS Transferee, or allocated CRIS if a Category III Examined Facility).

23.4.5.7.2.1 Promptly after Commission acceptance of the first ICAP Demand Curve to apply to a Mitigated Capacity Zone, the ISO shall make an exemption and Offer Floor determination for any NCZ Examined Project that remains a member of the completed Class Year, or was evaluated concurrently for transferred CRIS at the same location or was a Category III Examined Facility, and has received CRIS, unless exempt pursuant to section 23.4.5.7.6 or 23.4.5.7.8.

23.4.5.7.2.2 The ISO shall make an “Indicative Buyer-Side Mitigation Exemption Determination” for any NCZ Examined Project if (i) the Commission has accepted an ICAP Demand Curve for the Mitigated Capacity Zone that will become effective when the Mitigated Capacity Zone is first effective, or (ii) if the Commission has not accepted the first ICAP Demand Curve to apply specifically to the Mitigated Capacity Zone in which the NCZ Examined Project is located, provided the ISO has filed an ICAP Demand Curve pursuant to Services Tariff Section 5.14.1.2.2.4.11. The Indicative Buyer-Side Mitigation Exemption Determination shall be computed using such ICAP Demand Curve for the Mitigated Capacity Zone concurrent with the determinations the ISO makes for Examined Facilities pursuant to Sections 23.4.5.7.3.2 and 23.4.5.7.3.3.2 through 23.4.5.7.3.3.5. The ISO shall recompute the Indicative Buyer-Side Mitigation Exemption Determination promptly after Commission acceptance of the first ICAP Demand Curve for the applicable Locality provided that such NCZ Examined Project (i) received CRIS if the Class Year completed at the time the Commission accepts the Demand Curve, or (ii) has not been removed from the Class Year Deliverability Study if the Class Year is not completed. The

Indicative Buyer-Side Mitigation Exemption Determination is for informational purposes only. The exemption or Offer Floor for an NCZ Examined Project to which this Section applies shall be determined for such projects receiving CRIS using the Commission-accepted Locality ICAP Demand Curve.

23.4.5.7.2.3 Any NCZ Examined Project not exempt pursuant to 23.4.5.7.8 shall provide data and information requested by the ISO by the date specified by the ISO, in accordance with the ISO Procedures.

23.4.5.7.2.3.1 The ISO shall compute the reasonably anticipated ICAP Spot Market Auction forecast price in accordance with Section 23.4.5.7.15.

23.4.5.7.2.4 When the ISO is evaluating more than one NCZ Examined Project concurrently, the ISO shall recognize in its computation of the anticipated ICAP Spot Market Auction forecast price that Generators or UDR projects will clear from lowest to highest, using for each NCZ Examined Project the lower of (i) the first year value of its Unit Net CONE, or (ii) the numerical value equal to 75 percent of the Mitigation Net Cone, then inflated in accordance with 23.4.5.7 for each of the year two and year three of the Mitigation Study Period.

23.4.5.7.2.5 When evaluating NCZ Examined Projects pursuant to Sections 23.4.5.7.2.1 or 23.4.5.7.2.2, the ISO shall seek comment from the Market Monitoring Unit on matters relating to the determination of price projections and cost calculations. The ISO shall inform the NCZ Examined Project of the Offer Floor or Offer Floor exemption determination or Indicative Buyer-Side Mitigation Exemption Determination promptly. The responsibilities of the Market

Monitoring Unit that are addressed in this Section 23.4.5.7.2.5 are also addressed in Section 30.4.6.2.13 of Attachment O to this Services Tariff.

23.4.5.7.2.6 If an NCZ Examined Project under the criteria in 23.4.5.7.2.1 or 23.4.5.7.2.2 does not provide all of the requested data by the date specified by the ISO, the MW of CRIS received at that time by the project shall be subject to the Mitigation Net CONE Offer Floor for the period determined by the ISO in accordance with Section 23.4.5.7.

23.4.5.7.2.7 An NCZ Examined Project or Examined Facility located in more than one Mitigated Capacity Zone shall be evaluated pursuant to the tests in Section 23.4.5.7.2 (a) and (b) or 23.4.5.7.3 (as applicable), calculating Mitigation Net CONE for the smallest Mitigated Capacity Zone that contains the Load Zone in which such NCZ Examined Project or Examined Facility is electrically located.

23.4.5.7.3 The ISO shall make such exemption and Unit Net CONE determination for each “Examined Facility” (collectively “Examined Facilities”) which term shall mean (I) each proposed new Generator and proposed new UDR project, and each existing Generator that has ERIS only and no CRIS, that is a member of the Class Year that requested CRIS, or that requested an evaluation of the transfer of CRIS rights from another location, in the Class Year Facilities Study commencing in the calendar year in which the Class Year Facility Study determination is being made (the Capability Periods of expected entry as further described below in this Section, the “Mitigation Study Period”), ~~and~~ (II) each (i) existing Generator that did not have CRIS rights, and (ii) proposed new Generator and proposed new UDR project, provided such Generator under Subsection (i) or (ii) is an expected

recipient of transferred CRIS rights at the same location regarding which the ISO has been notified by the transferor or the transferee of a transfer pursuant to OATT Attachment S Section 25.9.4 that will be effective on a date within the Mitigation Study Period (“Expected CRIS Transferee”), and (III) each proposed Generator that (a) is not subject to a deliverability requirement (and therefore, is not in a Class Year) and (b) provides specific written notification to the ISO, received by the Director of Market Mitigation and Analysis, no later than the Class Year Start Date (subject to the next proviso), that it plans to commence commercial operation and offer UCAP in a month that coincides with a Capability Period of the Mitigation Study Period (a “Category III Examined Facility”). Solely for the Category III Examined Facilities that are to be examined along with Class Year [insert number], the notice shall be due [insert the date that is ten (10) business days after the Commission’s issuance of the order] rather than no later than the Class Year Start Date. The term “Examined Facilities” does not include any facility exempt from an Offer Floor pursuant to the provisions of Section 23.4.5.7.7.

23.4.5.7.3.1 **[Reserved for future use]**

23.4.5.7.3.2 The ISO shall compute the reasonably anticipated ICAP Spot Market Auction forecast price for any Mitigated Capacity Zone in accordance with Section 23.4.5.7.15. In the case of a Bifurcated Class Year, for Examined Facilities that remain a member of the completed Class Year X-1, ~~and~~ Expected CRIS Transferees, and Category III Examined Facilities the determination issued prior to the commencement of the Bifurcated Decision Period shall be the same as

the final determination (except to establish the specific quantity of MW to which the Renewable Exemption applies, as allocated among Class Year X-1 Examined Facilities in the same Class Year and Category III Examined Facilities examined therewith, in accordance with Section 23.4.5.7.13.1.1 (b)); therefore, the determinations will reflect all Examined Facilities in the Class Year and Category III Examined Facilities examined therewith, at the time such first determination is issued. In computations made for Examined Facilities that remain in Class Year X-2, the ISO shall treat Examined Facilities that complete the decision and settlement phase as part of Class Year X-1 in the same manner as Examined Facilities in a prior Class Year that remained a member of the completed Class Year and Category III Examined Facilities examined therewith.

When the ISO is evaluating more than one Examined Facility concurrently, the ISO shall recognize in its computation of the anticipated ICAP Spot Market Auction forecast price that Generators or UDR projects will clear from lowest to highest, using for each Examined Facility the lower of (i) the first year value of its Unit Net CONE, or (ii) the numerical value equal to 75 percent of the Mitigation Net Cone, then inflated in accordance with 23.4.5.7 for each of the year two and year three of the Mitigation Study Period.

### **23.4.5.7.3.3 [Intentionally Left Blank]**

#### **23.4.5.7.3.3.1 All developers, Interconnection Customers, and Installed Capacity**

Suppliers for any Examined Facility that do not request CRIS shall provide data and information requested by the ISO by the date specified by the ISO, in accordance with the ISO Procedures. For any such Examined Facility that is in a

Class Year on the date the ISO issues a notice to stakeholders that the Class Year decisional process of which the Examined Facility is a member has been completed but that only has ERIS rights, the ISO shall utilize the data first provided in its analysis of the Unit Net CONE in its review of the project in any future Class Year in which the Generator or UDR project requests CRIS.

23.4.5.7.3.3.2 In the case of a Class Year for which the ISO issues a Notice of SDUs Requiring Additional Studies, the ISO will issue to the Examined Facilities that are Class Year Project Developers that received a notice under Section 25.5.10.2 of the OATT the following preliminary determinations, as applicable: Unit Net CONE determination and determination of an exemption pursuant to Section 23.4.5.7.2(a) or (b), regarding a request for a Competitive Entry Exemption or Self Supply Exemption, or the Offer Floor, and determination of whether it is a Qualified Renewable Exemption Applicant (as defined in Section 23.4.5.7.3.8). This preliminary information will be provided to such Examined Facilities on the same date that the ISO issues the notice pursuant to Section 25.5.10.2 of the OATT.

23.4.5.7.3.3.3 In the case of a Class Year that is Bifurcated, the ISO shall determine the reasonably anticipated Unit Net CONE with the costs as then determined in the Project Cost Allocation, and additional SDUs from preliminary Class Year Study results, as applicable, prior to the commencement of the Bifurcated Decision Period for the Class Year, and shall provide to the Examined Facility the ISO's initial determination of an exemption or the Offer Floor, and determination of

whether it is a Qualified Renewable Exemption Applicant (as defined in Section 23.4.5.7.3.8).

23.4.5.7.3.3.4 For a Class Year that is not Bifurcated and for a Class Year X-2, on or before the three (3) days prior to the ISO's issuance of the Project Cost Allocation or Revised Project Cost Allocation, as applicable, the ISO will issue (or as applicable, revise) its forecast of ICAP Spot Market Auction prices for the Capability Periods in the Mitigation Study Period based on the Examined Facilities that remain in the Class Year for CRIS and the Examined Facilities that meet 23.4.5.7.3 (II) or (III). The ISO shall provide to each project its price forecast and an initial determination (incorporating its revised Project Cost Allocation) prior to the commencement of the Initial Decision Period and each Subsequent Decision Period no later than the ISO's issuance of a Revised Project Cost Allocation.

23.4.5.7.3.3.5 If a project remains a member of the completed Class Year, the ISO shall inform the project of the final determination of the Offer Floor or the Offer Floor exemption as soon as practicable after the date the ISO issues a notice to stakeholders that the Class Year decisional process has been completed, in accordance with methods and procedures specified in ISO Procedures. If a project remains a member of the completed Class Year X-1 or is an Expected CRIS Transferee or a Category III Examined Facility, the final determination shall be the same as the initial determination issued prior to the commencement of the Bifurcated Decision Period (except to establish the specific quantity of MW to which the Renewable Exemption applies, as allocated among Class Year X-1

Examined Facilities in the same Class Year, Expected CRIS Transferees and Category III Examined Facilities in accordance with Section 23.4.5.7.13.1.1 (b)) and shall apply to the quantity of CRIS MW that the Examined Facility accepts at the time it remains a member of the completed Class Year X-1, ~~or~~ the MW of the proposed CRIS transfer, or the CRIS MW received if a Category III Examined Facility.

23.4.5.7.3.3.6 When evaluating Examined Facilities pursuant to this Section 23.4.5.7, the ISO shall seek comment from the Market Monitoring Unit on matters relating to the determination of price projections and cost calculations. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.13 of Attachment O to this Services Tariff.

23.4.5.7.3.4 If ~~an~~ Generator or UDR Project that would be an Examined Facility under the criteria in 23.4.5.7.3 (II) or (III) has not provided written notice to the ISO on or before the ~~date specified by the ISO~~ Class Year Start Date for the Class Year with which it was eligible to be examined, or any Examined Facility required to be reviewed does not provide all of the requested data by the date specified by the ISO, the proposed Capacity shall be subject to the Mitigation Net CONE Offer Floor for the period determined by the ISO in accordance with Section 23.4.5.7.

23.4.5.7.3.5 Except as specified in Section 23.4.5.7.6 with respect to Additional CRIS MW, an Examined Facility for which an exemption or Offer Floor determination has been rendered may only be reevaluated for an exemption or Offer Floor determination if it meets the criteria in Section 23.4.5.7.3 (I) and was not

previously in a Class Year at the time of the completion of the Class Year either (a) enters a new Class Year and requests CRIS or (b) intends to receive transferred CRIS rights at the same location. The restriction on redeterminations also means that the Offer Floor or exemption determination for an Examined Facility that remains a member of the Class Year X-1 at the time of its completion will not be revised for any reason- (except to establish the specific quantity of MW to which the Renewable Exemption applies among Class Year X-1 Examined Facilities in the same Class Year, as allocated in accordance with Section 23.4.5.7.13.1.1 (b)). An Examined Facility under the criteria in Section 23.4.5.7.3 (II) that did receive CRIS will be bound by the determination rendered and will not be reevaluated. An Examined Facility under the criteria that (a) had been set forth in Section 23.4.5.7.3 (III) prior to May 19, 2016, or (b) is set forth in Section 23.4.5.7.3 (III) on or after [insert the date that is one day after the Commission's issuance of the order], will not be reevaluated.

23.4.5.7.3.6 **[Reserved for future use]**

23.4.5.7.3.7 If the Installed Capacity Supplier first offers UCAP prior to the first Capability Year of the Mitigation Study Period for which it was evaluated, its Offer Floor shall be reduced using the same numerical value for the inflation index that was used in the final determination issued under Section 23.4.5.7.4 (*i.e.*, when the Examined Facility remains a member of the completed Class Year as identified in Section 23.4.5.7.4. If the Installed Capacity Supplier first offers UCAP after the first Capability Year of the Mitigation Study Period for which it

was evaluated, its Offer Floor shall be increased using the inflation rate identified in 23.4.5.7.

#### **23.4.5.7.3.8 Net Energy and Ancillary Services Revenue Projections for UDR Projects**

For the purposes of making an exemption determination or Unit Net CONE determination pursuant to Section 23.4.5.7 for a UDR project, the ISO will determine the likely projected net Energy and Ancillary Services revenues utilizing a methodology that reflects, as applicable, but is not limited to, the guiding principles set forth in Section 23.4.5.7.3.8.1. The ISO will implement this Section 23.4.5.7.3.8 in accordance with Section 23.4.5.7.3.8.2.

23.4.5.7.3.8.1 The methodology used for a specific UDR project shall reflect the following guiding principles, where applicable:

- (a) The design and characteristics of the UDR project as proposed in the Class Year, including whether it is proposed to be uni-directional or bi-directional.
- (b) The market structure, scheduling rules, price formation rules, and other relevant characteristics and rules of the Control Area at each terminus of the UDR project.
- (c) The reasonably projected effects of transactions utilizing the UDR project on NYCA and External Control Areas prices, including proxy bus prices.
- (d) The reasonably projected cost to purchase energy, capacity, and ancillary services that would be transmitted into, and if the UDR project is proposed in the Class Year to be bi-directional also from, the Mitigated Capacity Zone, utilizing the UDR project at the rate determined by: (i) market-based clearing price mechanisms to the extent that the External Control Area uses them, or ISO market prices if an internal UDR project; (ii) a reasonable substitute, in the ISO's

judgment, to the extent that the External Control Area does not use market-based clearing price mechanisms to determine prices. The costs to purchase energy and capacity, and any other products associated therewith, shall not be based on advantages or sources of revenue that would not reflect arm's-length transactions, or that are not in ordinary course of business for a competitive energy market participant.

- (e) The reasonably anticipated fees for transmitting the ISO-projected energy, capacity, and ancillary services transactions utilizing the UDR project. These fees shall include any export fees, transmission services charges, ancillary services fees, scheduling fees, and other fees and costs.
- (f) The reasonably projected opportunity costs (including fees) of selling energy, capacity, and any other products associated with the sale of energy, into an External Control Area in lieu of a sale transaction into the Mitigated Capacity Zone.
- (g) The reasonably projected revenues from the sale of energy and ancillary services that would be transmitted into, and if the UDR project is proposed in the Class Year to be bi-directional also from, the Mitigated Capacity Zone, utilizing the UDR project at the rate determined by: (i) market-based clearing price mechanisms to the extent that the External Control Areas uses them, or ISO market prices if an internal UDR project; (ii) a reasonable substitute, in the ISO's judgment, to the extent that the External Control Area does not use market-based clearing price mechanisms to determine prices. The revenues from the sale of energy, capacity, and any other products associated with the sale thereof, into an

External Control Area shall not be based on advantages or sources of revenue that do not reflect arm's-length transactions, or that are not in ordinary course of business for a competitive energy market participant.

- (h) The effect of scheduling uncertainty and imperfect arbitrage on the projected costs and revenues from the purchase and sale of energy and ancillary services that are reasonably projected to be transmitted into, and if the UDR project is proposed in the Class Year to be bi-directional also from, the Mitigated Capacity Zone, utilizing the UDR project.

#### 23.4.5.7.3.8.2 Implementation

- (a) The ISO shall seek comment from the Market Monitoring Unit on the methodology the ISO will use to project net Energy and Ancillary Services for each UDR project, and the inputs used to perform the calculation. The responsibilities of the Market Monitoring Unit that are addressed in this section are also addressed in Section 30.4.6.2.13 of Attachment O.
- (b) The ISO shall post on its website a description of the methodology used for each UDR project, subject to any restrictions on the disclosure of Confidential Information or Critical Energy Infrastructure Information.
- (c) If a UDR project that is an Examined Facility or an NCZ Examined Project withdraws from a Class Year and then enters another Class Year (regardless of whether it has the same or a different interconnection queue position,) the ISO may utilize a different methodology than it previously used, provided it reflects, where applicable, the guiding principles set forth in Section 23.4.5.7.3.8.1 and implemented in accordance with Section 23.4.5.7.3.8.2(a) and (b).

23.4.5.7.4 For purposes of Sections 23.4.5.7.2(b) and 23.4.5.7.6(b), the ISO shall identify the Unit Net CONE projected for a Mitigation Study Period using: the most recent inflation index. For purposes of Section 23.4.5.7.4, the inflation index shall mean the average of the most recently published median Headline Consumer Price Index (CPI) and Headline Personal Consumption Expenditures (PCE) long-term annual averages for inflation over the ten years that includes the last year of the Mitigation Study Period, as reported by the Survey of Professional Forecasters, unless this index is eliminated, replaced or otherwise terminated by the publisher thereof. In such circumstance, the ISO shall utilize the replacement or successor index established by the publisher, if any, or, in the absence of a replacement or successor index, shall select as a replacement a substantially similar index.

23.4.5.7.5 A Special Case Resource in New York City or the G-J Locality that was determined to be subject to an Offer Floor prior to February 3, 2017 shall be subject to the Offer Floor beginning with the month of its initial offer to supply Installed Capacity, and until its offers of Installed Capacity have been accepted in the ICAP Spot Market Auction at a price at or above its Offer Floor for a total of twelve, not necessarily consecutive, months. Offers by a Responsible Interface Party at a PTID shall be not lower than the highest Offer Floor applicable to a Special Case Resource providing Installed Capacity at that PTID. Such offers may comprise a set of points for which prices may vary with the quantity offered. If this set includes megawatts from a Special Case Resource(s) with an Offer Floor, then at least the quantity of megawatts in the offer associated with each

Special Case Resource must be offered at or above the Special Case Resource's Offer Floor. Offers by a Responsible Interface Party shall be subject to audit to determine whether they conformed to the foregoing Offer Floor requirements. If a Responsible Interface Party together with its Affiliated Entities submits one or more offers below the applicable Offer Floor, and such offer or offers cause or contribute to a decrease in UCAP prices in the Mitigated Capacity Zone of 5 percent or more, provided such decrease is at least \$.50/kilowatt-month, the Responsible Interface Party shall be required to pay to the ISO an amount equal to 1.5 times the difference between the Market-Clearing Price for the Mitigated Capacity Zone in the ICAP Spot Auction for which the offers below the Offer Floor were submitted with and without such offers being set to the Offer Floor, times the total amount of UCAP sold by the Responsible Interface Party and its Affiliated Entities in such ICAP Spot Auction. If an offer is submitted below the applicable Offer Floor, the ISO will notify the Responsible Market Party and the notification will identify the offer, the Special Case Resource, the price impact, and the penalty amount. The ISO will provide the notice reasonably in advance of imposing such penalty. The ISO shall distribute any amounts recovered in accordance with the foregoing provisions among the entities, other than the entity subject to the foregoing payment requirement, supplying Installed Capacity in regions affected by one or more offers below an applicable Offer Floor in accordance with ISO Procedures.

#### **23.4.5.7.6 Exemption and Offer Floor Determinations for Additional CRIS MW:**

All requests for Additional CRIS MW located in a Mitigated Capacity Zone, in a Class Year or through a transfer, shall be evaluated for a buyer-side mitigation exemption or Offer Floor in accordance with this Section. Additional CRIS MW obtained in a Class Year or obtained through a transfer at the same location shall be exempt from an Offer Floor (a) if the price that is equal to (x) the average of the ICAP Spot Market Auction price for each month in the two Capability Periods, beginning with the Summer Capability Period commencing three years from the start of the Class Year (the “Starting Capability Period”) is projected by the ISO, in accordance with Section 23.4.5.7.15, to be higher than (y) the highest Offer Floor based on the Mitigation Net CONE that would be applicable to such Additional CRIS MW in the same two (2) Capability Periods (utilized to compute (x)); (b) if the price that is equal to the average of the ICAP Spot Market Auction prices in the six Capability Periods beginning with the Starting Capability Period is projected by the ISO, in accordance with Section 23.4.5.7.15, to be higher than the reasonably anticipated Unit Net CONE computed in accordance with (i) and (ii) of Section 23.4.5.7.6.1 for the Installed Capacity Supplier’s Additional CRIS MW or (c) for the quantity of MW determined to be exempt pursuant to Section 23.4.5.7.13 or 23.4.5.7.14 (*i.e.*, a Self Supply Exemption can be received for some Additional CRIS MW and a Renewable Exemption for other Additional CRIS MW that comprise all or part of the same request for Additional CRIS MW in a given Class Year.

23.4.5.7.6.1 For Additional CRIS MW that have an exemption or Offer Floor

determined pursuant to this Section 23.4.5.7.6, the ISO shall compute Unit Net CONE as follows:

(i) Unit Net CONE for the Additional CRIS MW shall be based on the Additional CRIS MW and the costs and revenues of and associated with the Additional CRIS MW if:

(a) the most recent prior determination concluded that the Capacity for which the Examined Facility accepted CRIS was exempt from the Offer Floor pursuant to Section 23.4.5.7.2(b), 23.4.5.7.6(b), 23.4.5.7.7, or 23.4.5.7.8; or

(b) at the time of an Examined Facility's request for Additional CRIS MW: (1) it has accepted CRIS MW equal to, or greater than, 95 percent of the Examined Facility's maximum MW of electrical capability, net of auxiliary load, at an ambient temperature of 93° F as determined in accordance with ISO Procedures and (2) the amount of Cleared UCAP is greater than or equal to the amount of UCAP calculated pursuant to Section 23.4.5.7.6.3; or

(c) the Examined Facility's Total Evaluated CRIS MW includes exempted CRIS MW for which the Examined Facility did not receive a Unit Net CONE determination and thus did not provide data to the ISO because the determination for the exempt CRIS MW received was not based on Unit Net CONE and was made prior to November 27, 2010.

(ii) or in all other cases, Unit Net CONE, shall be the greater of two values, one based on the Total Evaluated CRIS MW, and the costs and revenues of the Total

Evaluated CRIS MW, and one based on the Additional CRIS MW, and the costs and revenues of the Additional CRIS MW.

23.4.5.7.6.2 When calculating the Unit Net CONE of the Total Evaluated CRIS MW for an Examined Facility, the ISO shall utilize the Examined Facility's first year Unit Net CONE determined pursuant to Section 23.4.5.7 and Section 23.4.5.7.3.2, adjusted to the year's dollars at the time of an Examined Facility's request for Additional CRIS MW using: (i) the relevant value from the price index for non-farm business output published in the Survey of Current Business by the Department of Commerce's Bureau of Economic Analysis ("BEA Non-Farm Price Index"), or its successor; or (ii) the most recent inflation rate determined pursuant to Section 5.14.1.2.2.4.11 for any future year which is beyond the published BEA Non-Farm Price Index, or its successor.

23.4.5.7.6.3 For purposes of making the determination pursuant to Section 23.4.5.7.6.1(i)(b)(2), the amount of Cleared UCAP shall be compared to an amount of UCAP calculated as the product of the CRIS MW held by the Examined Facility immediately prior to its request for Additional CRIS MW and (1-EFORd). Except as specified in the next paragraph, for purposes of this calculation, if the Examined Facility is a Generator, its EFORd shall be derived using the data in the 5-year average NERC-GADS Generating Availability Report, or its successor, for the main class of the unit (hereinafter the "Class Average EFORd") that is current at the time of the request for Additional CRIS MW, when available. If the Examined Facility is an Intermittent Power Resource or Limited Control Run-of-River Hydro Resource, the ISO shall apply a 5-year

average derating factor based on ISO data to establish the EFORD to be utilized in the calculation pursuant to this paragraph. In all other cases, the ISO will apply the 5-year average derating factor from the ICAP/UCAP translation, for the smallest Mitigated Capacity Zone in which the resource is located at the time of the request. The EFORD applied by the ISO at the time that the Examined Facility first offers or certifies UCAP in an Installed Capacity auction (“Initial Entry EFORD”) shall be used instead of Class Average EFORD when it is higher (*i.e.*, a greater outage rate) than the Class Average EFORD calculated at the time of the Examined Facility’s request for Additional CRIS MW.

23.4.5.7.6.4 Additional CRIS MW shall be subject to the Mitigation Net CONE Offer Floor for the period specified in Section 23.4.5.7, for any Examined Facility whose Total Evaluated CRIS MW includes CRIS MW that are or have ever been subject to the Mitigation Net CONE Offer Floor, pursuant to Section 23.4.5.7.3.4.

23.4.5.7.6.5 The Offer Floor for Additional CRIS MW shall be equal to the lesser of: (a) the Unit Net CONE for the Additional CRIS MW; or (b) a numerical value equal to 75 percent of the Mitigation Net CONE translated into a seasonally adjusted monthly UCAP value for the Additional CRIS MW.

23.4.5.7.6.6 The results of this exemption determination shall apply only to the Additional CRIS MW and shall not alter or affect any prior exemption or Offer Floor determination for the Examined Facility. The Additional CRIS MW for which CRIS is received shall be bound by the determination rendered and will not be reevaluated unless the Examined Facility enters a new Class Year for the Additional CRIS MW.

23.4.5.7.6.7 When the ISO makes a mitigation exemption or Offer Floor determination for an Examined Facility's Additional CRIS MW for an Installed Capacity Supplier other than that to which the Unit Net CONE determination for the Examined Facility was rendered, the ISO shall provide such Installed Capacity Supplier with the Examined Facility's first year Unit Net CONE value if the Installed Capacity Supplier (a) requests that information, and (b) represents that it: (i) will use that information solely for purposes of considering a request for Additional CRIS MW for the Examined Facility, and (ii) will not share that information with or make it available to any other person except those that are assisting it in considering a request for Additional CRIS MW.

23.4.5.7.6.8 The ISO shall post on its website the determination of whether the project is exempt or non-exempt from an Offer Floor as soon as the determination is final. Concurrent with the ISO's posting, the Market Monitoring Unit shall publish a report on the ISO's determination, as further specified in Section 30.4.6.2.13 of Attachment O to this Services Tariff.

23.4.5.7.7 (a) An In-City Installed Capacity Supplier that is not a Special Case Resource shall be exempt from an Offer Floor if it was an existing facility on or before March 7, 2008. (b) A Generator or UDR project that was an existing facility on or before June 29, 2012, which: (i) is in a Mitigated Capacity Zone except New York City, and (ii) was grandfathered from the deliverability requirement at a certain quantity of MW of CRIS pursuant to Section 25.9.3.1 of OATT Attachment S ("Deliverability Grandfathering Process") shall be exempt from an Offer Floor for the MW quantity of CRIS that was provided through the

Deliverability Grandfathering Process plus an additional 2 MW obtained through Section 30.3.2.6 of Attachment X to the OATT. If the Generator or UDR project subsequently received CRIS above the quantity established through the Deliverability Grandfathering Process, this exemption shall not apply to any such increase above the 2 MW allowed in Section 30.3.2.6 of Attachment X to the OATT.

23.4.5.7.8 For any Mitigated Capacity Zone except New York City:

(I) Any existing or proposed Generator or UDR project that has the characteristics specified in this Section 23.4.5.7.8(I) shall be exempt from an Offer Floor with respect to the MW of CRIS that it received at the time, or for which it satisfied the specific CRIS transfer requirements stated in this Section. To be eligible for an exemption under this Section: (a) the existing or proposed Generator or UDR project's location must be included in the ISO's March 31 Filing in the ICAP Demand Curve Reset Filing Year in which a Mitigated Capacity Zone is first applied to such location; (b) prior to that March 31 Filing the existing or proposed Generator or UDR project must have both: (i) Commenced Construction and (ii) either (1) received the MW of CRIS in a Class Year that was completed or (2) submitted to the ISO an Interconnection Request that specifically states that the Generator or UDR project will be requesting or has requested a transfer of a specific MW quantity of CRIS at the same location in accordance with Section 25.9.4 of OATT Attachment S (provided that the transfer is ultimately approved by the ISO and consummated); and (c) the existing or proposed Generator or UDR project must demonstrate to the ISO no later than the

deadline established by the ISO that it satisfies the requirements of (b) (i) and (ii) above; and

(II) An existing or proposed Generator or UDR project that is not subject to a deliverability requirement (and therefore, is not in a Class Year and does not receive CRIS MW) shall be exempt from an Offer Floor if it meets the following requirements prior to the ISO's March 31 Filing in an ICAP Demand Curve Reset Filing Year in which a Mitigated Capacity Zone is first applied to such location:

(a) has Commenced Construction, (b) has an effective interconnection agreement, and (c) provides specific written notification to the ISO that it meets requirements (a) and (b) of this subsection 23.4.5.7.8(II) no later than the deadline established by the ISO.

The ISO shall consult with the Market Monitoring Unit prior to determining whether an existing or proposed Generator or UDR project has Commenced Construction. Prior to the ISO making its determination, the Market Monitoring Unit shall provide the ISO a written opinion and recommendation regarding whether an existing or proposed Generator or UDR project Commenced Construction. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Mitigation Measures are also addressed in Section 30.4.6.2.13 of Attachment O. The ISO shall only make a determination pursuant to this Section for an existing or proposed Generator or UDR project for the Mitigated Capacity Zone's first application to the location of the project. The Market Monitoring Unit shall also provide a public report on its assessment of an

ISO determination that an existing or proposed Generator or UDR project is exempt from an Offer Floor pursuant to this Section 23.4.5.7.8.

### **23.4.5.7.9 Competitive Entry Exemption**

#### **23.4.5.7.9.1 Eligibility**

23.4.5.7.9.1.1 A proposed new Generator or UDR project that becomes a member of a Class Year after Class Year 2012 may request to be evaluated for a “Competitive Entry Exemption” for its CRIS MW and shall qualify for such exemption if the ISO determines that the proposed Generator or UDR project meets each of the following requirements: (a) does not have, and at no time before the Generator first produces or the UDR project first transmits energy (for purposes of this Section 23.4.5.7.9, the “Entry Date”) shall have, (i) a direct or indirect “non-qualifying contractual relationship,” as defined in Section 23.4.5.7.9.1.2, with a Transmission Owner, Public Power Entity, or any other entity with a Transmission District in the NYCA, or an agency or instrumentality of New York State or a political subdivision thereof, (collectively “Non-Qualifying Entry Sponsors”); or (ii) an unexecuted agreement, written or unwritten, with a Non-Qualifying Entry Sponsor that would support the development of the project, except those agreements that would not constitute a “non-qualifying contractual relationship,” as set forth in Section 23.4.5.7.9.1.3(i) – (viii), (b) is not itself, and is not an Affiliate of, a Non-Qualifying Entry Sponsor.

23.4.5.7.9.1.2 For purposes of Section 23.4.5.7.9, a direct “non-qualifying contractual relationship” shall include but not be limited to any contract, agreement, arrangement, or relationship (for the purposes of this Section 23.4.5.7.9, a

“contract”) that: (a) directly relates to the planning, siting, interconnection, operation, or construction of the Generator or UDR project that is the subject of the request for the Competitive Entry Exemption; (b) is for the energy or capacity produced by or delivered from or by the Generator or UDR project, including an agreement for rights to schedule or use a UDR; or (c) provides services, financial support, or tangible goods to a Generator or UDR project. For purposes of Section 23.4.5.7.9, an indirect “non-qualifying contractual relationship” is any contract between the Generator or UDR project and an entity (for purposes of this Section 23.4.5.7.9, a “third party”) if the third party has a non-qualifying contractual relationship with a Non-Qualifying Entry Sponsor, the recital, purpose, or subject of which includes, or has the effect of including, this Generator or UDR project.

23.4.5.7.9.1.3 A contract with a Non-Qualifying Entry Sponsor shall not constitute a “non-qualifying contractual relationship” if it is (i) an Interconnection Agreement; (ii) an agreement for the construction or use of interconnection facilities or transmission or distribution facilities, or directly connected joint use transmission or distribution facilities (including contracts required for compliance with Articles VII or 10 of the New York State Public Service Law or orders issued pursuant to Articles VII or 10); (iii) a grant of permission by any department, agency, instrumentality, or political subdivision of New York State to bury, lay, erect or construct wires, cables or other conductors, with the necessary poles, pipes or other fixtures in, on, over or under public property; (iv) a contract for the sale or lease of real property to or from a Non-Qualifying Entry Sponsor at or above fair

market value as of the date of the agreement was executed, such value demonstrated by an independent appraisal at the time of execution prepared by an accountant or appraiser with specific experience in such valuations; (v) an easement or license to use real property; (vi) a contract, with any department, agency, instrumentality, or political subdivision of New York State providing for a payment-in-lieu of taxes (*i.e.*, a “PILOT” agreement) or industrial or commercial siting incentives, such as tax abatements or financing incentives, provided the PILOT agreement or incentives are generally available to industrial or commercial entities; (vii) a service agreement for natural gas entered into under a tariff accepted by a regulatory body with jurisdiction over that service; or (viii) a service agreement entered into under a tariff accepted by a regulatory body with jurisdiction over that service at a regulated rate for electric Station Power, or steam service, excluding an agreement for a rate that is a negotiated rate pursuant to any such regulated electric, or steam tariff. Notwithstanding the foregoing, a contract with a Non-Qualifying Entry Sponsor that includes a provision that is a non-qualifying contractual relationship will render the entire contract described in (i) through (viii) of this Section a non-qualifying contractual relationship.

23.4.5.7.9.1.4 The ISO shall determine whether a Generator or UDR project is eligible for a Competitive Entry Exemption based on its review of the certifications required by Section 23.4.5.7.9.2, below, and any other supporting data requested by the ISO. When evaluating eligibility for a Competitive Entry Exemption, the ISO shall consult with the 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 30.4.6.2.13 of Attachment O to this Services Tariff.

### **23.4.5.7.9.2 Certifications and Acknowledgements**

23.4.5.7.9.2.1 A Generator or UDR project requesting a Competitive Entry Exemption shall submit to the ISO in accordance with ISO Procedures, and shall be legally bound by, the following Certification and Acknowledgement form executed by a duly authorized officer:

#### **CERTIFICATION AND ACKNOWLEDGMENT**

I [NAME & TITLE] hereby certify on behalf of myself, [NAME OF PROJECT], and [NAME OF DEVELOPER] that each of the following statements is true and correct:

1. I am an officer whose responsibilities include the development of the [EXAMINED FACILITY], New York Independent System Operator, Inc.'s ("NYISO") Interconnection queue position Number [INSERT NUMBER] (the "Project").
2. I am duly authorized to make representations concerning the Project, including each of the certifications and acknowledgements that I have made in this document.
3. I hereby [REQUEST ON BEHALF OF/ACKNOWLEDGE THE PRIOR SUBMISSION IN THIS CLASS YEAR BY] the Developer a Competitive Entry Exemption for the Project.
4. I have reviewed and I understand the requirements established under the NYISO Market Administration and Control Area Services Tariff ("Services Tariff") related to a "Competitive Entry Exemption" pursuant to Section 23.4.5.7.9.
5. I have personal knowledge of the facts and circumstances supporting the Project's request and eligibility for a Competitive Entry Exemption as of the date of this Certification and Acknowledgment, including all data and other information submitted by the Project to the NYISO.
6. To the best of my knowledge and having conducted due diligence that is current as of the date of this Certification there [ARE/ARE NOT ANY] direct or indirect contractual relationships for the Project with a "Non-Qualifying Entry Sponsor," as those terms are defined in Section 23.4.5.7.9 of the Services Tariff. I have listed all contracts with Non-Qualifying Entry Sponsors on Schedule 1 to this Certification.

7. If the Answer to (6) is that there are one or more direct or indirect contractual relationships for the Project with a Non-Qualifying Entry Sponsor, then I certify that to the best of my knowledge and having conducted due diligence that they are “allowable contracts” as set forth in Section 23.4.5.7.9.1.3(i) – (viii) of the Services Tariff.
8. To the best of my knowledge and having conducted due diligence that is current as of the date of this Certification, (a) no unexecuted agreements, written or unwritten, with a Non-Qualifying Entry Sponsor exist that would support the development of the Project except those agreements that would not constitute a non-qualifying contractual relationship, as set forth in Section 23.4.5.7.9.1.3(i) – (viii) of the Services Tariff, and (b) all agreements that would not constitute a non-qualifying contractual relationship are on Schedule 1 to this certification.
9. To the best of my knowledge and having conducted due diligence, the Project is not a Non-Qualifying Entry Sponsor, and it is not an “Affiliate” (as Affiliate is defined in Section 2.1 of the Services Tariff) of, a Non-Qualifying Entry Sponsor.
10. The Project shall provide any information or cooperation requested by the NYISO in connection with the Project’s request for a Competitive Entry Exemption.
11. All parents or Affiliates of the Project shall provide any information or cooperation requested by the ISO.

I hereby acknowledge on behalf of myself, [INSERT NAME OF PROJECT], and [NAME OF DEVELOPER] that:

- a. The submission of false, misleading, or inaccurate information, or the failure to submit information requested by the NYISO related to the Project’s request for a Competitive Entry Exemption, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, shall constitute a violation of Section 4.1.7 of the Services Tariff, and subject to the Commission’s review, a violation of the Commission’s regulations and Section 316A of the Federal Power Act.
- b. If the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, it shall cease to be eligible for a Competitive Entry Exemption and, if the Project has already received a Competitive Entry Exemption, that exemption shall be subject to revocation by the NYISO or the Commission after which the Project shall be subject to an Offer Floor set at the Mitigation Net CONE Offer Floor (such value calculated based on the date it first Offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff,) starting with the date of the revocation pursuant to Section 23.4.5.7.9.5.3 of the Services Tariff.

- c. If the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in the Certification and Acknowledgement on behalf of the Project, it may be subject to civil penalties that may be imposed by the Commission for violations of Section 4.1.7 of Services Tariff, the Commission's rules, and/or Section 316A of the Federal Power Act.

\_\_\_\_\_  
[PRINT NAME]  
[DATE]

Subscribed and sworn to before me  
this [ ] day of [MONTH] [YEAR].

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

**PROJECT NAME] SCHEDULE 1 CERTIFICATION AND ACKNOWLEDGEMENT  
[DATE]**

**Parties to agreement   Date Executed   Effective Date   Date Performance Commences**

23.4.5.7.9.2.2 A duly authorized officer of the Generator or UDR project shall also submit a certification acknowledging that parents or Affiliates shall provide any information or cooperation requested by the ISO.

23.4.5.7.9.2.3 The certifying officers must have knowledge of the facts and circumstances supporting the request and qualification for a Generator's or UDR project's Competitive Entry Exemption.

23.4.5.7.9.2.4 Such certifications shall be submitted concurrent with the request for a Competitive Entry Exemption and each time the ISO requests a resubmittal of a certification, until the Generator's or UDR project's Entry Date.

23.4.5.7.9.2.5 The Generator or UDR project must notify the ISO if information in a certification ceases to be true, promptly upon such occurrence or learning information previously provided was not true.

23.4.5.7.9.2.6 Failure to provide, without prior notification, information or cooperation consistent with any certification shall be considered a false, misleading, or inaccurate submission for purposes of Section 23.4.5.7.9.5.

23.4.5.7.9.2.7 Where a notification is provided to the ISO, within 2 business days of receipt of a request from the ISO for information or cooperation, that the information or cooperation requested will not be provided, such refusal will not be considered a false, misleading, or inaccurate submission for purposes of Section 23.4.5.7.9.5 as long as the information is provided by the earlier of a mutually agreed upon deadline or thirty (30) calendar days. A refusal to provide information or any other failure to provide information by that deadline will make the Generator or UDR project requesting a Competitive Entry Exemption ineligible for such exemption, and such Generator or UDR project shall be subject to the Mitigation Net CONE Offer Floor (such value based on the date it first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff.)

### **23.4.5.7.9.3 Timing for Requests, Required Submittals, and Withdrawals**

23.4.5.7.9.3.1 The executed Certification and Acknowledgement form required by Section 23.4.5.7.9.2 shall be submitted concurrent with a request for a Competitive Entry Exemption. The ISO may request additional information and updated certifications at any time prior to a Generator's or UDR project's Entry Date. A Generator or UDR project that is granted an exemption pursuant to this Section 23.4.5.7.9, shall be required to submit an executed Certification and Acknowledgement form set forth in Section 23.4.5.7.9.2 of the Services Tariff, updated as appropriate, upon its Entry Date.

23.4.5.7.9.3.2 Requests for Competitive Entry Exemptions for Generators or UDR projects in Class Years subsequent to Class Year 2012 must be received by the ISO no later than the deadline by which a facility must notify the ISO of its election to enter the Class Year, such date as set forth in Section 25.5.9 OATT Attachment S. A Generator or UDR project that requests a Competitive Entry Exemption in a Class Year may not also request a Renewable Exemption or Self Supply Exemption. A Generator or UDR project that remains a member of the completed Class Year if such Class Year is Class Year 2012 or prior Class Year, shall not be eligible to request or receive a Competitive Entry Exemption. The ISO shall determine whether a Generator or UDR project is exempt, subject to any required further submissions of information, or not exempt under the Competitive Entry Exemption, prior to the Initial Decision Period within which a Developer must provide an Acceptance Notice or Non-Acceptance Notice to the ISO in response to the first Project Cost Allocation issued by the ISO to the Developer.

23.4.5.7.9.3.3 A Generator or UDR project that submits a request for a Competitive Entry Exemption, including the required Certification and Acknowledgement, responses to information requests, and resubmittal, but (a) enters into a “non-qualifying contractual relationship” or (b) enters into an unexecuted agreement, written or unwritten, with a Non-Qualifying Entry Sponsor that would support the development of the Project, except those agreements identified in 23.4.5.7. 9.1.3 that would not constitute a “non-qualifying contractual relationship, may withdraw such request, provided that it notifies the ISO that it has entered into such “non-qualifying contractual relationship” within 2 business days of doing so. A Generator or UDR project seeking to withdraw its request pursuant to this Section 23.4.5.7.9.3.3 shall be subject to the Mitigation Net CONE Offer Floor (such value calculated based on its the date it first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff,) but will not be subject to the provisions of Section 23.4.5.7.9.5.

#### **23.4.5.7.9.4 Notifications**

23.4.5.7.9.4.1 The ISO shall post on its website a list of each Generator or UDR project that requests a Competitive Entry Exemption that becomes a member of the Class Year, promptly after the deadline set forth in Section 30.8.1 of the OATT (Attachment X) (by which the ISO must receive the Developer’s executed Class Year Interconnection Facilities Study Agreement and deposit.) The ISO shall update the list as necessary. The ISO shall also post on its website whether a

request for a Competitive Entry Exemption was denied, or granted, as soon as its determination is final.

23.4.5.7.9.4.2 Concurrent with the ISO posting of its final determination, the Market Monitoring Unit shall publish a report on the ISO's determination in accordance with Section 30.4.6.2.13 of Attachment O to this Services Tariff.

#### **23.4.5.7.9.5 Revocation**

23.4.5.7.9.5.1 The submission of false, misleading, or inaccurate information, or the failure to submit requested information in connection with a request for a Competitive Entry Exemption shall constitute a violation of the Services Tariff. Such violation shall be reported, by the ISO, to the Market Monitoring Unit and to the Commission's Office of Enforcement (or any successor to its responsibilities).

23.4.5.7.9.5.2 Where the ISO reasonably believes that a request for a Competitive Entry Exemption was granted based on false, misleading, or inaccurate information, the ISO shall notify the Generator or UDR project that its Competitive Entry Exemption may be revoked, and provided 30 days written notice has been given to the Generator or UDR project (such notice to the extent practicable,) the ISO may revoke the Competitive Entry Exemption and apply the Mitigation Net CONE Offer Floor (such value calculated based on the date it first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff.) Prior to the revocation of a Competitive Entry Exemption and the submission of a report to the Commission's Office of Enforcement (or any successor to its responsibilities,) the ISO shall provide the Generator or UDR project an opportunity to explain any statement, information,

or action. The ISO cannot revoke the Competitive Entry Exemption until after the 30 days written notice period has expired, unless ordered to do so by the Commission.

23.4.5.7.10 The ISO shall post on its website the identity of the project in a Mitigated Capacity Zone and the determination of either exempt or non-exempt as soon as the determination is final. Concurrent with the ISO's posting, the Market Monitoring Unit shall publish a report on the ISO's determinations, as further specified in Section 30.4.6.2.13 of Attachment O to this Services Tariff.

23.4.5.7.11 Mitigated UCAP that is subject to an Offer Floor shall remain subject to the requirements of Section 23.4.5.4, and if the Offer Floor is higher than the applicable offer cap shall submit offers not lower than the applicable Offer Floor, except as set forth in 23.4.5.7.12.

23.4.5.7.12 An Interim Service Provider that has UCAP subject to an Offer Floor shall offer all ISP UCAP MW in each ICAP Spot Market Auction at \$0.00/kW-month. For an RMR Generator that has UCAP subject to an Offer Floor, the UCAP subject to the Offer Floor shall be offered at \$0.00/kW-month.

**23.4.5.7.12 Reserved for future use.**

**23.4.5.7.13 Renewable Exemption**

**23.4.5.7.13.1 Eligibility**

23.4.5.7.13.1.1 An Examined Facility or an NCZ Examined Project, may request to be evaluated for a Renewable Exemption in the amount of its CRIS MW requested in the Class Year or which it expects to receive through a transfer of CRIS at the same location. For purposes of this Section 23.4.5.7.13, an Examined Facility or

NCZ Examined Project for which the ISO receives such a request shall be referred to as a “Renewable Exemption Applicant.” A UDR project may not be a Renewable Exemption Applicant. For purposes of this Section 23.4.5.7.13, references to a Renewable Exemption Applicant’s CRIS MW shall be understood to encompass Additional CRIS MW in cases where the Renewable Exemption Applicant is an existing Generator seeking a Renewable Exemption for Additional CRIS MW. An Examined Facility or an NCZ Examined Project that is a member of a Class Year may not request a Renewable Exemption in the same Class Year that it requests a Competitive Entry Exemption, and an Examined Facility or an NCZ Examined Project that is the expected transferee of CRIS being considered with a Class Year (a Class Year that is not Bifurcated, or Class Year X-1 and Class Year X-2 together, meaning “the same Class Year”) may not request a Renewable Exemption in respect of the same Class Year that it requests a Competitive Entry Exemption. The ISO shall evaluate requests for a Renewable Exemption from (x) members of Class Year 2015 that are received on or before April 28, 2016, (y) members of a Class Year after Class Year 2015 provided that the CRIS rights are received no later than the deadline by which the facility must notify the ISO of its election to enter the Class Year, such date as set forth in Section 25.5.9 of OATT Attachment S, and (z) expected recipients of transferred CRIS rights at the same location from which the ISO has been notified, by the transferor or the transferee, of a transfer pursuant to OATT Attachment S Section 25.9.4 that will be effective on a date within the Mitigation Study Period for the Class Year, provided that they are received no later than the Class Year Start Date

for such Class Year. Examined Facilities and NCZ Examined Projects will not be evaluated for a Renewable Exemption if the ISO does not receive the request to be evaluated by the deadline established in accordance with the preceding sentence, or if the Examined Facility or NCZ Examined Project also submits a request for a Competitive Entry Exemption prohibited by this paragraph.

A Generator that remains a member of a completed Class Year, if such Class Year is Class Year 2012 or a prior Class Year, shall not be eligible for a Renewable Exemption, except for Additional CRIS MW. Up to the quantity of CRIS MW specified by the Renewable Exemption Applicant in its exemption request shall be exempt from an Offer Floor if it remains a member of the completed Class Year (or if the transferee does not notify the ISO, on or before the date the Class Year is completed, that it no longer expects to be the recipient of the transferred CRIS) and the ISO determines that it meets the requirements of Section (a) (a “Qualified Renewable Exemption Applicant”), subject to the limitation in Section (b) of this Section 23.4.5.7.13.1, and subject to Section 23.4.5.7.13.3.

(a) A Qualified Renewable Exemption Applicant:

- (i) must have, for its Interconnection Queue position, a proposed design that is a Generator to be powered solely by a device that can qualify as an Intermittent Power Resource, or must be a Limited Control Run-of-River Resource, as such terms are (A) defined on the date by which the ISO must receive the request for a Renewable Exemption in accordance with Section 23.4.5.7.13.1.1, or (B) in the ISO’s judgment, are reasonably expected to be defined at the time that the Renewable Exemption Applicant is first qualified as an Installed Capacity Supplier; and

- (ii) (A) be proposed in the Class Year to be powered solely by a technology that is an Exempt Renewable Technology; or  
(B) be determined by the ISO, in accordance with ISO Procedures, to have (1) high development costs, and (2) a low capacity factor such that there would be limited or no incentive and ability to develop the Renewable Exemption Applicant in order to artificially suppress capacity prices. The ISO shall make this determination by evaluating pertinent factors, including whether the reasonably projected costs of new entry and operation of the Renewable Exemption Applicant, net of the likely projected revenues from the sale of Capacity, Energy and Ancillary Services, and any other generally available revenues associated with the production of those products, are greater than the reasonably estimated cost savings to Loads due to a reduction in ICAP Market-Clearing Prices projected to result from the entry of the Renewable Exemption Applicant's requested CRIS MW (or CRIS MW to be transferred at the same location.)
- (b) A total amount not exceeding 1,000 MW of Installed Capacity may be determined to be exempt pursuant to the Renewable Exemption in the same Class Year. This amount includes any amount for which an NCZ Examined Project is determined to be a Qualified Renewable Exemption Applicant at the time the ISO issues an Indicative Buyer Side Mitigation Determination pursuant to Section 23.4.5.7.2.2, or a determination pursuant to Section 23.4.5.7.2.1. If the ISO determines that more than 1,000 MW of Installed Capacity Qualified Renewable Exemption Applicant would be eligible for a Renewable Exemption for the same Class Year (including transferred CRIS at the same location) but for the 1,000 MW limitation, then each Qualified Renewable Exemption Applicant other

than those that were also determined to be exempt pursuant to Sections 23.4.5.7.2(a) or (b) or Section 23.4.5.7.14, shall have only a portion of its evaluated CRIS MW exempted. Subject to the following rules. Such portion of the 1,000 MW shall be the MW equal to the allocated share of the proportion of the CRIS MW for which the Renewable Exemptions were requested to the total Installed Capacity MW of those MW determined to be Qualified Renewable Exemption Applicants for the Class Year that are not also determined to be exempt pursuant to Sections 23.4.5.7.2(a) or (b) or Section 23.4.5.7.14. In the case of a Bifurcated Class Year, at the time the Class Year X-1 decisional and settlement phase is completed, the ISO shall calculate the portion of CRIS MW of Qualified Renewable Exemption Applicants (unless it was also determined to be exempt pursuant to Sections 23.4.5.7.2(a) or (b) or Section 23.4.5.7.14) that remain a member of the completed Class Year X-1 without accounting for Renewable Exemption Applicants that elected to remain in the Class Year through the completion of Class Year X-2. That is: (i) if less than 1,000 MW of Installed Capacity associated with Qualified Renewable Exemption Applicants that complete the settlement and decision process as part of Class Year X-1, then all such eligible Installed Capacity shall be exempt; and (ii) if more than 1,000 MW of Installed Capacity associated with such Qualified Renewable Exemption Applicants is determined to be eligible for a Renewable Exemption (after excluding MW eligible for other exemptions,) then the portion of the 1,000 MW of the exemption (after excluding MW eligible for other exemptions) shall be the MW equal to the proportion of the CRIS MW for which the Renewable Exemptions were requested by the Examined Facility that remain a member of the Class Year X-1 at the time it is completed to the total Installed Capacity MW of those MW determined to be Qualified Renewable

Exemption Applicants that remain a member of the Class Year X-1 at the time of its completion. Qualified Renewable Exemption Applicants that complete the settlement and decision process as part of Class Year X-2 may only obtain Renewable Exemptions to the extent that fewer than 1,000 MW of Renewable Exemptions are received by Qualified Renewable Exemption Applicants that remain a member of Class Year X-1 at the time of its completion. To the extent that the amount of Installed Capacity otherwise is a Qualified Renewable Exemption Applicant that completes the settlement and decision process as part of Class Year X-2 exceeds the remaining portion of the 1,000 MW limitation (after the allocation to Examined Facilities that remain members of Class Year X-1 at the time of its completion,) then the rules for making proportional reductions to Renewable Exemptions that are described earlier in this subsection shall be applied to determine the allocation of MW of Renewable Exemptions to Qualified Renewable Exemption Applicants in Class Year X-2 that remain a member of the completed Class Year X-2.

#### **23.4.5.7.13.2 Periodic Review and Determination of Exempt Renewable Technologies**

23.4.5.7.13.2.1 In each ICAP Demand Curve Reset Filing Year after 2016, the ISO shall conduct a periodic review, in accordance with this Section and ISO Procedures, to determine the technology types that should be Exempt Renewable Technologies for Class Years with a Class Year Start Date during the Capability Years covered by the ICAP Demand Curve periodic review conducted for the relevant ICAP Demand Curve Reset Filing Year.

23.4.5.7.13.2.1(a) The ISO's periodic review will identify, by Mitigated Capacity Zone, the technologies that, at the time of the periodic review, are technically feasible in the ISO

Administered Markets (whether as a single unit, or a plant comprised of more than one unit) and that could qualify as either Intermittent Power Resources or Limited Control Run-of-River Hydro Resources (“candidate intermittent renewable technologies”).

23.4.5.7.13.2.1(b): For each candidate intermittent renewable technology, the ISO’s periodic review will reasonably project:

- (i) the costs of new entry and operation;
- (ii) the revenues from the sale of Capacity, Energy and Ancillary Services, and any other generally available revenues associated with the production of those products by it; and
- (iii) the cost savings to Loads due to a reduction in ICAP Market-Clearing Prices from the new entry of the candidate intermittent renewable technology.

23.4.5.7.13.2.2 The ISO will utilize pertinent factors including results of the computation in accordance with Section 23.4.5.7.13.2.1(b) to determine, for each Mitigated Capacity Zone, which candidate intermittent renewable technologies have (a) high development costs and (b) a low capacity factor, such that considering (a) and (b) there is limited or no incentive and ability to develop the candidate intermittent renewable technology in order to artificially suppress capacity prices.

**23.4.5.7.13.2.3 The ISO’s periodic review shall provide for:**

- (a) The ISO’s preliminary identification of candidate intermittent renewable technologies for stakeholder review and comment;
- (b) The ISO’s issuance of a draft list of recommended Exempt Renewable Technologies and the basis for the recommendation, for stakeholder and Market Monitoring Unit review and comment; (The responsibilities of the Market Monitoring Unit that are addressed in

this section of the Services Tariff are also addressed in Section 30.4.6.2.13 of Attachment O to this Services Tariff.)

23.4.5.7.13.2.4 On or before the 60th day subsequent to the Commission issuance of an order accepting ICAP Demand Curves based on the ICAP Demand Curve periodic review, the ISO shall file with the Commission the results of its Exempt Renewable Technology periodic review and determination pursuant to Section 23.4.5.7.13.2.2. If the ISO's determination of technology types that satisfy the provisions of Section 23.4.5.7.13.2.2 for any Mitigated Capacity Zone is different than the then-current definition of Exempt Renewable Technology, the ISO shall propose in the filing, for Commission review, a revised definition that is in accordance with its periodic determination, to be effective for Class Years with a Class Year Start Date during the Capability Years covered by the ICAP Demand Curve periodic review conducted for the relevant ICAP Demand Curve Reset Filing Year. The ISO's filing shall describe the basis for the ISO's determination.

### **23.4.5.7.13.3. Revocation**

23.4.5.7.13.3.1 A Renewable Exemption Applicant that received a Renewable Exemption for any amount of CRIS MW shall notify the ISO in writing within five (5) business days if (a) at the time it first qualifies as an Installed Capacity Supplier, or at any time thereafter, it is not solely powered by the same technology based on which it was evaluated for a Renewable Exemption, or (b) at the time it first qualifies as an Installed Capacity Supplier it is not solely powered by a technology that is defined as an Intermittent Power Resource or Limited Control Run-of-River Hydro Resource, even if the Renewable Exemption Applicant was determined to be eligible because, at the time it

was evaluated, the ISO expected the technology would become defined as an Intermittent Power Resource or Limited Control Run-of-River Hydro Resource. Upon notification, the ISO shall revoke the Renewable Exemption unless the Generator provides documentation with its notice in accordance with the prior sentence that demonstrates, to the ISO's satisfaction, that after the change it will be solely powered by an Exempt Renewable Technology as such term is defined on the date that the Generator first transmits energy using the different technology. Upon revocation, the ISO shall apply the Mitigation Net CONE Offer Floor (such value calculated by the ISO based on the date that the Generator (or Additional CRIS MW) first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff) to all offers of UCAP by the Generator or Additional CRIS MW subsequent to the deadline for Unforced Capacity certification prior to an ICAP Spot Market Auction (such date in accordance with ISO Procedures) next following revocation. Nothing in this paragraph shall relieve a Generator from or alter any obligation it may have under the ISO Tariffs or any other tariff, agreement, or regulation to obtain permissions, authorizations provide notifications, or take any other action in advance of changing the technology which powers it (in whole or in part.)

23.4.5.7.13.3.2           The failure to provide the ISO written notice in accordance with Section 23.4.5.7.13.3.1 shall constitute a violation of the Services Tariff. Such violation shall be reported by the ISO to the Market Monitoring Unit and to the Commission's Office of Enforcement (or any successor to its responsibilities.)

23.4.5.7.13.3.3           If a Generator has not provided notice in accordance with Section 23.4.5.7.13.3.1 and the ISO determines that the Generator is not solely powered by a

technology as described Section 23.4.5.7.13.3.1, the ISO shall notify the Generator that its Renewable Exemption may be revoked, and provided 30 days written notice has been given to the Generator (such notice to the extent practicable,) the ISO may revoke the Renewable Exemption. In the event of a revocation, the Mitigation Net CONE Offer Floor such value calculated by the ISO based on the date that the Generator or Additional CRIS MW) first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff) shall apply to all offers of UCAP subsequent to the deadline for Unforced Capacity certification prior to an ICAP Spot Market Auction (such date in accordance with ISO Procedures) next following revocation. Prior to the revocation of a Renewable Exemption, the ISO shall provide the Generator an opportunity to respond to the ISO's determination. The ISO cannot revoke the Renewable Exemption until after the 30 days written notice period has expired, unless ordered to do so by the Commission.

#### **23.4.5.7.13.4 Timing of Requests for a Renewable Exemption, Required Submittals, and Determinations**

23.4.5.7.13.4.1 Requests for a Renewable Exemption must be received by the ISO no later than the deadline specified in Section 23.4.5.7.13.1. If any Examined Facility or NCZ Examined Project submits both a request for a Renewable Exemption and a Competitive Entry Exemption (*i.e.*, seeking to be considered for both exemptions at the same time,) the ISO shall not consider the request for a Renewable Exemption. The ISO may request additional information and updated information at any time regarding eligibility and continued eligibility. The Renewable Exemption Applicant (if after entry, the Generator) shall timely provide the information.

23.4.5.7.13.4.2 The ISO shall determine whether a Renewable Exemption Applicant is or is not Qualified a Renewable Exemption Applicant, and whether it is eligible or is not eligible for an exemption pursuant to Section 23.4.5.7.2(a) and (b) or Section 23.4.5.7.14, prior to the Bifurcated Decision Period in the case of a Bifurcated Class Year. For a Class Year that is not Bifurcated the ISO shall make such qualification determination prior to the Initial Decision Period. For a Class Year that is not Bifurcated and for Class Year X-2 the ISO shall also determine prior to the Initial Decision Period, at each Subsequent Decision Period, and upon completion of the Class Year, whether more than 1,000 MW of Installed Capacity (or, as applicable, whether more than the quantity remaining after allocations to Examined Facilities that remain a member Class Year X-1 at the time of its completion) would be eligible for a Renewable Exemption (including MW of NCZ Examined Projects) in a Class Year but for the 1,000 MW limitation and will post that quantity on its web site. For a Class Year that is not Bifurcated and for Class Year X-2 if at the time of the ISO's issuance of the notice of the completion of the Class Year, more than 1,000 MW, then remaining in the Class Year or associated with a transfer of CRIS at the same location, are eligible for a Renewable Exemption, the ISO shall (i) first, exclude from the 1,000 MW cap the CRIS MW of any Examined Facility or NCZ Examined Project that was determined to be exempt pursuant to Sections 23.4.5.7.2 (a), or (b) or Section 23.4.5.7.14, and (ii) second, issue a final determination (if a member of the completed Class Year, ~~or~~ an Expected CRIS Transferee or a Category III Examined Facility) of the MW that will be exempt from an Offer Floor, equal to the proportion of the requested CRIS MW as determined in accordance with Section 23.4.5.7.13.1.1(b).

23.4.5.7.13.4.3 Determinations made pursuant to Section 23.4.5.7.13.4.2 shall be provided to the Renewable Exemption Applicants (other than NCZ Examined Projects) concurrent with the issuance of determinations in accordance with Section 23.4.5.7.3.3.2 through 23.4.5.7.3.3.5, and for an NCZ Examined Project at the time of the ISO's determination pursuant to Section 23.4.5.7.2.1.

23.4.5.7.13.4.4 Concurrent with the ISO's posting on its website of the BSM Forecast inputs, the ISO shall post both the total MW of Examined Facilities that were determined to be Qualified Renewable Exemption Applicants and the total MW of Examined Facilities for which Renewable Exemptions were requested. The ISO shall also post on its website its determination of whether each individual Renewable Exemption Applicant has been determined to be exempt for any quantity of MW, and if exempt, the quantity of MW exempt, or non-exempt, from an Offer Floor as soon as the determination is final. Concurrent with the ISO's posting, the Market Monitoring Unit shall publish a report on the ISO's determination, as further specified in Section 30.4.6.2.13 of Attachment O to this Services Tariff.

#### **23.4.5.7.14 Self Supply Exemption**

##### **23.4.5.7.14.1 Eligibility**

23.4.5.7.14.1.1 In order to be evaluated for a Self Supply Exemption, each of the following requirements must be satisfied, by the deadline, in the required form, and with the required information in accordance with ISO Procedures. If one or more of the requirements is not satisfied, the ISO shall not evaluate the request for a Self Supply Exemption.

(a) An Examined Facility or NCZ Examined Project, (for purposes of this Section 23.4.5.7.14 an “SSE Applicant”) may request to be evaluated for a Self Supply Exemption for a specified quantity of MW up to the amount of the CRIS MW requested in the Class Year or, of which it is the expected recipient of transferred CRIS rights at the same location or a Category III Examined Facility, in accordance with ISO Procedures. A UDR project may be a SSE Applicant. For purposes of this Section 23.4.5.7.14, references to a SSE Applicant’s CRIS MW shall be understood to encompass Additional CRIS MW in cases where the SSE Applicant is an existing Generator or UDR project seeking a Self Supply Exemption for Additional CRIS MW. The ISO will evaluate the request if the SSE Applicant is (i) a member of Class Year 2015 and its request is received on or before April 28, 2016, (ii) a member of a Class Year after Class Year 2015 and its request is received no later than the deadline by which a facility must notify the ISO of its election to enter the Class Year, such date as set forth in Section 25.5.9 OATT Attachment S, or (iii) an expected recipient of transferred CRIS rights at the same location and the ISO has been notified, by the transferor or the transferee, of a transfer pursuant to OATT Attachment S Section 25.9.4 that will be effective on a date within the Mitigation Study Period for the Class Year, provided that the request is received no later than the Class Year Start Date for such Class Year, or it is a Category III Examined Facility. An Examined Facility or an NCZ Examined Project that is a member of a Class Year may not request a Self Supply Exemption in the same Class Year that it requests a Competitive Entry Exemption, and an Examined Facility or an NCZ Examined Project that is the expected transferee of CRIS being considered with a Class Year may not

request a Self Supply Exemption in respect of the same Class Year that it requests a Competitive Entry Exemption.

A proposed new Generator or UDR project that remained a member of Class Year 2012 or a prior Class Year at the time of the completion of such Class Year, shall not be eligible to request or receive a Self Supply Exemption except in relation to a request for Additional CRIS MW.

- (b) If the SSE Applicant is not the wholly owned property of the Self Supply LSE(s), or the wholly owned property of an entity that is wholly owned by the Self Supply LSE(s) or that wholly owns the Self Supply LSE(s), it must have a Long Term Contract (in accordance with Subsection (1) of this Section 23.4.5.7.14.1.1(b)(1) with the Self Supply LSE(s) that shall obligate the SSE Applicant to provide the capacity forming the basis for its eligibility for a Self Supply Exemption. Such an SSE Applicant must make its Self Supply Exemption request jointly, in a single request, with the Self Supply LSE(s) with which it has a Long Term Contract. If the proposed SSE Applicant is the wholly owned property of the Self Supply LSE(s), or the wholly owned property of an entity that is wholly owned by the Self Supply LSE(s) or that wholly owns the Self Supply LSE(s), then the SSE Applicant must provide documentation at the time it requests the exemption that demonstrates to the reasonable satisfaction of the ISO that it has a statutory, regulatory, or organizational obligation to provide Energy and Capacity to meet the Self Supply LSE's (or Self Supply LSEs') ICAP Obligation(s).
- (1) Long Term Contract: For the purposes of a Self Supply Exemption, a "Long Term Contract" shall mean (i) a fully executed contract between the SSE Applicant that is a proposed new or existing Generator and a Self Supply LSE that is joining it in requesting

the exemption, pursuant to which the SSE Applicant is obligated to provide to the Self Supply LSE (or LSEs if more than one Self Supply LSE,) for a minimum of 10 years, Installed Capacity in an amount greater than or equal to the CRIS MW for which the Self Supply Exemption is requested; or (ii) a fully executed contract between a Self Supply Applicant that is a proposed new or existing UDR project and a Self Supply LSE (or LSEs if more than one Self Supply LSE,) that is joining it in requesting the exemption, pursuant to which the Self Supply LSE(s) will have all rights to the UDRs and the use of the facility, for a minimum of 10 years, in the amount greater than or equal to the CRIS MW for which the Self Supply Exemption is requested.

- (c) The Self Supply Applicant's request for a Self Supply Exemption must specify the total quantity of CRIS MW for which it is requesting a Self Supply Exemption, and such quantity shall not exceed the MW of CRIS requested by it in the Class Year, or the quantity of the transferred CRIS rights at the same location it expects to receive. If there is more than one Self Supply LSE associated with the request for a Self Supply Exemption received from an SSE Applicant then: (i) the request shall identify the quantity of MW associated with each Self Supply LSE, and (ii) the total quantity of MW associated with the Self Supply LSEs shall not exceed the total MW for which the SSE Applicant requests a Self Supply Exemption.
- (d) All Certification and Acknowledgement(s) required by Section 23.4.5.7.14.2 must be received at the same time as the request for a Self Supply Exemption, in accordance with ISO Procedures, along with other data and information requested by the ISO.

23.4.5.7.14.1.2           The lesser of (i) the quantity of CRIS MW for which the Self Supply Exemption was requested and (ii) the quantity determined in accordance with Section

23.4.5.7.14.3 shall be exempt from an Offer Floor if the SSE Applicant is a member of the Class Year at the time of its completion and the ISO determines that the request satisfies all of the following requirements:

- (a) The proposed Generator or UDR project terminus will be, or the existing Generator or UDR project terminus is, electrically located in the same Mitigated Capacity Zone in which the Self-Supply LSE has Projected ICAP Requirements (as such term is defined in Section 23.4.5.7.14.1.3),
- (b) The SSE Applicant and the Developer are not and will not be owned, in whole or in part, by an LSE or an Affiliate of an LSE unless such entity is a Self Supply LSE.
- (c) The SSE Applicant provides the completed Certification and Acknowledgement form set forth in Section 23.4.5.7.14.2.1 or 23.4.5.7.14.2.3, as applicable to it and its request for a Self Supply Exemption, and satisfies each requirement stated therein. If the SSE Applicant is not the wholly owned property of the Self Supply LSE(s), or the wholly owned property of an entity that is either wholly owned by the Self Supply LSE(s), or that wholly owns the Self Supply LSE(s), then both the SSE Applicant and the Self Supply LSE(s) provide the applicable completed Certification and Acknowledgement form set forth in Section 23.4.5.7.14.2 and satisfy each requirement stated therein. The ISO must receive the required completed Certification and Acknowledgement forms, in accordance with ISO Procedures, (i) if the SSE Applicant is a member of Class Year 2015 and its request is received on or before April 28, 2016, (ii) no later than the deadline by which the SSE Applicant must notify the ISO of its election to enter the Class Year, such date as set forth in Section 25.5.9 of OATT Attachment S, or (iii) if the Self Supply LSE is an expected recipient of transferred CRIS rights at the same location that will be

effective on a date within the Mitigation Study Period for the Class Year, no later than the Class Year Start Date of such Class Year. All other information requested by the ISO must also be timely received.

- (d) The ISO determines that the Self Supply LSE satisfies both the Net Short Threshold set forth in Section 23.4.5.7.14.3.1 and the Net Long Threshold set forth in Section 23.4.5.7.14.3.2 for a specified quantity of CRIS MW.
- (e) The SSE Applicant certifies that it does not have any contract, agreement, arrangement, or relationship (for purposes of this Section 23.4.5.7.14.1.2(e), and the Certification and Acknowledgment in Section 23.4.5.7.14.2, a “contract”) for any material (in whole or in aggregate) payments, concessions, rebates, or subsidies, connected to or contingent on the SSE Applicant’s: (i) construction or operation, except as expressly permitted in Subsection (A) or (B) of this Section, or (ii) clearing in the ISO’s Installed Capacity market except as expressly permitted in Subsection (B).

(A) An SSE Applicant will not be ineligible for a Self Supply Exemption if it has an executed contract, is associated with a contract, or there is a contract associated with it, that is listed in (I) through (VIII) of this Section that provides for a material payment, concession, rebate or subsidy, and either (i) is not irregular or anomalous, and only reflects arms-length transactions, or (ii) is consistent with the overall objectives of the Self Supply Exemption.

**Listed contracts:**

- (I) an Interconnection Agreement;
- (II) an agreement for the construction or use of interconnection facilities or transmission or distribution facilities, or directly connected joint use transmission or distribution facilities

- (including contracts required for compliance with Articles VII or 10 of the New York State Public Service Law or orders issued pursuant to Articles VII or 10);
- (III) a grant of permission by any department, agency, instrumentality, or political subdivision of New York State to bury, lay, erect or construct wires, cables or other conductors, with the necessary poles, pipes or other fixtures in, on, over or under public property;
  - (IV) a contract for the sale or lease of real property at or above fair market value as of the date of the agreement was executed, such value demonstrated by an independent appraisal at the time of execution prepared by an accountant or appraiser with specific experience in such valuations;
  - (V) an easement or license to use real property;
  - (VI) a contract, with any department, agency, instrumentality, or political subdivision of New York State providing for a payment-in-lieu of taxes (*i.e.*, a “PILOT” agreement) or industrial or commercial siting incentives, such as tax abatements or financing incentives, provided the PILOT agreement or incentives are generally available to industrial or commercial entities;
  - (VII) a service agreement for natural gas entered into under a tariff accepted by a regulatory body with jurisdiction over that service; or
  - (VIII) a service agreement entered into under a tariff accepted by a regulatory body with jurisdiction over that service at a regulated rate for electric Station Power, or steam service, excluding an agreement for a rate that is a negotiated rate pursuant to any such regulated electric, or steam tariff.
- (B) An SSE Applicant that requests a Self Supply Exemption with only one Self Supply LSE will not be ineligible for a Self Supply Exemption if the contract(s)

that otherwise would render it ineligible under any clause of Section 23.4.5.7.14.2 is (or are) with its Self Supply LSE.

(C) Contract Review Opportunity

(i) (1) A proposed new Generator or UDR project or an existing Generator or UDR project for Additional CRIS that is reasonably expected to be eligible to enter the immediately following Class Year or be the recipient of transferred CRIS rights at the same location on a date within the Mitigation Study Period of such Class Year, and that in connection with its own Load or for the Load of one or more Self Supply LSE(s) is planning on requesting a Self Supply Exemption; (2) an SSE Applicant that is in a Class Year that is not completed (in accordance with Section 25.5.9 of the OATT; or (3) an SSE Applicant that received a Self Supply Exemption, may request that the ISO inform it whether, in the ISO's view, any specific executed contract, unexecuted but substantially developed contract, or any pending request that if approved, granted, or otherwise conferred, would constitute a contract pursuant to Subsection 23.4.5.7.14.1.2 (e)(i) and (e)(ii) would make it ineligible to obtain or (if previously granted) retain a Self Supply Exemption. Any such request must satisfy all of the following requirements:

(a) The SSE Applicant (unless it is for its own Load) must make any such request jointly with any Self Supply LSE(s) with which it has executed or has an unexecuted but substantially developed Long Term Contract. Any such Self Supply LSE(s) must make any such request jointly with the SSE Applicant, or proposed new or existing Generator or UDR project, with which it would seek, or has sought, a Self Supply Exemption.

- (b) As part of the submission of the request for a determination pursuant to Subsection (a) of this Section, the SSE Applicant, or proposed new or existing Generator or UDR project, and any relevant Self Supply LSE(s) as applicable, must provide the ISO with all information regarding the contract or pending request regarding which it is requesting the ISO's view, and if the request is made jointly with a Self Supply LSE, the executed or unexecuted and substantially developed Long Term Contract that would form the basis of a Self Supply Exemption Request, including copies of original documentation. In addition and at the time of the submission of the request, the SSE Applicant, or proposed new or existing Generator or UDR project, and any relevant Self Supply LSE shall also provide any other information identified by the ISO in accordance with ISO Procedures. They also must timely provide any further information that is requested by the ISO.
- (c) Such requests can only be submitted to the ISO on or after the date established by the ISO in accordance with ISO Procedures, such date to be at least 60 days prior to the date that the ISO anticipates will be the deadline by which facilities must notify the ISO of their election to enter a Class Year (such Class Year deadline pursuant to Section 25.5.9 of OATT Attachment S.)
- (ii) Provided that the ISO has timely received all of the information it needs to make a determination, the ISO shall state its view in response to such requests within 60 days.
- (iii) When evaluating any such request, the ISO shall consult with the 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 30.4.6.2.13 of Attachment O to this Services Tariff.)

#### **23.4.5.7.14.2 Certifications and Acknowledgements**

23.4.5.7.14.2.1 An SSE Applicant that is not the wholly owned property of the Self Supply LSE(s), or the wholly owned property of an entity that is either wholly owned by the Self Supply LSE(s), or that wholly owns the Self Supply LSE(s), and that is requesting a Self Supply Exemption shall submit the following completed Certification and Acknowledgment form. The submission must be received by the ISO by the deadline pursuant to Section 23.4.5.7.14.1.2(c), and thereafter upon the request of the ISO, in accordance with ISO Procedures. The Self Supply Applicant shall be legally bound by the Certification and Acknowledgment form which must be executed by a duly authorized officer:

#### **CERTIFICATION AND ACKNOWLEDGMENT**

I [NAME & TITLE] hereby certify on behalf of myself, [NAME OF PROJECT], and [NAME OF DEVELOPER] that each of the following statements is true and correct:

1. I am an officer whose responsibilities include the development of the [EXAMINED FACILITY OR NCZ EXAMINED PROJECT, New York Independent System Operator, Inc.'s ("NYISO") Interconnection queue position Number [INSERT NUMBER] (the "Project").
2. I am duly authorized to make representations concerning the Project, including each of the certifications and acknowledgements that I have made in this document.
3. I hereby [REQUEST ON BEHALF OF] the Developer, a Self Supply Exemption for [MW REQUESTED FOR THE SELF SUPPLY EXEMPTION] for the Project in connection with [LOAD SERVING ENTITY THAT IS THE SELF SUPPLY LSE].
4. I have reviewed and I understand the requirements established under the NYISO Market Administration and Control Area Services Tariff ("Services Tariff") related to a "Self Supply Exemption" pursuant to Section 23.4.5.7.14.

5. I have personal knowledge of the facts and circumstances supporting the Project's request and eligibility for a Self Supply Exemption as of the date of this Certification and Acknowledgment, including all data and other information submitted by the Project to the NYISO.
6. NAME OF DEVELOPER] is not owned in whole or in part by, and is not an Affiliate (as Affiliate is defined in Section 2.1 of the Services Tariff) of, a Load Serving Entity [OTHER THAN THE LOAD SERVING ENTITY THAT IS THE SELF SUPPLY LSE].
7. [NAME OF PROJECT] has a Long Term Contract (as such term is defined in Services Tariff Section 23.4.5.7.14.1.1 (b)(1)) with the Self Supply LSE[s], that is [are] the subject of the request for a Self Supply Exemption.
8. To the best of my knowledge and having conducted due diligence that is current as of the date of this Certification there is no contract, arrangement, arrangement, or relationship (for purposes of Section 23.4.5.7.14. 2(e) of the Services Tariff, and this Certification and Acknowledgment, a "contract") for any material (in whole or in aggregate) payments, concessions, rebates or subsidies connected to or contingent on the [PROJECT'S]: (i) construction or operation, except as expressly permitted in Subsection (A) or (B) of Section 23.4.5.7.14.1. 2(e) of the Services Tariff, or (ii) clearing in the NYISO's Installed Capacity market except as expressly permitted in Subsection (B) of Section 23.4.5.7.14. 1.2(e).
9. I have listed in Schedule 1 to this Certification all contracts that involve payments, concessions, rebates, or subsidies connected to or contingent upon the [PROJECT'S] construction or operation that are not material or that are otherwise expressly permissible under Subsection (A) or (B) of Section 23.4.5.7.14.1.2(e).
10. The Project shall provide any information or cooperation requested by the NYISO in connection with the Project's request for a Self Supply Exemption.

I hereby acknowledge on behalf of myself, [INSERT NAME OF PROJECT], and [NAME OF DEVELOPER] that:

- a. The submission of false, misleading, or inaccurate information, or the failure to submit information requested by the NYISO related to the Project's request for a Self Supply Exemption, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, shall constitute a violation of Section 4.1.7 of the Services Tariff, and subject to the Commission's review, a violation of the Commission's regulations and Section 316A of the Federal Power Act.
- b. If the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, it shall cease to be eligible for a Self Supply Exemption and, if the Project has already received a Self Supply Exemption, that exemption shall be subject to revocation by the NYISO or the Commission after which the Project shall be subject to an Offer Floor set at the Mitigation Net CONE Offer Floor (such value calculated based on the date it first Offers

UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff,) starting with the next following deadline for Unforced Capacity certification prior to an ICAP Spot Market Auction subsequent to the date of revocation (such date in accordance with ISO Procedures) pursuant to Section 23.4.5.7.9.5 of the Services Tariff.

- c. If the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in the Certification and Acknowledgement on behalf of the Project, it may be subject to civil penalties that may be imposed by the Commission for violations of Section 4.1.7 of Services Tariff, the Commission's rules, and/or Section 316A of the Federal Power Act.

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[PRINT NAME]  
[DATE]

Subscribed and sworn to before me  
this [ ] day of [MONTH] [YEAR].

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Notary Public

My commission expires:\_\_\_\_\_

23.4.5.7.14.2.2      A Self Supply LSE that has a Long Term Contract (as such term is defined in Section 23.4.5.14.1(b)(1)) with an SSE Applicant shall submit to the ISO the following completed Certification and Acknowledgement Form as part of the SSE Applicant's request for a Self Supply Exemption and thereafter upon the request of the ISO, in accordance with ISO Procedures. The Self Supply LSE shall be legally bound by the completed Certification and Acknowledgement form which must be executed by a duly authorized officer:

## **CERTIFICATION AND ACKNOWLEDGMENT**

I [NAME & TITLE] hereby certify on behalf of myself and [NAME OF SELF SUPPLY LSE] (the “LSE”) that each of the following statements is true and correct:

1. I am an officer whose responsibilities include overseeing the capacity supply portfolio and obligations, and addressing Load requirements of the [LSE], and LSE’s Long Term Contract (as such term is defined in Services Tariff Section 23.4.5.7.14.1.1 (b)(1)) with [EXAMINED FACILITY or NCZ EXAMINED PROJECT], New York Independent System Operator, Inc.’s (“NYISO”) Interconnection queue position Number [INSERT NUMBER] (the “Project”).
2. I am duly authorized to make representations concerning the capacity supply portfolio, and obligations, Load requirements of [the LSE], and LSE’s Long Term Contract with the Project (the “Subject Long Term Contract”), including each of the certifications and acknowledgements that I have made in this document.
3. I hereby [REQUEST ON BEHALF OF] the LSE, a Self Supply Exemption for [MW REQUESTED FOR THE SELF SUPPLY EXEMPTION] for the Project associated with the Subject Long Term Contract.
4. I have reviewed and I understand the requirements established under the NYISO Market Administration and Control Area Services Tariff (“Services Tariff”) related to a “Self Supply Exemption” pursuant to Section 23.4.5.7.14.
5. I have personal knowledge of the facts and circumstances supporting the Subject Long Term Contract and LSE’s Load Obligations and supply obligations related to the Project’s request and eligibility for a Self Supply Exemption as of the date of this Certification and Acknowledgment, including all data and other information submitted by LSE to the NYISO.
6. The LSE is a Self Supply LSE [INSERT SUBSECTION OF DEFINITION BY WHICH THE LSE MEETS THE REQUIREMENTS OF THAT TERM] of that term.
7. [NAME OF DEVELOPER] [is // is not] owned in part by, and [is // is not] an Affiliate (as Affiliate is defined in Section 2.1 of the Services Tariff) of, LSE. Appendix A to this Certification and Acknowledgment fully and completely sets forth and describes the organizational relationship between or among LSE, Developer and the Project, or any Affiliate of the foregoing entities in relation to the project; and any ownership or investment interest of LSE, Developer, and the Project, in either of the other entities, or any of the Affiliates thereof in relation to the Project.
8. [NAME OF PROJECT] and LSE are parties to the Subject Long Term Contract.
9. To the best of my knowledge and having conducted due diligence that is current as of the date of this Certification there are no arrangements for any payments or subsidies, that are directly or indirectly tied to the Unforced Capacity from the Project clearing in the NYISO’s Installed Capacity market other than those between the [NAME OF

DEVELOPER],[PROJECT] and [SELF SUPPLY LSE] that is provided to the ISO with this Certification and Acknowledgement [and other than agreements between [NAME OF DEVELOPER], [PROJECT] and [NAME OF OTHER SELF SUPPLY LSE(S) ASSOCIATED WITH THE SELF SUPPLY APPLICANT'S REQUEST FOR A SELF SUPPLY EXEMPTION].

10. I have listed in Schedule 1 to this Certification all contracts that involve payments, concessions, rebates, or subsidies connected to or contingent upon the [PROJECT'S] construction or operation that are not material or that are otherwise expressly permissible under Subsection (A) or (B) of Section 23.4.5.7.14.1.2(e).
11. LSE shall provide any information or cooperation requested by the NYISO in connection with the LSE and the Project's request for a Self Supply Exemption.

I hereby acknowledge on behalf of myself and LSE that:

- a. The submission of false, misleading, or inaccurate information, or the failure to submit information requested by the NYISO related to the LSE's and the Project's request for a Self Supply Exemption, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, shall constitute a violation of Section 4.1.7 of the Services Tariff, and subject to the Commission's review, a violation of the Commission's regulations and Section 316A of the Federal Power Act.
- b. If the LSE or the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the LSE, the Project shall cease to be eligible for a Self Supply Exemption in respect of Subject Long Term Contract and, if the Project has already received a Self Supply Exemption, that exemption shall be subject to revocation by the NYISO or the Commission after which the Project shall be subject to an Offer Floor set at the Mitigation Net CONE Offer Floor (such value calculated based on the date it first Offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff,) starting with the next following deadline for Unforced Capacity certification prior to an ICAP Spot Market Auction subsequent to the date of revocation (such date in accordance with ISO Procedures) pursuant to Section 23.4.5.7.9.5 of the Services Tariff.
- c. If the LSE submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in the Certification and Acknowledgement on behalf of the Project, it may be subject to civil penalties that may be imposed by the Commission for violations of Section 4.1.7 of Services Tariff, the Commission's rules, and/or Section 316A of the Federal Power Act.

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[PRINT NAME]

[DATE]

Subscribed and sworn to before me  
this [ ] day of [MONTH] [YEAR].

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Notary Public

My commission expires:\_\_\_\_\_

23.4.5.7.14.2.3 An SSE Applicant that is the wholly owned property of the Self Supply LSE, or the wholly owned property of an entity that is either wholly owned by the Self Supply LSE, or that wholly owns the Self Supply LSE, and that is requesting a Self Supply Exemption shall submit the following completed Certification and Acknowledgment Form. The submission must be received by the ISO by the deadline pursuant to Section 23.4.5.7.14.1.2(c), and thereafter upon the request of the ISO, in accordance with ISO Procedures. The Self Supply Applicant shall be legally bound by the following Certification and Acknowledgement form which must be executed by a duly authorized officer:

### **CERTIFICATION AND ACKNOWLEDGMENT**

I [NAME & TITLE] hereby certify on behalf of myself, [NAME OF PROJECT], and [NAME OF DEVELOPER/LSE] that each of the following statements is true and correct:

1. I am an officer whose responsibilities include; (i) the development of the [EXAMINED FACILITY or NCZ EXAMINED PROJECT], New York Independent System Operator, Inc.'s ("NYISO") Interconnection queue position Number [INSERT NUMBER] (the "Project"); and (ii) overseeing the capacity supply portfolio and obligations, and

addressing Load Obligations of the Self Supply LSE and its obligations to serve retail customers.

2. I am duly authorized to make representations concerning the Project and the capacity supply portfolio, and obligations, Load requirements of [the DEVELOPER/LSE], including, if applicable the Long Term Contract between the Project and any entity performing the Self Supply LSE function (the “Subject Long Term Contract”), and also including each of the certifications and acknowledgements that I have made in this document.
3. I hereby [REQUEST ON BEHALF OF] the [DEVELOPER/LSE], a Self Supply Exemption for [MW REQUESTED FOR THE SELF SUPPLY EXEMPTION] for the Project associated with [DEVELOPER/LSE’S] self supply arrangements, including, if applicable, any Subject Long Term Contract.
4. I have reviewed and I understand the requirements established under the NYISO Market Administration and Control Area Services Tariff (“Services Tariff”) related to a “Self Supply Exemption” pursuant to Section 23.4.5.7.14.
5. I have personal knowledge of the facts and circumstances supporting: (i) the Project’s request and eligibility for a Self Supply Exemption; and (ii) the Load Obligations and supply obligations related to the Project’s request and eligibility for a Self Supply Exemption, as of the date of this Certification and Acknowledgment, including all data and other information submitted by the Project and by [DEVELOPER/LSE] to the NYISO.
6. The LSE is a Self Supply LSE pursuant to Section [INSERT SUBSECTION OF DEFINITION BY WHICH THE LSE MEETS THE REQUIREMENTS OF THAT TERM] of that term.
7. [NAME OF DEVELOPER/LSE] is not owned in whole or in part by, and is not an Affiliate (as Affiliate is defined in Section 2.1 of the Services Tariff) of, any other Load Serving Entity. Appendix A to this Certification and Acknowledgment fully and completely sets forth and describes the organizational relationship between [DEVELOPER/LSE’s] Self Supply LSE and Developer functions or affiliates and the Project.
8. To the best of my knowledge and having conducted due diligence that is current as of the date of this Certification there is not any contract, agreement, arrangement, or relationship (for purposes of Section 23.4.5.7.14.1. 2(e), and this Certification and Acknowledgment, a “contract”) for any material (in whole or in aggregate) payments, concessions, rebates, or subsidies, connected to or contingent on the [PROJECT’S]: (i) construction or operation, except as expressly permitted in Subsection (A) or (B) of Section 23.4.5.7.14.1.2(e) of the Services Tariff, or (ii) clearing in the NYISO’s ICAP market except as expressly permitted in Subsection (B) of Section 23.4.5.7.14.1.2(e).
9. I have listed in Schedule 1 to this Certification all contracts that involve payments, concessions, rebates, or subsidies connected to or contingent upon the [PROJECT’S]

construction or operation that are not material or that are otherwise expressly permissible under Subsection (A) or (B) of Section 23.4.5.7.14.1.2(e).

10. The Project and [DEVELOPER/LSE] shall provide any information or cooperation requested by the NYISO in connection with the Project's request for a Self Supply Exemption.

I hereby acknowledge on behalf of myself, [INSERT NAME OF PROJECT], and [NAME OF DEVELOPER/LSE] that:

- a. The submission of false, misleading, or inaccurate information, or the failure to submit information requested by the NYISO related to the Project's and [DEVELOPER/LSE's] request for a Self Supply Exemption, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, shall constitute a violation of Section 4.1.7 of the Services Tariff, and subject to the Commission's review, a violation of the Commission's regulations and Section 316A of the Federal Power Act.
- b. If the DEVELOPER/LSE or the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in this Certification and Acknowledgement on behalf of the Project, it shall cease to be eligible for a Self Supply Exemption and, if the Project has already received a Self Supply Exemption, that exemption shall be subject to revocation by the NYISO or the Commission after which the Project shall be subject to an Offer Floor set at the Mitigation Net CONE Offer Floor (such value calculated based on the date it first Offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of the Services Tariff,) starting with the next following deadline for Unforced Capacity certification prior to an ICAP Spot Market Auction subsequent to the date of revocation (such date in accordance with ISO Procedures) pursuant to Section 23.4.5.7.9.5 of the Services Tariff.
- c. If the DEVELOPER/LSE or the Project submits false, misleading, or inaccurate information, or fails to submit requested information to the NYISO, including but not limited to information contained or submitted in the Certification and Acknowledgement on behalf of the Project, it may be subject to civil penalties that may be imposed by the Commission for violations of Section 4.1.7 of Services Tariff, the Commission's rules, and/or Section 316A of the Federal Power Act.

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[PRINT NAME]  
[DATE]

Subscribed and sworn to before me  
this [ ] day of [MONTH] [YEAR].

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Notary Public

My commission expires:

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### **23.4.5.7.14.3 Net Short Threshold and Net Long Threshold**

For the purposes of Section 23.4.5.7.14.3, “SSE Evaluated ICAP” shall mean the quantity of MW of CRIS for which a Self Supply Exemption is requested by an individual Self Supply LSE (or by an SSE Applicant in respect of its own Load) in accordance with Section 23.4.5.7.14.1.1(c), unless reduced as follows: If (i) following a notice that an additional System Deliverability Upgrade study(ies) will be conducted in accordance with Section 25.7.7.1 of the OATT, an SSE Applicant elects to keep its CRIS request but with no System Deliverability Upgrade identified to make the project fully deliverable (as provided for in Section 25.7.7.1(3),) and (ii) the total quantity of MW of CRIS for which the Self Supply Exemption is requested exceeds the total amount of Deliverable MW, as specified in the next Class Year Interconnection Facilities Study report, the ISO shall reduce the total quantity of MW of CRIS for which a Self Supply Exemption is requested to the total amount of Deliverable MW identified in such Interconnection Facilities Study Report. If there is more than one LSE associated with the SSE Applicant, the ISO shall reduce the quantity of MW of CRIS for each Self Supply LSE by the ratio of Deliverable MW to the total MW of CRIS for which Self Supply exemptions were initially requested.

The ISO shall compute the Net Short Threshold and Net Long Threshold, and determine whether each is satisfied, based on its computation of each of the values specified in this Section. If there is more than one Self Supply LSE associated with the SSE Applicant's request for a Self Supply Exemption, the MW associated with each Self Supply LSE shall be considered separately.

If the Self Supply LSE or its Affiliates are associated with more than one request for a Self Supply Exemption in the Class Year (including any associated with a transfer of CRIS at the same location,) and the Self Supply LSE and its Affiliates satisfy the Net Long Threshold in a non-zero amount that is greater than the "Cumulative Affiliated Quantity" (as defined in Section 23.4.5.7.14.3,) then remaining in the Class Year, the ISO shall reduce the quantity of MW for which they are eligible to receive a Self Supply Exemption by the ratio of (a) the quantity of MW by which the Self Supply LSE and its Affiliates satisfy the Net Long Threshold, to (b) the Cumulative Affiliated Quantity associated with SSE Applicant(s) then remaining in the Class Year or associated with a transfer of CRIS at the same location (provided the transferee does not notify the ISO, on or before the date the Class Year is completed, that it no longer expects to be the recipient of the transferred CRIS.)

For the purposes of Section 23.4.5.7.14.3, "Projected ICAP Requirements" is the reasonably projected ICAP MW that the Self Supply LSE and all its Affiliates will be required to purchase in each Locality and the NYCA. Such projection shall be based on the Self Supply LSE's and all its Affiliates' share(s) of the Locational Minimum Unforced Capacity Requirements and the NYCA Minimum Unforced Capacity Requirement, as applicable and in accordance with ISO Procedures, over the three most recently completed Capability Years preceding the Class Year Start Date. Such projection shall also reflect that ICAP MW purchased

in a Locality may be used to meet capacity requirements for each Locality in which they are contained, as well as for the NYCA.

When calculating the Self Supply LSE's and all its Affiliates' Projected ICAP Requirements, each of their shares of the Locational Minimum Unforced Capacity Requirements and the NYCA Minimum Unforced Capacity Requirement over these three Capability Years shall be translated to their ICAP MW equivalent(s) using the derating factor that was applied to translate the Installed Capacity Requirement into the Unforced Capacity Requirement in the same Capability Period and Locality, or the NYCA if applicable, in which the purchase was made.

For the purposes of Section 23.4.5.7.14.3, "Excess Award Percentage" is the reasonably projected amount of excess capacity that the Self Supply LSE and all its Affiliates will be required to purchase in each Locality, and the NYCA, expressed as a percentage of its "Projected ICAP Requirements", Such projection shall be based on the total excess UCAP MW awarded in each ICAP Spot Market Auction, divided by the Locational Minimum Unforced Capacity Requirement, or the NYCA Minimum Unforced Capacity Requirement, for the same Capability Period and Locality (or the NYCA) in which the award was made, over the three most recent completed Capability Years preceding the Class Year Start Date.

For the purposes of Section 23.4.5.7.14.3, "Capacity Obligations without Entry", calculated for each Locality and the NYCA, is the product of (a) Projected ICAP Requirements and (b) one plus the Excess Award Percentage.

For the purposes of Section 23.4.5.7.14.3, "Capacity Obligations with Entry", calculated for each Locality and the NYCA, is the product of (a) Projected ICAP Requirements and (b) one

plus the Excess Award Percentage, adjusted to reflect the projected increase in excess that the Self Supply LSE would be obligated to purchase as a result of the entry of the SSE Applicant.

For the purposes of Section 23.4.5.7.14.3, “Self Supply Capacity” for a given Locality (or the NYCA,) is (a) the full amount of ICAP MW associated with each Generator or UDR project that the Self Supply LSE or any of its Affiliates own directly or indirectly, in at least a 50.01% interest (in the aggregate) as of the Class Year Start Date, or have the power to direct the management or policies of, excluding any whose CRIS MW are projected by the ISO to be expired on or before the date that marks the end of Mitigation Study Period, based on a demonstration by the Self Supply LSE, and (b) the ICAP MW that the Self Supply LSE and all its Affiliates are reasonably projected by the ISO to receive, including ICAP MW which they have a call option to receive, either by way of ownership or under “Existing Long Term Commitments” in that Locality (or the NYCA), and that are associated with a Generator or UDR project that the Self Supply LSE or any of its Affiliates do not own directly or indirectly, at least a 50.01% interest (in the aggregate) as of the Class Year Start Date, and that they do not have the power to direct the management or policies of, excluding those that are associated with any Generator or UDR project identified in Excluded Capacity pursuant to Section 23.4.5.7.15. For purposes of Self Supply Capacity, “Existing Long Term Commitments” is the amount of Capacity that the Self Supply LSE or any of its Affiliates are projected by the ISO to receive, including ICAP which they have a call option to receive, under a written agreement (whether stated in ICAP or otherwise,) with a minimum term of ten years, and a minimum of six years remaining thereon on the Class Year Start Date. When calculating the term and remaining term of a written agreement for the purposes of this section, the ISO, using its independent judgment and at its sole discretion, will determine whether to reflect in its calculation any potential

extension to the current term of a written agreement that may reasonably result from renewal provisions.

For the purposes of Section 23.4.5.7.14.3, “Additional Self Supply Capacity”, for a given Locality (or the NYCA,) is the ICAP MW of a Generator or UDR project that were granted a Self Supply Exemption at the time of the completed Class Year based on the Self Supply LSE or any of its Affiliates’ being a Self Supply LSE for such Generator or UDR project, in the 10 year period immediately preceding the Class Year Start Date of the Class Year, in that Locality (or the NYCA), excluding: (i) any ICAP MW that are included in Self Supply Capacity, (ii) any ICAP MW associated with a Generator or UDR project that the Self Supply LSE and any of its Affiliates own directly or indirectly, at least a 50.01% interest(in the aggregate) as of the Class Year Start Date, or have the power to direct the management or policies of, and that the CRIS of which is projected by the ISO to be expired on or before the date that marks the end of Mitigation Study Period, based on a demonstration by the Self Supply LSE; and (iii) any ICAP MW of a Generator or UDR project that neither the Self Supply LSE nor any of its Affiliates own directly or indirectly, at least a 50.01% interest (in the aggregate) as of the Class Year Start Date, or have the power to direct the management or policies of, and that is a Generator or UDR project identified in Excluded Capacity pursuant to Section 23.4.5.7.15.

#### **23.4.5.7.14.3.1 Net Short Threshold**

The Net Short Threshold will be satisfied for the “SSE Evaluated ICAP” if the ISO determines that, summed over all Localities and the NYCA, the Self Supply LSE’s and all of its Affiliates’ “Total Capacity Costs without Entry” are expected to be less than the Self Supply LSE’s and all of its Affiliates’ “Total Capacity Costs with Entry”.

23.4.5.7.14.3.1.1 The ISO will calculate the estimated “Total Capacity Costs without Entry”

as the sum over all Localities, and the NYCA, of the product of (a) the “ICAP Spot Auction Price without Entry” and (b) the “Capacity Exposed to Market Prices without Entry”.

(a) “ICAP Spot Market Auction Price without Entry” shall be based on the ICAP Spot Market Auction prices for each Locality and the NYCA, averaged over the three most recently completed Capability Years preceding the Class Year Start Date.

(b) “Capacity Exposed to Market Prices without Entry” is calculated for each Locality and the NYCA as:

“Capacity Obligations without Entry” for each Locality and the NYCA, translated from ICAP MW into UCAP MW using the average derating factor for each Locality and the NYCA corresponding to the ICAP Spot Market Auctions used to determine the ICAP Spot Market Auction Price without Entry;

minus

“Self Supply Capacity” for each Locality and the NYCA, translated from ICAP MW into UCAP MW using a derating factor, as determined by the ISO, that is reasonably anticipated to be associated with ICAP Suppliers included in this Self Supply Capacity;

minus

“Additional Self Supply Capacity” for each Locality and the NYCA, translated from ICAP MW into UCAP MW using a derating factor, as determined by the ISO, that is reasonably anticipated to be associated with ICAP Suppliers included in this Additional Self Supply Capacity;

23.4.5.7.14.3.1.2 The ISO will calculate “Total Capacity Costs with Entry” as the sum of “Proportional Entry Costs” and the sum over all Localities, and the NYCA, of the product of (a) “ICAP Spot Market Auction Price With Entry” and (b) “Capacity Exposed to Market Prices With Entry”.

“Proportional Entry Costs” is the percentage of the Unit Net CONE (expressed in dollars) of the SSE Applicant (calculated in accordance with Section 23.4.5.7.3 if an Examined Facility, or in accordance with Section 23.4.5.7.2.1 if an NCZ Examined Project, or in accordance with Section 23.4.5.7.6.1 if Additional CRIS MW) that is equal to the SSE Evaluated ICAP divided by the total MW of CRIS requested by the SSE Applicant in the Class Year.

(a) The “ICAP Spot Market Auction Price with Entry” shall be based on the ICAP Spot Market Auction prices calculated for each Locality and the NYCA, averaged over the three most recently completed Capability Years preceding the Class Year Start Date, and adjusted to reflect the entry of the SSE Applicant.

(b) the “Capacity Exposed to Market Prices with Entry” is calculated for each Locality and the NYCA as:

“Capacity Obligations with Entry” for each Locality and the NYCA, translated from ICAP MW into UCAP MW using the average derating factor for each Locality and the NYCA corresponding to the ICAP Spot Market Auctions used to determine the ICAP Spot Market Auction Price with Entry;

Minus

“Self Supply Capacity” for each Locality and the NYCA, translated from ICAP MW into UCAP MW using a derating factor, as determined by the ISO, that is reasonably anticipated to be associated with ICAP Suppliers included in this Self Supply Capacity;

minus

“Additional Self Supply Capacity” for each Locality and the NYCA, translated from ICAP MW into UCAP MW using a derating factor, as determined by the ISO, that is reasonably anticipated to be associated with ICAP Suppliers included in this Additional Self Supply Capacity;

minus

“SSE Evaluated ICAP”, translated from ICAP MW into UCAP MW using a derating factor, as determined by the ISO that is reasonably anticipated to be associated with the SSE Applicant.

#### **23.4.5.7.14.3.2 Net Long Threshold**

If the Self Supply LSE and any of its Affiliates are associated with more than one Self Supply Exemption Request in the Class Year, the Net Long Threshold determination will be made based on the sum of the Self Supply LSE’s and all of its Affiliates’ SSE Evaluated ICAP (“Cumulative Affiliated Quantity”) prior to the Initial Decision Period in a Class year that is not Bifurcated. The ISO shall recalculate the Cumulative Affiliated Quantity prior to the ISO’s issuance of a Revised Project Cost Allocation Subsequent Decision Period if any SSE Applicant with which it is associated is no longer in the Class Year. For purposes of this section, if an SSE Applicant is a member of a Bifurcated Class Year and has elected to remain in the Class Year through the completion of Class Year X-2 then: (i) the ISO shall make the Net Long Threshold determination based on the Cumulative Affiliated Quantity prior to the Bifurcated Decision

Period; and (ii) the ISO shall recalculate the Cumulative Affiliated Quantity prior to the Initial Decision Period, its issuance of a Revised Project Cost Allocation, and any Subsequent Decision Period, and final exemption and Offer Floor determination, based on any SSE Applicant with which its Self Supply LSE is associated that remains a member of the completed Class Year X-2 and also those that remained member of Class Year X-1. If an SSE Applicant is eligible and elects to complete the decision and settlement phase as part of Class Year X-1 then the ISO shall: (i) make the Net Long Threshold determination based on the Cumulative Affiliated Quantity prior to the Bifurcated Decision Period; (ii) determine its Cumulative Affiliated Quantity as if the Self Supply LSE's Affiliates that remain in the Class Year (X-1 and X-2) at the time of completion of Class Year X-1 were members of Class Year X-1 or Expected CRIS Transferees or Category III Examined Facilities.

For each Mitigated Capacity Zone containing the location of the SSE Applicant, the ISO will determine the largest amount of SSE Evaluated ICAP MW that is (a) less than or equal to the sum of the Self Supply LSE's and all of its Affiliates' "SSE Evaluated ICAP" and (b) for which the Self Supply LSE's and all of its Affiliates' "Total Self Supply Capacity" is less than or equal to the "Future Capacity Obligation." The Net Long Threshold will be satisfied for the smallest of these determined amounts of SSE Evaluated ICAP MW, and will be considered not satisfied if the smallest of these amounts is less than or equal to zero.

- (i) The "Total Self Supply Capacity" is the sum, in each Mitigated Capacity Zone, of ICAP MW of (A) Self Supply Capacity, (B) Additional Self-Supply Capacity, and (C) the cumulative quantity of the Self Supply LSE's and all of its Affiliates' SSE Evaluated ICAP.

- (ii) the “Future Capacity Obligation” is the product of (A) ICAP MW of Capacity Obligations without Entry, and (B) the higher of (x) one plus the “10 year growth rate of peak demand” and (y) one plus one percent. The “10 year growth rate of peak demand” shall be determined based on the longest available NYISO Baseline forecast of non-coincident peak demand for the corresponding Mitigated Capacity Zone found in the “Baseline Forecast of Non-Coincident Peak Demand” table, or its successor in the most current Gold Book, published by the Class Year Start Date of the Class Year, for each Mitigated Capacity Zone.

#### **23.4.5.7.14.4 Timing of Determinations**

##### **23.4.5.7.14.4.1 Determinations.**

- (a) For a Class Year that is not Bifurcated, prior to the Initial Decision Period, the ISO shall determine whether all or a portion of the MW specified in the request for a Self Supply Exemption is eligible for a Self Supply Exemption in accordance with Section 23.4.5.7.14.1.2. If the ISO determines that all or a portion of the CRIS MW for which a Self Supply Exemption was requested is not eligible for a Self Supply Exemption, the ISO shall make a determination in accordance with Sections 23.4.5.7.3.2 and 23.4.5.7.3.3 prior to the commencement of the Initial Decision Period, and prior to the ISO’s issuance of a Revised Project Cost Allocation. for a Class Year that is not Bifurcated, and prior to the commencement of the Bifurcated Decision Period for a Bifurcated Class Year. For purposes of this section, if an SSE Applicant is a member of a Bifurcated Class Year, and it remains a member of the completed Class Year X-1, or it is an Expected CRIS Transferee or a Category III Examined Facility, the ISO will issue that same determination as the final determination as soon as practicable after the date the ISO

issues a notice to stakeholders that the Class Year X-1 decisional process has been completed. For members of Class Year X-2, the ISO shall make the determinations referenced above no later than each Subsequent Decision Period, and, provided it remains a member of the completed Class Year X-2, as soon as practicable after the date the ISO issues a notice to stakeholders that the Class Year X-2 has been completed.

When evaluating eligibility for a Self Supply Exemption, the ISO shall consult with the 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 30.4.6.2.13 of Attachment O to this Services Tariff.

- (b) Determinations made pursuant to Section 23.4.5.7.14.4 shall be provided to the SSE Applicant concurrent with the issuance of determinations in accordance with Section 23.4.5.7.3.3.2 through 23.4.5.7.3.3.5, and to an NCZ Examined Project at the time of the ISO's determination pursuant to Section 23.4.5.7.2.1.
- (c) The ISO shall post on its web site and concurrently notify the Self Supply LSE of the ISO's determination of exempt, and if exempt the quantity of MW exempted, or non-exempt, from an Offer Floor as soon as the determination is final. Concurrent with the ISO's posting, the Market Monitoring Unit shall publish a report on the ISO's determination, as further specified in Sections 30.4.6.2.13 of Attachment O to this Services Tariff.

#### **23.4.5.7.14.5 Revocation of a Self Supply Exemption**

- (a) If, at the time prior to the SSE Applicant first producing or transmitting, Energy it or the Self Supply LSE no longer satisfies the requirements of Section 23.4.5.7.14.1(b) or no longer meets the requirements of the Acknowledgement and Certification, the SSE

Applicant and the Self Supply LSE shall notify each other and other ISO in writing within 3 business days of the event or basis for the failure to meet the requirements for a Self Supply Exemption. Upon notification, the ISO shall revoke the Self Supply Exemption and apply the Mitigation Net CONE Offer Floor (such value calculated based on the date it first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of this Services Tariff.)

- (b) The failure to provide the ISO written notice in accordance with Section 23.4.5.7.14.5(a) shall constitute a violation of the Services Tariff. Such violation shall be reported by the ISO to the Market Monitoring Unit and to the Commission's Office of Enforcement (or any successor to its responsibilities.)
- (c) Where the ISO reasonably believes that a request for a Self Supply Exemption was granted based on (i) false, misleading, or inaccurate information, or (ii) the Self Supply LSE's inclusion within "Self Supply Capacity" (as that term is used in Section 23.4.5.7.14.3) of a Generator or UDR project's capacity that was identified by the Self Supply LSE whose CRIS was projected to expire before the end of the Mitigation Study Period but has not expired on or before the date that marked the end of the Mitigation Study Period, the ISO shall notify the SSE Applicant and the Self Supply LSE that the Self Supply Exemption may be revoked. Provided that 30 days written notice has been given to the SSE Applicant (such notice to the extent practicable,) the ISO may revoke the Self Supply Exemption and apply the Mitigation Net CONE Offer Floor (such value calculated based on the date the SSE Applicant first offers UCAP, in accordance with Section 23.4.5.7.3.7, and adjusted annually in accordance with Section 23.4.5.7 of this Services Tariff.) Prior to the revocation of a Self Supply Exemption and the submission

of a report to the Commission's Office of Enforcement (or any successor to its responsibilities,) the ISO shall provide the SSE Applicant an opportunity to explain any statement, information, or action, and if a statement information or action of the Self Supply LSE, it shall also provide an opportunity to that entity. The ISO cannot revoke the Self Supply Exemption until after the 30 days written notice period has expired, unless ordered to do so by the Commission.

#### **23.4.5.7.15 Forecasts Under the Buyer Side Market Power Mitigation Measures**

The rules set forth in this Section 23.4.5.7.15 apply to (i) the ISO's determinations pursuant to Section 23.4.5.7, *et seq.* of ICAP Spot Market Auction forecast prices ("BSM ICAP Forecast") and (ii) Energy and Ancillary Services revenues when determining Unit Net CONE under Sections 23.4.5.7, *et seq.* (collectively for purposes of this Section, a "BSM Forecast"). The rule for Excluded Capacity set forth in Section 23.4.5.7.15.7.3 shall apply to Self Supply Capacity and Additional Self Supply Capacity under Section 23.4.5.7.14.3. Before the commencement of the Initial Decision Period for a Class Year that is not Bifurcated or Class Year X-2, and before the Bifurcated Decision Period in a Bifurcated Class Year, the ISO shall post on its website the BSM Forecast inputs determined in accordance with this Section 23.4.5.7.15, subject to any restrictions on the disclosure of Confidential Information or Critical Energy Infrastructure Information. This posting will include sources of or references for publicly available information "demonstrating with reasonable certainty," as defined in Section 23.4.5.7.15.2, used to develop the BSM Forecast.

23.4.5.7.15.1 For the purposes of Section 23.4.5.7.15, a "positive indicator" that a Generator or UDR project will repair and return to service includes indications that a return to service

is, in the ISO's judgment, likely and imminent, such as visible site activity, executed labor or fuel supply arrangements, or unit testing.

23.4.5.7.15.2 For the purposes of Section 23.4.5.7.15, publicly available information "demonstrating with reasonable certainty" shall be limited to information that has been released, authorized, capitulated, or endorsed by an individual or entity having the authority or right to take specific, definitive, actions; and – if such information is contested, to take unilateral actions regarding the operational status of the facility.

23.4.5.7.15.3 When establishing a BSM Forecast, the ISO shall incorporate the parameters and inputs identified in the following subsections. The ISO shall make assumptions necessary to account for any other value or input not expressly addressed in the following subsections in accordance with ISO Procedures.

23.4.5.7.15.3.1 When establishing a BSM Forecast, the ISO shall include Existing Units and Additional Units, as defined in Sections 23.4.5.7.15.4 and .5, less Excluded Units, as defined in Section 23.4.5.7.15.6.

23.4.5.7.15.3.2 When establishing a BSM Forecast, the ISO shall utilize the Load forecast as set forth in the most recently published Load and Capacity Data (Gold Book), or as most recently posted to the ISO's public website and in accordance with ISO Procedures.

23.4.5.7.15.3.3 When determining a BSM ICAP Forecast, the ISO shall reflect Special Case Resource enrollment at a level consistent with average enrollment over the 3 prior Capability Years.

23.4.5.7.15.3.4 When determining a BSM ICAP Forecast, the ISO shall identify the projected ICAP Demand Curve by applying the "inflation index" as defined in Section 23.4.5.7.4. When determining a BSM ICAP Forecast for an Indicative Buyer-Side

Mitigation Exemption Determination under Sections 23.4.5.7.2.2 and 23.4.5.7.2.4 when the Commission has not yet accepted the first ICAP Demand Curve to apply specifically to the Mitigated Capacity Zone in which the NCZ Examined Project is located, such inflation rate shall be applied to the ICAP Demand Curve the ISO filed pursuant to Services Tariff Section 5.14.1.2.2.4.11.

#### **23.4.5.7.15.4 Existing Units**

Except for the Generators and UDR projects that are excluded without limitation under an exception set forth in Section 23.4.5.7.15.7, the ISO shall identify “Existing Units” as the set of Generators and UDR projects identified in the ISO’s most-recently published Gold Book that have CRIS, and are operating at the time that the ISO determines the forecast; including but not limited to Generators in Forced Outage or Inactive Reserve status.

#### **23.4.5.7.15.5 Additional Units**

Subject to the exceptions set forth in Section 23.4.5.7.15.7, the ISO shall identify “Additional Units” as each Generator and UDR project that: (i) has previously offered to supply UCAP, (ii) has CRIS, (iii) is not in Existing Units, and (iv) if a Generator, is in an ICAP Ineligible Forced Outage, Mothball Outage, or Retired; if either: (a) the ISO concludes in its sole judgment that there are sufficient positive indicators that the Generator or UDR project will repair and return to service, or (b) the ISO determines that a return to service of the Generator or UDR project would have a positive Net Present Value as set forth in Section 23.4.5.7.15.8.

23.4.5.7.15.5.1        When establishing a BSM Forecast, the inclusion of Generators and UDR projects identified pursuant to Section 23.4.5.7.15.5 (b) as Additional Units shall reflect the persistence of their operation as being contingent on the projected recovery of their forecasted Going Forward Costs.

#### **23.4.5.7.15.6 Excluded Units**

Subject to the exceptions set forth in Section 23.4.5.7.15.7, the ISO shall identify “Excluded Units” as the set of Generators and UDR projects that meet the criteria in the following subsections.

23.4.5.7.15.6.1 Generators and UDR projects (i) that have transferred CRIS; (ii) for which the CRIS has expired; (iii) that have CRIS for which a request has been received by the ISO for an evaluation of a CRIS transfer from another location in the Class Year Facilities Study commencing in a calendar year in or preceding the Mitigation Study Period; or (iv) that are an expected transferor of transferred CRIS at the same location. For any CRIS transfer described in (iii) or (iv) of this Section, the transferor or the transferee must have notified the ISO of the transfer pursuant to OATT Attachment S Section 25.9.4 and the transfer must be reasonably expected to be effective on a date within the Mitigation Study Period.

23.4.5.7.15.6.2 Generators in ICAP Ineligible Forced Outages (even if resulting from Catastrophic Failures), Mothball Outages, or that are Retired; provided they are not identified under Section 23.4.5.7.15.5 as an Additional Unit or an exception under Section 23.4.5.7.15.7.

23.4.5.7.15.6.3 Generators that have submitted a Generation Deactivation Notice, beginning with the proposed deactivation date identified in such notice, provided that: (i) the ISO does not identify sufficient positive indicators that the Generator will repair and return to service and (ii) the ISO determines that a return to service or continued operation of the Generator does not have a positive Net Present Value as set forth in Section 23.4.5.7.15.8.

#### **23.4.5.7.15.7 Exceptions**

The rules set forth in the following subsections take precedence over the rules described elsewhere in Section 23.4.5.7.15 under the facts and circumstances defined therein.

23.4.5.7.15.7.1 Generators that have submitted a Generation Deactivation Notice, for which the ISO has not yet completed its Generation Deactivation Assessment, shall not be identified by the ISO as Excluded Units, unless there is publicly available information demonstrating with reasonable certainty that the Generator or UDR project will indefinitely cease operation.

23.4.5.7.15.7.2 Initiating Generators with an associated Generator Deactivation Reliability Need for which a Generator Deactivation Solution has not yet been identified, RMR Generators, and Interim Service Providers, shall be included in Existing Units for the expected duration of such Reliability Need with which they are associated. Such Generators shall also be included in Existing Units beyond the expected duration of the Reliability Need if either: (a) the ISO determines, in its sole judgment, that a return to service or continued operation of the Generator has a positive Net Present Value as set forth in Section 23.4.5.7.15.8, or (b) there is publicly available information demonstrating with reasonable certainty that the Generator will continue operation.

23.4.5.7.15.7.3 Except for those included in Existing Units pursuant to Section 23.4.5.7.15.7.2, Generators and UDR projects for which there is publicly available information demonstrating with reasonable certainty that they will indefinitely cease operation, shall be identified as Excluded Capacity beginning with the date determined by the ISO to be consistent with the expected cessation of operations.

23.4.5.7.15.7.4 Generators and UDR projects for which there is publicly available information demonstrating with reasonable certainty that (a) they will return to service

shall be included in Additional Units beginning with the date determined by the ISO to be consistent with its expected return to service, or (b) they will continue operations shall be included in Additional Units until the date determined by the ISO to be consistent with its expected continuation of operations.

23.4.5.7.15.7.5 Where determined by the ISO in its sole judgment to be reasonable, the additional capability associated with the repair of a Generator or UDR project that has been operating under a long term partial derate (such as due to the delay or deferral of repairs) may be treated as if it were in and of itself a separate Generator or UDR project in an ICAP Ineligible Forced Outage for the purposes of Section 23.4.5.7.15. In such instances, the net present value of the investment required to for the Generator or UDR facility to return to its original capability or capability prior to the long term partial derate shall be evaluated in place of the cost of returning to service.

23.4.5.7.15.7.6 The ISO shall not be required pursuant to Section 23.4.5.7.15 to determine whether a return to service or continued operation would have a positive Net Present Value as set forth in Section 23.4.5.7.15.8 for: (i) Generators in ICAP Ineligible Forced Outages that the ISO determined to have resulted from a Catastrophic Failure; and (ii) Generators that are Retired, provided that in the case of (ii), in the ISO's sole judgment, (a) the Generator was subject to actions that rendered it permanently inoperable, (b) the reversal of such actions would be a nontrivial undertaking, and (c) the ISO has received confirmation from it that it has permanently ceased operations.

23.4.5.7.15.7.7 The production and sale of energy from Generators and UDR projects that only have ERIS and no CRIS, or that will have ERIS only after a transfer of CRIS, for which the ISO has received notice or made a determination in the Class Year as described

in the next sentence, shall be modeled in the BSM Forecasts, but such units shall be excluded from the BSM ICAP Forecast. In accordance with Attachment S of the OATT, the ISO must have received notice that the transaction is final if a transfer of CRIS at the same location, or have determined the facility receiving the transfer is deliverable and such transferee is either in the Class Year being examined, or remained in a prior Class Year at the time of its completion, if a transfer of CRIS from a different location.

#### **23.4.5.7.15.8 Net Present Value Analysis**

Where required by Section 23.4.5.7.15, the ISO shall determine if a Generator or UDR project that potentially could return to service or continue in operation would have a positive net present value under ISO-predicted market conditions and recognizing the entry of projects in the current Class Year and those that remained in prior Class Years at the time of their completion, in accordance with ISO Procedures. If the ISO-estimated net present value is greater than zero, then the criterion of this Section will be considered to have been met.

23.4.5.7.15.8.1 The ISO's net present value analysis shall consider, at a minimum: (a) the ISO-estimated costs and opportunity costs associated with returning a Generator or UDR project to service if the unit is not currently operating, and of continued operation through the end of the Mitigation Study Period, or the end of the investment horizon as reasonably determined by the ISO, whichever is of greater length (including, if applicable, the expected lost revenues of the rest of the portfolio of the Installed Capacity Supplier attributable to reductions in ICAP Spot Market Auction prices caused by the Generator or UDR project's return to service); (b) the ISO-estimated revenues, over the same time period, from the production and sale of Energy, Ancillary Services, and

capacity, and (c) the effect that additional risk associated with the age, condition, and location of the Generator or UDR project may have on the required return on investment.

23.4.5.7.15.8.2 The ISO's net present value analysis shall be for a period beginning after the reasonably anticipated commencement of the Initial Decision Period but before the starting Capability Period of the Mitigation Study Period, through the end of Mitigation Study Period, or until the investment horizon as reasonably assumed by the ISO, whichever is of greater length.

23.4.5.7.15.8.3 The ISO shall consider data received from the Generator and UDR project for which it is performing a net present value analysis pursuant to this Section 23.4.5.7.15.8, and information received pursuant to Section 30.25 of the OATT, along with any new, updated, or relevant information that the ISO, in its sole judgment and in accordance with ISO Procedures, has verified is reasonable and accurate. If the ISO has not timely received sufficient information from the owner or representative of a Generator or UDR project, or if the ISO has received information but determined it is not suitable or reliable to be used for the purposes of a net present value analysis pursuant to Section 23.4.5.7.8, the ISO can substitute suitable estimated data, or identify the Generator or UDR project as Excluded Units.

#### **23.4.5.8 RMR Agreement Capacity Price and Offer Requirements**

23.4.5.8.1 All ISP UCAP MW shall be offered in each ICAP Spot Market Auction. All UCAP from an RMR Generator shall be offered in each ICAP Spot Market Auction, except if and only to the extent expressly authorized in an RMR Agreement due to the existence of a commitment under a bilateral agreement that (a) was effective at the time

the RMR Agreement became effective and (b) is effective and executory, requiring the provision of UCAP, for the Obligation Procurement Period.

23.4.5.8.2 Except as provided in Section 23.4.5.7.12, all UCAP offered by an RMR Generator shall be offered at \$0.00/kW-month.

## **23.4.6 Virtual Bidding Measures**

### **23.4.6.1 Purpose**

The provisions of this Section 23.4.6 specify the market monitoring and mitigation measures applicable to “Virtual Bids.” “Virtual Bids” are bids to purchase or supply energy that are not backed by physical load or generation that are submitted in the ISO Day-Ahead Market in accordance with the procedures and requirements specified in the ISO Services Tariff.

To implement the mitigation measures set forth in this Section 23.4.6, the ISO shall monitor and assess the impact of Virtual Bidding on the ISO Administered Markets.

### **23.4.6.2 Implementation**

23.4.6.2.1 Day-Ahead LBMPs and Real-Time LBMPs in each load zone shall be monitored to determine whether there is a persistent hourly deviation between them in any zone that would not be expected in a workably competitive market. Monitoring of Day-Ahead and real-time LBMPs shall include examination of the following two metrics (along with any additional monitoring tools and procedures that the ISO determines to be appropriate to achieve the purpose of this Section 23.4.6):

(1) The ISO shall compute a rolling average of the hourly deviation of real-time zonal LBMPs from Day-Ahead zonal LBMPs. The hourly deviation shall be measured as:  $(\text{zonal LBMP}_{\text{real time}} - \text{zonal LBMP}_{\text{day ahead}})$ . Each observation of the rolling-average time series shall be a simple average of all the hourly deviations over the previous four weeks, or such other averaging period determined by the ISO to be appropriate to achieve the purpose of this Section 23.4.6.

(2) The ISO shall also compute the rolling average *percentage* deviation of real-time zonal LBMPs from Day-Ahead zonal LBMPs. This percentage deviation shall be calculated by dividing the rolling-average hourly deviation (defined in Section 23.4.6.2.1 (1) above) by the rolling-average level of Day-Ahead zonal LBMP over the same time period, using the averaging period(s) described in Section 23.4.6.2.1 (1), above.

23.4.6.2.2 If the ISO determines that (i) the relationship between zonal LBMPs in a zone in the Day-Ahead Market and the Real-Time Market is not what would be expected under conditions of workable competition, and that (ii) the Virtual Bidding practices of one or more Market Participants has contributed to an unwarranted divergence of LBMPs between the two markets, then the following mitigation measure may be imposed. Any such measure shall be rescinded upon a determination by the ISO that the foregoing conditions are not met.

### **23.4.6.3 Description of the Measure**

23.4.6.3.1 If the ISO determines that the conditions specified in Section 23.4.6.2 exist, the ISO may limit the hourly quantities of Virtual Bids for supply or load that may be offered in a zone by a Market Participant whose Virtual Bidding practices have been determined to contribute to an unwarranted divergence of LBMPs between the Day-Ahead and Real-Time Markets. Any such limitation shall be set at such level that, and shall remain in place for such period as, in the best judgment of the ISO, would be sufficient to prevent any unwarranted divergence between Day-Ahead and Real-Time LBMPs.

23.4.6.3.2 As part of the foregoing determination, the ISO shall request explanations of the relevant Virtual Bidding practices from any Market Participant submitting such Bids. Prior to imposing a Virtual Bidding quantity limitation as specified above, the ISO shall notify the affected Market Participant of the limitation.

#### **23.4.6.4 Limitation of Virtual Bidding**

If the ISO determines that such action is necessary to avoid substantial deviations of LBMPs between the Day-Ahead and Real-Time Markets, the ISO may impose limits on the quantities of Virtual Bids that may be offered by all Market Participants. Any such restriction shall limit the quantity of Virtual Bids for supply or load that may be offered by each Market Participant by hour and by zone. Any such limit shall remain in place for the minimum period necessary to avoid substantial deviations of LBMPs between the Day-Ahead and Real-Time Markets, or to maintain the reliability of the New York Control Area.

### **23.4.7 Increasing Bids in Real-Time for Day-Ahead Scheduled Incremental Energy Injections or Decreasing Bids in Real-Time for Day-Ahead Scheduled Incremental Energy Withdrawals**

#### **23.4.7.1 Purpose**

This Section 23.4.7 specifies the monitoring applicable and the mitigation measures that may be applicable to a Market Party with submitted Incremental Energy Bids in the real-time market that exceed the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for a portion of the Capacity of one or more of its Generators that has been scheduled in the Day-Ahead Market.

This Section 23.4.7 also specifies the monitoring applicable and the mitigation measures that may be applicable to a Market Party with submitted Bids in the real-time market that are less than the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead

Incremental Energy Bids where appropriate), for one or more of its Generators that has been scheduled in the Day-Ahead Market to withdraw Energy.

The purpose of the Services Tariff rules authorizing the submission of Incremental Energy Bids in the real-time market that exceed the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), of the portion of the Capacity of a Market Party's Generator that was scheduled in the Day-Ahead Market is to permit the inclusion of additional costs of providing incremental Energy in real-time Incremental Energy Bids for Generators scheduled in the Day-Ahead Market, where the additional costs of providing incremental Energy were not known prior to the close of the Day-Ahead Market.

The purpose of the Services Tariff rules authorizing the submission of Incremental Energy Bids in the real-time market less than the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), of the portion of the Capacity of a Market Party's Generator that was scheduled to withdraw energy in the Day-Ahead Market is to permit changes in opportunity costs to be reflected in real-time Incremental Energy Bids for Generators scheduled to withdraw energy in the Day-Ahead Market, where the opportunity costs of withdrawing incremental Energy has changed relative to the opportunity costs expected prior to the close of the Day-Ahead Market.

#### **23.4.7.2 Monitoring and Implementation**

23.4.7.2.1 The ISO will monitor Market Parties for unjustified interactions between a Market Party's virtual bidding and the submission of real-time Incremental Energy Bids that exceed the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-

Ahead Incremental Energy Bids where appropriate), for the portion of a Generator's Capacity that was scheduled in the Day-Ahead Market.

If the Market Party has a scheduled Virtual Load Bid for the same hour of the Dispatch Day as the hour for which submitted real-time Incremental Energy Bids exceeded the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for a portion of its Generator's Capacity that was scheduled in the Day-Ahead Market, and any such real-time Incremental Energy Bids exceed the reference level for those Bids that can be justified after-the-fact by more than:

- (i) the lower of \$100/MWh or 300%; or
- (ii) ~~If~~ if the Market Party's Generator is located in a Constrained Area for intervals in which an interface or facility into the area in which the Generator or generation is located has a Shadow Price greater than zero, then a threshold calculated in accordance with Sections 23.3.1.2.2.1 and 23.3.1.2.2.2 of these Mitigation Measures;

and a calculation of a virtual market penalty pursuant to the formula set forth in Section 23.4.3.3.4 of these Mitigation Measures for the Market Party would produce a penalty in excess of \$1000, then the mitigation measure specified below in Section 23.4.7.3.1 shall be imposed for the Market Party's Generator, along with a penalty calculated in accordance with Section 23.4.3.3.4 of these Mitigation Measures. The application of a penalty under Section 23.4.3.3.4 of these Mitigation Measures shall not preclude the simultaneous application of a penalty pursuant to Section 23.4.3.3.3 of these Mitigation Measures.

23.4.7.2.2 The ISO will monitor Market Parties for unjustified interactions between a Market Party's virtual bidding and the submission of real-time Incremental Energy Bids that are

less than the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for one or more of its Generators that has been scheduled in the Day-Ahead Market to withdraw Energy.

If the Market Party has a scheduled Virtual Supply Bid for the same hour of the Dispatch Day as the hour for which submitted real-time Incremental Energy Bids at a price that is lower than the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for one or more of its Generators that has been scheduled in the Day-Ahead Market to withdraw Energy, and any such real-time Incremental Energy Bids is less than the reference level for those Bids that can be justified after-the-fact by more than:

(i) the lower of \$100/MWh or 300%; provided however, that Bids to withdraw Incremental Energy that have an associated reference level that is between -\$25 and \$25 per MWh (inclusive) shall instead be subject to a threshold of \$75/MWh;

or

(ii) if the Market Party's Generator is located in a Constrained Area for intervals in which an interface or facility into the area in which the Generator or generation is located has a Shadow Price greater than zero, then a threshold calculated in accordance with Sections 23.3.1.2.2.1 and 23.3.1.2.2.2 of these Mitigation Measures;

and a calculation of a virtual market penalty pursuant to the formula set forth in Section 23.4.3.3.4 of these Mitigation Measures for the Market Party would produce a penalty in excess of \$1000, then the mitigation measure specified below in Section 23.4.7.3.1 shall be imposed for the Market Party's Generator, along with a penalty calculated in accordance with Section

23.4.3.3.4 of these Mitigation Measures. The application of a penalty under Section 23.4.3.3.4 of these Mitigation Measures shall not preclude the simultaneous application of a penalty pursuant to Section 23.4.3.3.3 of these Mitigation Measures.

### **23.4.7.3 Mitigation Measure**

23.4.7.3.1 If the ISO determines that the conditions specified in Section 23.4.7.2.1 exist the ISO shall revoke the opportunity for any bidder of that Generator to submit Incremental Energy Bids in the real-time market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for portions of that Generator's Capacity that were scheduled Day-Ahead.

If the ISO determines that the conditions specified in Section 23.4.7.2.2 exist the ISO shall revoke the opportunity for the Market Party and its Affiliates to submit Virtual Bids in the Load Zone(s) where the Withdrawal-Eligible Generator(s) that has been scheduled in the Day-Ahead Market to withdraw Energy, and for which the Market Party submitted real-time Incremental Energy Bids that were less than the Incremental Energy Bids made in the Day-Ahead Market, are located.

23.4.7.3.1.1 The first time the ISO revokes the opportunity for bidders of a Generator to submit Incremental Energy Bids in the Real-Time Market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for portions of that Generator's Capacity that were scheduled Day-Ahead, mitigation shall be imposed for 90 days. The 90 day period shall start two business days after the

date that the ISO provides written notice of its determination that the application of mitigation is required.

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The first time the ISO revokes the opportunity for the Market Party and its Affiliates to submit Virtual Bids in the Load Zone(s) where the Generator(s) that has been scheduled in the Day-Ahead Market to withdraw Energy, and for which the Market Party submitted real-time Incremental Energy Bids that were less than the Incremental Energy Bids made in the Day-Ahead Market, are located, mitigation shall be imposed for 90 days. The 90 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

23.4.7.3.1.2 Any subsequent time the ISO revoked the opportunity for bidders of a Generator to submit Incremental Energy Bids in the Real-Time Market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market or mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of that Generator's Capacity that were scheduled Day-Ahead, mitigation shall be imposed for 180 days. The 180 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

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Any subsequent time the ISO revokes the opportunity for the Market Party and its Affiliates to submit Virtual Bids in the Load Zone(s) where the Generator(s) that has been scheduled in the Day-Ahead Market to withdraw Energy, and for which the Market Party submitted real-time Incremental Energy Bids that were less than the Incremental Energy Bids made in the Day-Ahead

Market, are located, mitigation shall be imposed for 180 days. The 180 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

23.4.7.3.1.3 If bidders of a Generator that has previously been mitigated under this Section 23.4.7.3 become and remain continuously eligible to submit Incremental Energy Bids in the Real-Time Market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market or mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of that Generator's Capacity that were scheduled Day-Ahead, for a period of one year or more, then the ISO shall apply the mitigation measure set forth in Section 23.4.7.3 of the Mitigation Measures as if the Generator had not previously been subject to this mitigation measure.

23.4.7.3.1.4 Market Parties that transfer, sell, assign, or grant to another Market Party the right or ability to Bid a Generator that is subject to the mitigation measure in this Section 23.4.7.3 are required to inform the new Market Party that the Generator is subject to mitigation under this measure, and to inform the new Market Party of the expected duration of such mitigation.

#### **23.4.8 Duration of Mitigation Measures**

Except as specified in Section 23.4.5 of this Attachment H, any mitigation measure imposed as specified above shall expire not later than six months after the occurrence of the conduct giving rise to the measure, or at such earlier time as may be specified by the ISO.

**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 [25.2](#), [25.3](#), 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, [other than Energy Storage Resources](#), that are either online and dispatched by RTD or available for commitment by RTC; (ii) Demand Side Resources committed to provide Operating Reserves or Regulation Service; (iii) any Resource, [including an Energy Storage 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, [including Energy Storage Resources](#), 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 real-time minimum operating level above the Resource's Day-Ahead Market Energy schedule either: (i) at the Resource's request including through an adjustment to the Resource's self-commitment schedule; 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 (iii) an Intermittent Power Resource that depends on wind as its fuel.

25.2.2.2 a Resource, otherwise eligible for Day-Ahead Margin Assurance Payments, in hours in which the NYISO has increased the Resource's real-time minimum operating level at the Resource's request, including through an adjustment to the Resource's self-commitment schedule, above the MW level determined by subtracting the Resource's Day-Ahead Market Regulation Service schedule from its Day-Ahead Market Energy schedule.

25.2.2.3 a Resource, otherwise eligible for Day-Ahead Margin Assurance Payments, in hours in which the Resource reduces the MW quantity specified in its real-time Regulation Capacity Bid below its Day-Ahead Market Regulation Service schedule.

25.2.2.4 a Generator, otherwise eligible for Day-Ahead Margin Assurance Payments, for (i) any hour in which the Incremental Energy Bids submitted in the ~~Real-Time~~ ~~Market~~ for that Generator exceed the Incremental Energy Bids submitted in the Day-Ahead Market, or the mitigated Day-Ahead Incremental Energy Bids where appropriate, for the portion of that Generator's Capacity that was scheduled in the Day-Ahead Market; and (ii) the two hours immediately preceding and the two hours immediately following the hour(s) in which the Incremental Energy Bids submitted in the real-time market for that Generator exceed the Incremental Energy Bids submitted in the Day-Ahead Market, or the mitigated Day-Ahead Incremental Energy Bids where appropriate, for the portion of that Generator's Capacity that was scheduled in the Day-Ahead Market.

25.2.2.5 A Generator that is available for commitment by RTC and otherwise eligible for Day-Ahead Margin Assurance Payments, for (i) any hour in which the Start-Up Bids submitted in the real-time market for that Generator exceed the Start-Up Bids submitted in the Day-Ahead Market, or the mitigated Day-Ahead Start-Up Bids where appropriate, and that Generator was scheduled for Energy or Regulation Service in that hour in the Day-Ahead Market; and (ii) the two hours immediately preceding and the two hours immediately following the hour(s) in which the Start-Up Bids submitted in the real-time market for that Generator exceed the Start-Up Bids submitted in the Day-Ahead Market, or the mitigated Day-Ahead Start-Up Bids where appropriate, and that Generator was scheduled for Energy or Regulation Service in that hour in the Day-Ahead Market.

## 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:

$$DMAP_{hu} = \max \left( 0, \sum_{i \in h} CDMAP_{iu} \right)$$

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:

$$CDMAPen_{iu} = \left( (DASen_{hu} - LL_{iu}) * RTPen_{iu} - \int_{LL_{iu}}^{DASen_{hu}} DABen_{hu} \right) * \frac{Seconds_i}{3600}$$

If the Generator's real-time Energy schedule is greater than or equal to its Day-Ahead Energy schedule then:

$$CDMAPen_{iu} = \min \left[ \left( (DASen_{hu} - UL_{iu}) * RTPen_{iu} + \int_{DASen_{hu}}^{UL_{iu}} RTBen_{iu} \right) * \frac{Seconds_i}{3600}, 0 \right]$$

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:

$$CDMAPres_{iup} = \left[ (DASres_{hup} - RTSres_{iup}) * (RTPres_{iup} - DABres_{hup}) \right] * \frac{Seconds_i}{3600}$$

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:

$$CDMAPres_{iup} = [(DASres_{hup} - RTSres_{iup}) * (RTPres_{iup})] * \frac{Seconds_i}{3600}$$

If the Generator's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * (RTPreg_{iu} - DABreg_{hu})] * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

If the Generator's real-time Regulation Schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * \max((RTPreg_{iu} - RTBreg_{iu}), 0)] * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

## 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  $RPI_{iu}$ , which is defined in Section 25.3.2.2:

$$DMAP_{hu} = \max\left(0, \sum_{i \in h} CDMAP_{iu}\right)$$

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:

$$CDMAPres_{iup} = [(DASres_{hup} - RTSres_{iup}) * (RTPres_{iup} - DABres_{hup})] * RPI_{iu} * \frac{Seconds_i}{3600}$$

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:

$$CDMAPres_{iup} = [(DASres_{hup} - RTSres_{iup}) * (RTSPres_{iup})] * RPI_{iu} * \frac{Seconds_i}{3600}$$

If the Demand Side Resource's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * (RTPreg_{iu} - DABreg_{hu})] * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

If the Demand Side Resource's real-time Regulation Schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * \max((RTPreg_{iu} - RTBreg_{iu}), 0)] * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

### 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  $UAG_i$  is zero or less, the Reserve Performance Index shall be set to zero:

$$RPI_{iu} = \min[(UAG_i / ADG_i + .1), 1]$$

Where:

$RPI_{iu}$  = Reserve Performance Index in interval  $i$  for Demand Side Resource  $u$ ;

$UAG_i$  = average actual Demand Reduction for interval  $i$ , represented as a positive generation value; and

$ADG_i$  = 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 and the real-time Regulation Capacity Market Price is greater than the Day-Ahead Regulation Capacity Bid price then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * (RTPreg_{iu} - DABreg_{hu})] * K_p * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

If the LESR's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule and the real-time Regulation Capacity Market price is less than or equal to the Day-Ahead Regulation Capacity Bid price then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * (RTPreg_{iu} - DABreg_{hu})] * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

If the LESR's real-time Regulation Service schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = [(DASreg_{hu} - RTSreg_{iu}) * \max((RTPreg_{iu} - RTBreg_{iu}), 0)] * \frac{Seconds_i}{3600} + [(-1 * RTMreg_{iu}) * \max(0, RTPreg_{iu} - RTBreg_{iu})]$$

#### 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  $i$ ;

- $DMAP_{hu}$  = 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 cost for Supplier  $u$  in hour  $h$ , including the Minimum Generation Bid and Incremental Energy Bids;
- $DABreg_{hu}$  = Day-Ahead Regulation Capacity Bid price 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 Regulation Capacity Bid price for Supplier  $u$  in interval  $i$ .
- $RTBen_{iu}$  = real-time Energy Bid cost for Supplier  $u$  in interval  $i$ , including the Minimum Generation Bid and Incremental Energy Bids.
- $RTBregm_{iu}$  = real-time Regulation Movement Bid price for Supplier  $u$  in interval  $i$ .

$RTMreg_{iu}$  = real-time Regulation Movement MWs for Supplier  $u$  in interval  $i$ ;

$AE_{iu}$  = either, (1) average Actual Energy Injection by Supplier  $u$  in interval  $i$  but not more than  $RTSen_{iu}$  plus Compensable Overgeneration; or (2) average Actual Energy Withdrawal by Supplier  $u$  in interval  $i$ ;

$RTPen_{iu}$  = real-time price of Energy at the location of Supplier  $u$  in interval  $i$ ;

$RTPreg_{iu}$  = real-time price of Regulation Capacity 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  $i$ ;

$RTPregm_{iu}$  = real-time Regulation Movement Market Price at the location of Supplier  $u$  in interval  $i$ ;

$LL_{iu}$  = When the Day-Ahead Energy schedule is to inject, either, ~~as the case may be~~:

(a) if  $RTSen_{iu} < EOP_{iu}$ , then  $LL_{iu} = \max(\min(\max(RTSen_{iu}, \min(AE_{iu}, EOP_{iu})), DASen_{hu}), 0)$ ; or

(b) if  $RTSen_{iu} \geq EOP_{iu}$ , then  $LL_{iu} = \max(\min(RTSen_{iu}, \max(AE_{iu}, EOP_{iu}), DASen_{hu}), 0)$

When the Day-Ahead Energy schedule is to withdraw, either:

(a) if  $RTSen_{iu} \geq EOP_{iu} \geq DASen_{hu}$

(1) if  $AE_{iu} \leq EOP_{iu}$ , then  $LL_{iu} = \min(\max(DASen_{hu}, \min(AE_{iu}, EOP_{iu})), RTSen_{iu}, 0)$ ; or

(2) if  $AE_{iu} > EOP_{iu}$ , then  $LL_{iu} = \min(\max(DASen_{hu}, AE_{iu}, EOP_{iu}), RTSen_{iu}, 0)$

(b) otherwise

$LL_{iu} = \min(\max(DASen_{hu}, \min(AE_{iu}, EOP_{iu})), RTSen_{iu}, 0)$

$UL_{iu}$  = When the Day-Ahead Energy schedule is to inject, either, ~~as the case may be~~:

(a) ~~(a) if  $RTSen_{iu} \geq EOP_{iu} \geq DASen_{hu}$ , then  $UL_{iu} = \max(\min(RTSen_{iu}, \max(AE_{iu}, EOP_{iu})), DASen_{hu})$ ; or~~

~~(b) otherwise, then  $UL_{iu} = \max(RTSen_{iu}, \min(AE_{iu}, EOP_{iu}), DASen_{hu})$ ;~~

~~(b) otherwise, then  $UL_{iu} = \max(RTSen_{iu}, \min(AE_{iu}, EOP_{iu}), DASen_{hu})$ ;~~

When the Day-Ahead Energy schedule is to withdraw, either:

(a) if  $RTSen_{iu} < EOP_{iu}$

(1) if  $AE_{iu} < RTSen_{iu}$ , then  $UL_{iu} = \min(RTSen_{iu}, AE_{iu}, EOP_{iu}, DASen_{hu})$ ;

(2) if  $RTSen_{iu} < AE_{iu} < EOP_{iu}$ , then  $UL_{iu} = \min(\max(RTSen_{iu}, \min(AE_{iu}, EOP_{iu})), DASen_{hu})$ ; or

(3) if  $AE_{iu} > EOP_{iu}$ , then  $UL_{iu} = \min(\max(RTSen_{iu}, AE_{iu}, EOP_{iu}), DASen_{hu})$ ;

(b) if  $RTSen_{iu} \geq EOP_{iu}$

(1) if  $AE_{iu} \leq EOP_{iu}$ , then  $UL_{iu} = \min(RTSen_{iu}, AE_{iu}, EOP_{iu}, DASen_{hu})$ ;

(2) if  $EOP_{iu} < AE_{iu} \leq RTSen_{iu}$ ,  ~~$RTSen_{iu}$~~ , then  $UL_{iu} = \min(RTSen_{iu}, \max(AE_{iu}, EOP_{iu}), DASen_{hu})$ ; or

(3) if  $AE_{iu} > RTSen_{iu}$ , then  $UL_{iu} = \min(\max(RTSen_{iu}, AE_{iu}, EOP_{iu}), DASen_{nu})$ ;

$EOP_{iu}$  = the Economic Operating Point of Supplier  $u$  in interval  $i$  calculated without regard to ramp rates;

$Seconds_i$  = number of seconds in interval  $i$

$KPI_{pi}$  = 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.

#### **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  $DASres_p$  variables will be reduced by  $REDen$ ,  $REDreg$  and  $REDres_p$  respectively.  $REDen$ ,  $REDreg$  and  $REDres_p$  shall be calculated using the formulas below:

$$REDtot_{iu} = \max\left(DASen_{hu} + DASreg_{hu} + \sum_p DASres_{hup} - RTUOL_{iu}, 0\right)$$

$$POTREDen_{iu} = \max(DASen_{hu} - RTSen_{iu}, 0)$$

$$POTREDreg_{iu} = \max(DASreg_{hu} - RTSreg_{iu}, 0)$$

$$POTREDres_{iup} = \max(DASres_{hup} - RTSres_{iup}, 0)$$

$$REDen_{iu} = \left( POTREDen_{iu} / \left( POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup} \right) \right) * REDtot_{iu}$$

$$REDreg_{iu} = \left( POTREDreg_{iu} / \left( POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup} \right) \right) * REDtot_{iu}$$

$$REDres_{iup} = \left( POTREDres_{iup} / \left( POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup} \right) \right) * REDtot_{iu}$$

where:

- $RTUOL_{iu}$  = The real-time Emergency Upper Operating Limit or Normal Upper Operating Limit whichever is applicable of Supplier  $u$  in interval  $i$
- $REDtot_{iu}$  = The total amount in MW that Day-Ahead schedules need to be reduced to account for the derate of Supplier  $u$  in interval  $i$
- $REDen_{iu}$  = 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  $i$
- $REDreg_{iu}$  = 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  $i$
- $REDres_{iup}$  = 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  $i$
- $POTREDen_{iu}$  = 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  $i$
- $POTREDreg_{iu}$  = 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  $i$
- $POTREDres_{iup}$  = 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  $u$  in interval  $i$

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 for an Import scheduled by RTC or RTD at a Proxy Generator Bus, other than a CTS Enabled Proxy Generator Bus, are Curtailed at the request of the ISO, and (i) the real-time Energy Profile MW is equal to or greater than the Day-Ahead Energy Schedule for that interval, and (ii) the real-time Decremental Bid is less than or equal to the default real-time Decremental Bid amount as established by ISO procedures, 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. Suppliers scheduling Imports at CTS Enabled Proxy Generator Buses shall not be eligible for Import Curtailment Guarantee payments for those Transactions.

### **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 daily sum of the hourly payments which, for each hour of Import t, is calculated as the greater of the interval payments determined for the hour or zero as seen in the formula below.

Import Curtailment Guarantee Payment to Supplier u in association with Import t =

$$\sum_{h=1}^N \max \left( \sum_{i=1}^H (RTLBM P_{ti} - \max(DADecBid_{ti}, 0)) * (DAen_{ti} - RTDen_{ti}) * \frac{S_i}{3600}, 0 \right)$$

Where

- $N$  = the number of hours in the Dispatch Day
- $H$  = the number of intervals in hour  $h$
- $i$  = the relevant interval in hour  $h$ ;
- $S_i$  = number of seconds in interval  $i$ ;
- $RTL BMP_{t,i}$  = the real-time LBMP, in \$/MWh, for interval  $i$  at the Proxy Generator Bus which is the source of the Import  $t$ .
- $DA Dec Bid_{t,i}$  = the Day Ahead Decremental Bid price associated with the Day-Ahead energy schedule, in \$/MWh, for Import  $t$  in hour  $h$  containing interval  $i$ ;
- $DA en_{t,i}$  = the Day Ahead scheduled Energy injections, in MWh, for Import  $t$  in hour  $h$  containing interval  $i$  as determined by Security Constrained Unit Commitment (SCUC); and
- $RT Den_{t,i}$  = the scheduled Energy injections, in MWh, for Import  $t$  in interval  $i$  as determined by Real-Time Dispatch (RTD).