

New York Independent System Operator, Inc
Open Access Transmission Tariff

1. Definitions

1.18 Definitions - R

RCRR TCC: A Load Zone-to-Load Zone TCC created when a Transmission Owner with a RCRR exercises its right to convert the RCRR into a TCC pursuant to Section 19.5.4 of Attachment M of this 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), over-excited Generators, and Qualified Non-Generator Voltage Support Resources, and absorbed by reactors or under-excited Generators and other inductive devices including the inductive portion of Loads.

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.

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 at least seventy-five minutes before the start of a dispatch hour, or at least eighty-five minutes before the start of a dispatch hour if the Bid seeks to schedule an External Transaction at the Proxy Generator Bus associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, or the Linden VFT Scheduled Line.

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: “RTC₀₀,” RTC₃₀, and “RTC₄₅,” 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, RTC₁₅ will also establish External Transaction schedules. Additional information about RTC’s functions is provided in Section 4.4.2 of the ISO Services Tariff.

1.36d.3 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 covers 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. Real-Time Dispatch runs will normally occur every five minutes. Additional information about RTD’s functions is provided in Section 4.4.3 of the ISO Services Tariff. Throughout the 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 the 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 the RTD.

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 which period closes seventy-five (75) minutes before each hour, or eighty-five (85) minutes before each hour for Bids to schedule External Transactions at the Proxy Generator Buses associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, or the Linden VFT Scheduled Line.

Receiving Party: The entity receiving the Capacity and Energy transmitted by the ISO to Point(s) of Delivery.

Reconfiguration Auction: The monthly auction administered by the ISO in which Transmission Customers may purchase and sell one-month TCCs.

Reduction or Reduce: The partial or complete reduction in non-Firm Transmission Service as a result of transmission Congestion (either anticipated or actual).

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.

Regional Transmission Group (RTG): A voluntary organization of transmission owners, transmission users and other entities approved by the Commission to efficiently coordinate transmission planning (and expansion), operation and use on a regional (and interregional) basis.

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 the Service 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.

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

Reserved Capacity: The maximum amount of Capacity and Energy that the ISO agrees to transmit for the Transmission Customer over the NYS Transmission System between the Point(s) of Receipt and the Point(s) of Delivery under Part 3 of this Tariff. Reserved Capacity shall be expressed in terms of whole megawatts on a sixty (60) minute interval (commencing on the clock hour) basis.

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

Residual Capacity Reservation Right ("RCRR"): A megawatt of transmission capacity from one Load Zone to an electrically contiguous Load Zone, each of which is internal to the NYCA, that may be converted into an RCRR TCC by a Transmission Owner allocated the RCRR pursuant to Section 19.5 of Attachment M.

Residual Transmission Capacity: The transmission capacity determined by the ISO before, during and after the Centralized TCC Auction which is conceptually equal to the following:

$$\text{Residual Transmission Capacity} = \text{TTC} - \text{TRM} - \text{CBM} - \text{GTR} - \text{GTCC} - \text{ETCNL}$$

The TCCs associated with Residual Transmission Capacity cannot be accurately determined until the Centralized TCC Auction is conducted.

TTC is the Total Transfer Capability that can only be determined after the Residual Transmission Capacity is known.

GTR is the transmission capacity associated with Grandfathered Rights.

GTCC is the transmission capacity associated with Grandfathered TCCs.

ETCNL is the transmission capacity associated with Existing Transmission Capacity for Native Load.

TRM is the Transmission Reliability Margin.

CBM is the Capacity Benefit Margin.

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

2 DEFINITIONS

The following definitions are applicable to the ISO Services Tariff:

2.18 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:: A zone-to-zone TCC created when a Transmission Owner with a RCRR exercises its right to convert the RCRR into a TCC pursuant to Section 19.5.4 of Attachment M of 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 at least seventy-five minutes before the start of a dispatch hour, or at least eighty-five minutes before the start of a dispatch hour if the Bid seeks to schedule an External Transaction at the Proxy Generator Bus associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, or the Linden VFT Scheduled Line.

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; “RTC₀₀,” “RTC₁₅,” “RTC₃₀,” and “RTC₄₅” 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. RTC₁₅ will also establish External Transaction schedules. 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. 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 which period closes seventy-five (75) minutes before each hour, or eighty-five (85) minutes before each hour for Bids to schedule External Transactions at the Proxy Generator Buses associated with the Cross-Sound Scheduled Line, the Neptune Scheduled Line, or the Linden VFT Scheduled Line.

Reconfiguration Auction: The monthly auction administered by the ISO in which Market Participants may purchase and sell one-month TCCs.

Reduction or Reduce: The partial or complete reduction in Non-Firm Transmission Service as a result of transmission Congestion (either anticipated or actual).

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.

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.

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”): A megawatt of transmission Capacity from one Load Zone to an electrically contiguous Load Zone, each of which is internal to the NYCA, that may be converted into an RCRR TCC by a Transmission Owner allocated the RCRR pursuant to Section 19.5 of Attachment M of the ISO OATT.

Residual Transmission Capacity: The transmission capacity determined by the ISO before, during and after the Centralized TCC Auction which is conceptually equal to the following:

$$\text{Residual Transmission Capacity} = \text{TTC} - \text{TRM} - \text{CBM} - \text{GTR} - \text{GTCC} - \text{ETCNL}$$

The TCCs associated with Residual Transmission Capacity cannot be accurately determined until the Centralized TCC Auction is conducted.

TTC is the Total Transfer Capability that can only be determined after the Residual Transmission Capacity is known.

GTR is the transmission capacity associated with Grandfathered Rights.

GTCC is the transmission capacity associated with Grandfathered TCCs.

ETCNL is the transmission capacity associated with Existing Transmission Capacity for Native Load.

TRM is the Transmission Reliability Margin.

CBM is the Capacity Benefit Margin.

Resource: An Energy Limited Resource, Generator, Installed Capacity Marketer, Special Case Resource, Intermittent Power Resource, Limited Control Run of River Hydro Resource, municipally-owned generation, System Resource, Demand Side Resource or Control Area System Resource.

Rest of State: The set of all non-Locality NYCA LBMP Load Zones. As of the 2002-2003 Capability Year, Rest of State includes all NYCA LBMP Load Zones other than LBMP Load Zones J and K.

4 MARKET SERVICES: RIGHTS AND OBLIGATIONS

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, sells or purchases Capacity, or provides Ancillary Services in the ISO Administered Markets utilizes Market Services and must take service as a Customer under the Tariff.

4.1.3 Informational and Reporting Requirements

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 Bid Post System also will provide historical data regarding Energy and Capacity market clearing prices in addition to Congestion Costs.

4.1.4 Scheduling Prerequisites

Each Customer shall be subject to a minimum Transaction size of one (1) megawatt (“MW”) between each Point of Injection and Point of Withdrawal in any given hour. Each Transaction must be scheduled in whole megawatts.

4.1.5 Communication Requirements for Market Services

Customers may utilize a variety of communications facilities to access the ISO’s OASIS and Bid/Post System, including but not limited to, conventional Internet service providers, wide area networks such as NERC net, and dedicated communications circuits. 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 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 provided, however, that Demand Side Resources offering Operating Reserves or

Regulation Service shall pay the Market Administration and Control Area Services Charge based only on their withdrawal billing units. Limited Energy Storage Resources shall pay the Market Administration and Control Area Services Charge, as specified in Rate Schedule 1 of this ISO Services Tariff, based only on their Actual Energy Injections.

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 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 Incremental Cost Recovery for Units Responding to Local Reliability Rule I-R3 or I-R5

Generating units designated pursuant to the New York State Reliability Council's Local Reliability Rule I-R3 -- Loss of Generator Gas Supply (New York City) or I-R5 -- Loss of Generator Gas Supply (Long Island), as being required to burn an alternate fuel at designated minimum levels 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 the variable operating costs associated with burning the required alternate fuel pursuant to the provisions of this Section 4.1.9. For purposes of this Section 4.1.9, the periods of time for which Consolidated Edison invokes Local Reliability Rule I-R3 or LIPA invokes Local Reliability Rule I-R5 and in which the eligible unit burns its required alternate fuel, including that period of time required to move into and out of Rule I-R3 or I-R5 compliance, shall be referred to as the “Eligibility Period.” For Eligibility Periods, the eligible unit shall recover its variable operating costs associated with burning the required alternate fuel if and to the extent that such variable operating costs are not reflected in the reference level for that unit for the hours included in the Eligibility Period, pursuant to ISO procedures. To be recoverable, variable operating costs associated with burning the required alternate fuel must be incurred during an Eligibility Period and must be incurred only because Local Reliability Rule I-R3 or I-R5 was invoked.

Rules for determining: (i) variable operating costs associated with burning the required alternate fuel that would not have been incurred but for the requirement to burn the required alternate fuel as established by Local Reliability Rules I-R3 and I-R5; and (ii) Eligibility Periods shall be specified in ISO Procedures. Payments made by the ISO to the eligible unit to reimburse the variable operating costs paid 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.

There shall be no recovery of costs pursuant to this Section 4.1.9 for any hour for which the indexed variable operating costs of the required alternate fuel that is being burned pursuant to Rule I-R3 or I-R5 is less than the indexed variable operating costs for natural gas, as determined by the ISO.

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 variable operating costs associated with burning the required alternate fuel pursuant to the provisions of this section; (ii) the start and stop hours for each claimed Eligibility Period and (iii) the amount of alternative fuel for which the Generator has sought to recover variable operating costs.

4.4 Real-Time Markets and Schedules

4.4.1 In-Day Pre-Scheduled Transactions

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

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

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

4.4.2 Real-Time Commitment (“RTC”)

4.4.2.1 Overview

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

4.4.2.2 Bids and Other Requests

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

4.4.2.2.1 Real-Time Bids to Supply Energy and Ancillary Services

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

Energy, Operating Reserves and/or Regulation Service. Customers that submit such Bids may specify different Bid parameters in RTC than they did Day-Ahead. Incremental Energy Bids may be submitted for ISO-Committed Fixed Generators, ISO-Committed Flexible Generators and Demand Side Resources, and Self-Committed Flexible Generators that exceed the Incremental Energy Bids submitted in the Day-Ahead Market or the mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of the Capacity of such Resources that were scheduled in the Day-Ahead Market, if not otherwise prohibited pursuant to other provisions of the tariff. Minimum Generation Bids or Start-Up Bids for any hour in which such Resources received a Day-Ahead Energy schedule may not exceed the Minimum Generation Bids and Start-up Bids 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 4.2.2 above and in Attachment D to this ISO Services Tariff.

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

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

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

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

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

4.4.2.2.2 Bids Associated with Internal and External Bilateral Transactions

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

Except as noted in Attachment N to this ISO Services Tariff, Sink Price Cap Bids or Decremental Bids for External Transactions may be submitted into RTC up to seventy five minutes before the hour in which the External Transaction would flow. External Transaction Bids must have a one hour duration, must start and stop on the hour, and must have constant magnitude for the hour. Intra-hour schedule changes, or Bid modifications, associated with External Transactions will not be accommodated.

4.4.2.2.3 Self-Commitment Requests

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

4.4.2.2.4 ISO-Committed Fixed

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

RTC shall schedule ISO-Committed Fixed Generators.

4.4.2.3 External Transaction Scheduling

RTC₁₅ will schedule External Transactions on an hour-ahead basis as part of its development of a co-optimized least-bid cost real-time commitment. RTC will alert the ISO when it appears that scheduled External Transactions need to be reduced for reliability reasons but will not automatically Curtail them. Curtailment decisions will be made by the ISO, guided by the information that RTC provides, pursuant to the rules established by Attachment B of this ISO Services Tariff and the ISO Procedures.

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

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

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

RTC₁₅ 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 RTC₁₅ run, RTC will:

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

- (ii) Commit Resources with 30-minute start-up times that should be synchronized by the time that the results of the RTC run following the next RTC run are posted so that they will be synchronized and running at their minimum generation levels by that time;
- (iii) De-commit Resources that should be disconnected from the network by the time that the results of the next RTC run are posted so that they will be disconnected by that time;
- (iv) Issue advisory commitment and de-commitment guidance for periods more than thirty minutes in the future and advisory dispatch information;
- (v) Schedule Pre-Scheduled Transaction and economic External Transactions to run during the entirety of the next hour; and
- (vi) Schedule ISO-Committed Fixed Resources.

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

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

- (iii) De-commit Resources that should be disconnected from the network by the time that the results of the next RTC run are posted so that they will be disconnected at that time;
- (iv) Issue advisory commitment, de-commitment, and dispatching guidance for the period from thirty minutes in the future until the end of the RTC co-optimization period;
- (v) Either reaffirm that the External Transactions scheduled by RTC₁₅ to flow in the next hour should flow, or inform the ISO that External Transactions may need to be reduced; and
- (vi) Schedule ISO-Committed Fixed Resources.

4.4.2.5 External Transaction Settlements

RTC₁₅ will calculate the Real-Time LBMP for all External Transactions if constraints at the interface associated with that External Transaction are binding. In addition, RTC₁₅ will calculate Real-Time LBMPs at Proxy Generator Buses for any hour in which: (i) proposed economic Transactions over the Interface between the NYCA and the External Control Area that the Proxy Generator Bus is associated with would exceed the Available Transfer Capability for the Proxy Generator Bus or for that Interface; (ii) proposed interchange schedule changes pertaining to the NYCA as a whole would exceed any Ramp Capacity limits in place for the NYCA as a whole; or (iii) proposed interchange schedule changes pertaining to the Interface between the NYCA and the External Control Area that the Proxy Generator Bus is associated with would exceed any Ramp Capacity limit imposed by the ISO for the Proxy Generator Bus or for that Interface. Finally, Real-Time LBMPs will be determined at certain times at Non-Competitive Proxy Generator Buses and Proxy Generator Buses associated with designated

Scheduled Lines that are subject to the Special Pricing Rules as is described in Attachment B to this ISO Services Tariff.

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

4.4.3 Real-Time Dispatch

4.4.3.1 Overview

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

4.4.3.2 Calculating Real-Time Market LBMPs and Advisory Prices

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

4.4.3.3 Real-Time Pricing Rules for Scheduling Ten Minute Resources

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

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

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

by a Supplier of Operating Reserves, Regulation Service or Energy as appropriate. The ISO shall settle any remaining Demand Reductions provided beyond Capacity that was scheduled Day-Ahead as Ancillary Services or Energy as being provided by a Special Case Resource, provided such Demand Reduction is otherwise payable as a reduction by a Special Case Resource.

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

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

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

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

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

Curtailment Services Provider Capacity that was scheduled Day-Ahead as Operating Reserves, Regulation Service or Energy as being provided by a Supplier of Operating Reserves, Regulation Service or Energy as appropriate. The ISO shall settle Demand Reductions provided beyond Capacity that was scheduled Day-Ahead as ancillary services or Energy as being provided by a Curtailment Services Provider.

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

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

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

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

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

Reserves. These rules are set forth in Section 15.3.2.5.2 of Rate Schedule 15.3 and Section 15.4.6.2 of Rate Schedule 15.4 of this ISO Services Tariff.

4.4.4 Real-Time Dispatch - Corrective Action Mode

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

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

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

4.4.4.1 RTD-CAM Modes

4.4.4.1.1 Reserve Pickup

The ISO will enter this RTD-CAM mode when necessary to re-establish schedules when large area control errors occur. When in this mode, RTD-CAM will send 10-minute Base Point Signals and produce schedules for the next ten minutes. RTD-CAM may also commit, or if necessary de-commit, Resources capable of starting or stopping within 10-minutes. The ISO

will continue to optimize for Energy and Operating Reserves, will recognize locational Operating Reserve requirements, but will suspend Regulation Service requirements. If Resources are committed or de-committed in this RTD-CAM mode the schedules for them will be passed to RTC and the Real-Time Dispatch for their next execution.

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

4.4.4.1.2 Maximum Generation Pickup

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

4.4.4.1.3 Base Points ASAP -- No Commitments

The ISO will enter this RTD-CAM mode when changed circumstances make it necessary to issue an updated set of Base Point Signals. Examples of changed circumstances that could necessitate taking this step include correcting line, contingency, or transfer overloads and/or

voltage problems caused by unexpected system events. When operating in this mode, RTD-CAM will produce schedules and Base Point Signals for the next five minutes but will only redispatch Generators that are capable of responding within five minutes. RTD-CAM will not commit or de-commit Resources in this mode.

4.4.4.1.4 Base Points ASAP -- Commit As Needed

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

4.4.4.1.5 Re-Sequencing Mode

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

4.4.4.2 Calculating Real-Time LBMPs

When RTD-CAM is activated, except when it is in reserve pickup mode, *ex ante* Real-Time LBMPs will be calculated at each Generator bus, and for each Load Zone, every five minutes, in accordance with the procedures set forth above in Section 4.4.3.2 When it is in reserve pickup mode, *ex ante* Real-Time LBMPs will be calculated every ten minutes, but RTD-CAM shall otherwise follow the procedures set forth above in Section 4.4.3.2 In addition, when RTD-CAM is activated, Suppliers may be eligible for Bid Production Cost guarantee payments

during large event, but not small event, reserve pickups and during maximum generation pickups in accordance with Section 4.6.6 and Attachment C of this ISO Services Tariff.

4.4.4.3 Posting Commitment Decisions

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

5 CONTROL AREA SERVICES: RIGHTS AND OBLIGATIONS

5.2 Independent System Operator Authority

The ISO will act as the Control Area operator, as defined by NERC, for the NYCA. The ISO will provide all Control Area Services in the NYCA. Control Area Services provided by the ISO will be in accordance with the terms of the ISO Services Tariff, the Reliability Rules, the ISO Related Agreements and Good Utility Practice. The ISO will interact with other Control Area operators as required to effect External Transactions pursuant to this Tariff and to ensure the effective and reliable coordination with the interconnected Control Areas. In acting as the Control Area operator, the ISO will be responsible for maintaining the safety and the short-term reliability of the NYCA and for the implementation of reliability standards promulgated by NERC and NPCC and for the Reliability Rules promulgated by the NYSRC. To be included within NYCA, a Market Participant must meet the requirements of Section 5.6. Each Market Participant that (1) withdraws Energy to supply Load within the NYCA; or (2) provides installed Capacity to an LSE serving Load within the NYCA, benefits from the Control Area Services provided by the ISO and from the reliability achieved as a result of ISO Control Area Services and therefore must take service as a Customer under the Tariff. To be included within NYCA, a Market Participant must meet the requirements of Section 5.6. A Market Participant that is not included within the NYCA may take service as a Customer under the Tariff, provided that it meets the requirements of Section 5.7.

5.2.1 Suspension of Virtual Transactions

The ISO may temporarily suspend Virtual Transactions if it determines that:

- 5.2.1.1 The financial exposure of customers engaged in Virtual Transactions cannot be determined with a reasonable degree of accuracy or to factors such as software or system failures;

5.2.1.2 A market aberration associated with Virtual Transactions substantially impairs the functioning of the ISO-administered markets; or

5.2.1.3 Virtual Transactions substantially impair the ability of the ISO to maintain the reliability of the electric system.

As soon as reasonably practicable, the ISO shall notify the Commission and Market Participants of the reason(s) for any suspension of Virtual Transactions, the action(s) necessary to restore Virtual Transactions, and the estimated time required to restore Virtual Transactions.

5.2.2 Suspension of the Ability of Generators to Increase Their Bids in Real-Time

The ISO may temporarily suspend the ability to submit Incremental Energy Bids in the real-time market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market or the mitigated Day-Ahead Incremental Energy Bids where appropriate for the portions of Generators' Capacity that were scheduled in the Day-Ahead Market, if the ISO determines that:

5.2.2.1 a market aberration associated with Incremental Energy Bids submitted in the real-time market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market for the portions of Generators' Capacity that were scheduled in the Day-Ahead Market substantially impairs the functioning of the ISO-administered markets; or

5.2.2.2 Permitting Incremental Energy Bids submitted in the real-time market to exceed the Incremental Energy Bids submitted in the Day-Ahead Market or the mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of Generators' Capacity that were scheduled in the Day-Ahead Market substantially impairs the ability of the ISO to maintain the reliability of the electric system.

As soon as reasonably practicable, the ISO shall notify the Commission and Market Participants of the reason(s) for any suspension of the ability for Incremental Energy Bids submitted in the real-time market to exceed the Incremental Energy Bids submitted in the Day-Ahead Market or the mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of Generators' Capacity that were scheduled in the Day-Ahead Market; the action(s) necessary to restore this feature to the ISO-Administered Markets; and the estimated time required to restore this feature to the ISO-Administered Markets.

23 Attachment H - ISO Market Power Mitigation Measures

23.4. Mitigation Measures

23.4.1. Purpose

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. 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.

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 for a bid submitted for an Electric Facility. The default bid shall establish a maximum or minimum value for one or more components of the

submitted bid, 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 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.

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 procedures shall not be applied to hydroelectric resources or External Generators. In addition, except as specified below the following shall not be mitigated on an automated basis: (i) bids by a Market Party or its Affiliates that together have bidding control over 50 MW or less of capacity; or (ii) bids by a Market Party or its Affiliates that together have bidding control over 50 MW or more of capacity if the bids by such entities that meet the applicable conduct test for mitigation are for an amount of capacity that totals 50 MW or less. The foregoing exemptions shall be reduced or discontinued for any Market Party or its Affiliates determined by the ISO, after consulting with the Market Party as specified in Section 23.3.3, to be submitting bids that constitute economic withholding that has a significant effect on prices or guarantee payments. The foregoing exemptions shall not apply to mitigation imposed pursuant to Sections 23.3.1.2.2 and 23.3.2.1.3 of this Attachment H.

23.4.2.2.5.2 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.

23.4.2.2.5.3 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.

23.4.2.2.5.4 The posting of the Day-Ahead schedule may be delayed if necessary for the completion of automated mitigation procedures.

23.4.2.2.5.5 Bids not mitigated under automated procedures shall remain subject to mitigation by other procedures specified herein as may be appropriate.

23.4.2.2.5.6 The role of automated mitigation measures in the determination of market clearing prices are described in Section 17.1.1.5 of Attachment B of the ISO Services Tariff and Section 16.1.1.5 of Attachment J of the ISO OATT.

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) RLS Penalty; or (vi) 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.

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 LBMP.

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.

23.4.3.3.1.2 For purposes of determining a Base Penalty Amount, the term "Penalty LBMP" shall mean: (i) for a seller, the LBMP at the generator bus of the withheld resource; and (ii) for a Load Serving Entity, its zonal LBMP.

23.4.3.3.2 The financial penalty for failure to follow ISOs 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 RLS Penalty

23.4.3.3.4 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.

23.4.3.3.5 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 The exclusive means for the resolution of disputes arising from or relating to the imposition of a sanction under this Section 23.4.3 shall be the dispute

resolution provisions of Attachment O and this Attachment H. 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 the amount of any unpaid penalty from the date of the infraction giving rise to the penalty to the date of payment. The exclusive remedy for the 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.

23.4.4.2.2 The ISO shall compute the average hourly deviation between day-ahead and real-time zone prices, measured as: $(\text{Zone Price}_{\text{real time}} / \text{Zone Price}_{\text{day ahead}}) -$

1. The average hourly deviation shall be computed over a rolling eight week

period or such other period determined by the ISO to be appropriate to achieve the purpose of this mitigation measure.

23.4.4.2.3 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.

23.4.4.2.4 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.

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 it has been exported to an External Control Area or sold to meet Installed Capacity requirements outside the New York City Locality in a transaction that does not constitute physical withholding under the standards specified below.

23.4.5.4.1 An export to an External Control Area or sale to meet an Installed Capacity requirement outside the New York City Locality of Mitigated UCAP (either of the foregoing being referred to as “External Sale UCAP”) may be subject to audit and review by the ISO to assess whether such action constituted physical withholding of UCAP from the New York City Locality. External Sale UCAP shall be deemed to have been physically withheld on the basis of a comparison of the net revenues from UCAP sales that would have been earned by the sale in the New York City Locality of External Sale UCAP. The comparison shall be made for the period for which Installed 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 Mitigated UCAP was exported or sold. External Sale ICAP shall be deemed to have been withheld from the New York City Locality 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 New York City

Locality by buying out of its external capacity obligation through participation in an External Reconfiguration Market; and (2) the net revenues over the Comparison Period from sale in the New York City Locality of the External Sale UCAP that could have been made available for sale in that Locality would have been greater by 5% or more than the net UCAP revenues from that portion of the External Sale UCAP over the Comparison Period.

23.4.5.4.2 If Mitigated UCAP is not offered or sold as specified above, and if the failure to offer or the sale of External Sale UCAP causes or contributes to an increase in UCAP prices in the New York City Locality of 15 percent or more, provided such increase is at least \$2.500/kilowatt-month, the Responsible Market Party for such Installed Capacity Supplier shall be required to pay to the ISO an amount equal to 1.5 times the lesser of (A) the difference between the average Market-Clearing Price for the New York City Locality in the ICAP Spot Market Auctions for the relevant Comparison Period with and without the inclusion of the Export Sale UCAP in those auctions, or (B) the difference between such average price and the clearing price in the External Reconfiguration Market for the relevant Comparison Period, times the total of (1) the amount of Mitigated UCAP not offered or sold as specified above, and (2) all other megawatts of Unforced Capacity in the New York City Locality under common Control with such Mitigated 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 Reasonably in advance of the deadline for submitting offers in an External Reconfiguration Market and in accordance with the deadlines specified in ISO

Procedures, the Responsible Market Party for External Sale UCAP may request the ISO to provide a projection of ICAP Spot Auction clearing prices for the New York City Locality over the Comparison Period for the External Reconfiguration Market. Prior to completing its projection of ICAP Spot Auction clearing prices for the New York City Locality 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 External UCAP Sales that would exceed the net revenues that would have been realized from sale of the External UCAP Sales capacity in the New York City Locality 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 30.4.6.2.7 of Attachment O.

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. The presumption of Control from ownership can be rebutted by either: (1) the sale of Unforced Capacity from the Installed Capacity Supplier in a Capability Period Auction or a Monthly Auction, or (2) demonstrating to the reasonable satisfaction of the ISO; provided, however, that 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 30.4.6.2.8 of Attachment O.

23.4.5.6 Any proposal or decision by a Market Participant to retire or otherwise remove an Installed Capacity Supplier from the In-City Unforced Capacity market, or to de-rate 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 the New York City Locality subsequent to such action. 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. If the ISO determines that the proposal or decision constitutes physical withholding, and would increase Market-Clearing Prices in one or more ICAP Spot Market Auctions for the New York City Locality by five percent or more, provided such increase is at least \$.50/kilowatt-

month, for each such violation of the above requirements the Market Participant shall be assessed an amount up to 1.5 times the market clearing price in the ICAP Spot Market Auction for each month during which Installed Capacity was withheld, times the total of (1) the number of megawatts withheld in each month and (2) all other megawatts of Installed Capacity in the New York City Locality under common Control with such withheld megawatts. The requirement to pay such amounts shall continue until the Market Party demonstrates that the removal from service, retirement or de-rate is justified by economic considerations other than the effect of such action on Market-Clearing Prices in the ICAP Spot Market Auctions for the New York City Locality. The ISO will distribute any amount recovered in accordance with the foregoing provisions among the LSEs serving Loads in regions affected by the withholding in accordance with ISO Procedures. 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.

23.4.5.7 Unless exempt as specified below, offers to supply Unforced Capacity in an ICAP Spot Market Auction from an In-City Installed Capacity Supplier shall equal or exceed the applicable Offer Floor. The Offer Floors shall apply to offers for Unforced Capacity from the Installed Capacity Supplier, if it is not a Special Case Resource, for each of the six Capability Periods starting with the Capability Period for which the Installed Capacity Supplier first offers to supply UCAP (“Initial Capability Period”), or the period of years if longer determined by (1) the initial DMNC value of the Installed Capacity Supplier plus the amount of Surplus Capacity at the time the Installed Capacity Supplier first offers to supply UCAP,

divided by (2) the average annual growth in MW of the Locational Minimum Installed Capacity Requirement for the New York City Locality over the six Capability Periods preceding the Initial Capability Period. If the foregoing calculation extends mitigation to part of a Capability Period, the entire Capability Period shall be subject an Offer Floor. The initial DMNC value of the Installed Capacity Supplier shall be determined as specified in the ISO's tariffs and ISO Procedures.

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 In-City Load unless such Unforced Capacity is obtained through participation in an ICAP Spot Market Auction.

23.4.5.7.2 An Installed Capacity Supplier shall be exempt from an Offer Floor if: (a) any ICAP Spot Market Auction price for the two Capability Periods beginning with the first Capability Period for any part of which the Installed Capacity Supplier is reasonably anticipated to offer to supply UCAP (the "Starting Capability Period") is projected by the ISO to be higher, with the inclusion of the Installed Capacity Supplier, than the highest Offer Floor based on Net CONE that would be applicable to such supplier in such Capability Periods, or (b) 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 to be higher, with the inclusion of the Installed Capacity Supplier, than the reasonably anticipated Unit Net CONE of the Installed Capacity Supplier. The Developer or Interconnection Customer may request the ISO to make such determinations upon execution of all necessary Interconnection Facilities Study Agreements for the Installed Capacity

Supplier. If relating to the exemption specified in (ii)(b) above, such a request shall include all data available to the requesting entity relating to the reasonably anticipated Unit Net CONE. The ISO shall provide the requesting entity with the relevant price projections, the Offer Floors specified in (ii)(a) above, and the ISO's determination, if applicable, of the reasonably anticipated Unit Net CONE less the costs to be determined in the Project Cost Allocation or Revised Project Cost Allocation, as applicable, not later than the commencement of the Initial Decision Period for the Interconnection Facilities Study to which the Interconnection Facilities Study Agreement applies, provided that all information reasonably necessary to determine the Installed Capacity Supplier's Unit Net CONE has been delivered to the ISO not later than 60 days prior to the commencement of the Initial Decision Period. When evaluating a request by a Developer or Interconnection Customer 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 ISO shall provide revised price projections to a requesting entity proceeding to a Subsequent Decision Period not later than the ISO's issuance of a Revised Project Cost Allocation. The ISO shall inform the requesting entity whether the exemption specified in (b) above is applicable as soon as practicable after completion of the relevant Project Cost Allocation or Revised Project Cost Allocation, in accordance with methods and procedures specified in ISO Procedures. 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.

23.4.5.7.3 If an Installed Capacity Supplier demonstrates to the reasonable satisfaction of the ISO that its Unit Net CONE is less than any Offer Floor that would otherwise be applicable to the Installed Capacity Supplier, then its Offer Floor shall be reduced to a numerical value equal to its Unit Net CONE.

23.4.5.7.4 Net CONE for the first two years after the last year covered by the most recent Demand Curves approved by the Commission shall be increased by the escalation factor approved by the Commission for such Demand Curves.

23.4.5.7.5 An In-City Installed Capacity Supplier that is a Special Case Resource shall be subject to an Offer Floor for (A) its initial offer to supply Installed Capacity, and (B) its initial offer to supply Installed Capacity following a period of one year or more in which it did not offer to supply Installed Capacity. Responsible Interface Parties shall identify to the ISO any Special Case Resource that is subject to an Offer Floor, in accordance with ISO Procedures. The Special Case Resource shall continue to be subject to an Offer Floor for the following 11 months, for a total for 12 months. The Offer Floor for a Special Case Resource shall be equal to the minimum monthly payment for providing Installed Capacity payable by its Responsible Interface Party, plus the monthly value of any payments or other benefits the Special Case Resource receives from a third party for providing Installed Capacity, or that is received by the Responsible Interface Party for the provision of Installed Capacity by the Special Case Resource. 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. 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 an decrease in UCAP prices in the New York City Locality 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 New York City Locality in the ICAP Spot Auction for which the offers exceeding 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. 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 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.

23.4.5.8 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.

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.

23.4.6.2.2 The ISO shall compute the average hourly deviation between day-ahead and real-time zone prices, measured as: $(\text{Zone Price}_{\text{real time}} / \text{Zone Price}_{\text{day ahead}}) -$

1. The average hourly deviation shall be computed over a rolling four week period or such other period determined by the ISO to be appropriate to achieve the purpose of this mitigation measure.

23.4.6.2.3 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, 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

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 appropriated, for a portion of the Capacity of one or more of its Generators that has been scheduled in the Day-Ahead Market.

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.

23.4.7.2 Monitoring and Implementation

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%

- (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 positive number, then the ISO will ask the Market Party to demonstrate that the real-time Incremental Energy Bid(s) for that hour were submitted for reasons that are consistent with competitive behavior. If the Market Party is unable to show to the satisfaction of the ISO (with review and comment by the Market Monitoring Unit) that the submitted real-time Incremental Energy Bid(s) were consistent with competitive behavior 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 which may be imposed. 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. 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 the Plan.

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 exist, and the Market Party is unable to demonstrate that the real-time Incremental Energy Bid was consistent with competitive behavior, 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.

23.4.7.3.2 In addition to the restrictions imposed under Section 23.4.7.3.1, the ISO may impose penalties on the Market Party calculated in accordance with Section 23.4.3.3.4 of these Mitigation Measures.

23.4.8 Duration of Mitigation Measures

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 25.4, and 25.5 of this Attachment J. The purpose of such payments is to protect Suppliers' Day-Ahead Margins associated with real-time reductions after accounting for: (I) any real-time profits associated with offsetting increases in real-time Energy, Regulation Service, or Operating Reserve schedules; and (ii) any Supplier-requested real-time de-rate granted by the ISO.

In addition, a Supplier may be eligible to receive an Import Curtailment Guarantee Payment if its Import is curtailed at the request of the ISO as determined pursuant to Section 25.6 of this Attachment J.

25.2 Eligibility for Receiving Day-Ahead Margin Assurance Payments

25.2.1 General Eligibility Requirements for Suppliers to Receive Day-Ahead Margin Assurance Payments

Subject to Section 25.2.2 of this Attachment J, the following categories of Resources bid by Suppliers shall be eligible to receive Day-Ahead Margin Assurance Payments: (I) all Self-Committed Flexible and ISO-Committed Flexible Generators that are online and dispatched by RTD; (ii) Demand Side Resources committed to provide Operating Reserves or Regulation Service; (iii) any Resource that is scheduled out of economic merit order by the ISO in response to an ISO or Transmission Owner system security need or to permit the ISO to procure additional Operating Reserves; (iv) any Resource internal to the NYCA that is derated or decommitted by the ISO in response to an ISO or Transmission Owner system security need or to permit the ISO to procure additional Operating Reserves; and (v) Energy Limited Resources with an ISO-approved real-time reduction in scheduled output from its Day-Ahead schedule.

25.2.2 Exceptions

Notwithstanding Section 25.2.1 of this Attachment J, no Day-Ahead Margin Assurance Payment shall be paid to:

25.2.2.1 a Resource otherwise eligible for a Day-Ahead Margin Assurance Payment in hours in which the NYISO has increased the Resource's minimum operating level either: (i) at the Resource's request; or (ii) in order to reconcile the ISO's dispatch with the Resource's actual output or to address reliability concerns that arise because the Resource is not following Base Point Signals; or

25.2.2.2 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.

25.2.2.3 an Intermittent Power Resource that depends on wind as its fuel.

25.3 Calculation of Day-Ahead Margin Assurance Payments

25.3.1 Formula for Day-Ahead Margin Assurance Payments for Generators, Except for Limited Energy Storage Resources

Subject to Sections 25.4 and 25.5 of this Attachment J, Day-Ahead Margin Assurance Payments for Generators, except for Limited Energy Storage Resources, shall be determined by applying the following equations to each individual Generator using the terms as defined in Section 25.3.4:

$$DMAP_{hu} = \max \left(0, \sum_{i \in h} CDMAP_{iu} \right) \quad \text{where:}$$

$$CDMAP_{iu} = CDMAPen_{iu} + \sum_p CDMAPres_{iup} + CDMAPreg_{iu}$$

If the Generator's real-time Energy schedule is lower than its Day-Ahead Energy schedule then:

$$CDMAPen_{iu} = \left\{ \begin{array}{l} DAsen_{hu} - LL_{iu} \times RTPen_{iu} \\ - \int_{LL_{iu}}^{DAsen_{hu}} DABen_{hu} \end{array} \right\} * \frac{Seconds}{3600},$$

If the Generator's real-time Energy schedule is greater than or equal to its Day-Ahead Energy schedule then:

$$CDMAPen_{iu} = \min \left(\left\{ \begin{array}{l} DAsen_{hu} - UL_{iu} \times RTPen_{iu} \\ + \int_{DAsen_{hu}}^{UL_{iu}} RTBen_{iu} \end{array} \right\} * \frac{Seconds}{3600}, 0 \right)$$

If the Generator's real-time schedule for a given Operating Reserve product, p, is lower than its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left[DAsres_{hup} - RTSres_{iup} \right] * \left[RTPres_{iup} - DABres_{hup} \right] * \frac{Seconds}{3600}$$

If the Generator's real-time schedule for a given Operating Reserve product, p, is greater than or equal to its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left[\left(ASres_{hup} - RTSres_{iup} \right) \times \left(TP_{iup} - \right) \right] \frac{Seconds_i}{3600}$$

If the Generator's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left[\left(ASreg_{hu} - RTSreg_{iu} \right) \times \left(TPreg_{iu} - DABreg_{hu} \right) \right] \frac{Seconds_i}{3600}$$

If the Generator's real-time Regulation Schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left[\left(ASreg_{hu} - RTSreg_{iu} \right) \times \text{MAX} \left(TPreg_{iu} - RTBreg_{iu} \right) \right] \frac{Seconds_i}{3600}.$$

25.3.2 Formula for Day-Ahead Margin Assurance Payments for Demand Side Resources

25.3.2.1 Formula for Day-Ahead Margin Assurance Payment for Demand Side Resources

Subject to Section 25.5 of this Attachment J, Day-Ahead Margin Assurance Payments for Demand Side resources scheduled to provide Operating Reserves or Regulation Service shall be determined by applying the following equations to each individual Demand Side Resource using the terms as defined in Section 25.3.4, except for RPI_{iu}, which is defined in Section 25.3.2.2:

$$DMAP_{hu} = \max \left(0, \sum_{i \in h} CDMAP_{iu} \right) \text{ where:}$$

$$CDMAP_{iu} = \sum_p CDMAPres_{iup} + CDMAPreg_{iu},$$

If the Demand Side Resource's real-time schedule for a given Operating Reserve product, p, is lower than its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left(\left(ASres_{hup} - RTSres_{iup} \right) \times \left(RTPres_{iup} - DABres_{hup} \right) \right) * RPIiu * \frac{Seconds_i}{3600}$$

If the Demand Side Resource's real-time schedule for a given Operating Reserve product, p , is greater than or equal to its Day-Ahead Operating Reserve schedule for that product then:

$$CDMAPres_{iup} = \left[PA Sres_{iup} - RT Sres_{iup} \right] \times \left[RTPres_{iup} \right]^* RPIiu * \frac{Seconds_i}{3600}$$

If the Demand Side Resource's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$\text{CDMAPreg}_{\text{iu}} = \left(\text{ASreg}_{\text{hu}} - \text{RTSreg}_{\text{iu}} \right) \times \left(\text{TPreg}_{\text{iu}} - \text{DABreg}_{\text{hu}} \right) \times \frac{\text{Seconds}_i}{3600}$$

If the Demand Side Resource's real-time Regulation Schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left(ASreg_{iu} - RTsreg_{iu} \right) \times \text{MAX} \left(RTPreg_{iu} - RTBreg_{iu} \right) \times \frac{\text{Seconds}_i}{3600}.$$

25.3.2.2 Reserve Performance Index for Demand Side Resource Suppliers of Operating Reserves

The ISO shall produce a Reserve Performance Index for purposes of calculating a Day Ahead Margin Assurance Payment for a Demand Side Resource providing Operating Reserves. The Reserve Performance Index shall take account of the actual Demand Reduction achieved by the Supplier of Operating Reserves following the ISO's instruction to convert Operating Reserves to Demand Reduction.

The Reserve Performance Index shall be a factor with a value between 0.0 and 1.0 inclusive. For each interval in which the ISO has not instructed the Demand Side Resource to convert its Operating Reserves to Demand Reduction, the Reserve Performance Index shall have a value of one. For each interval in which the ISO has instructed the Demand Side Resource to convert its Operating Reserves to Demand Reduction the Reserve Performance Index shall be

calculated pursuant to the following formula, provided however when UAGi is zero or less, the Reserve Performance Index shall be set to zero:

$$RPI_{iu} = \text{Min} \left[(UAGi / ADGi + .1), 1 \right]$$

Where:

RPI_{iu} = Reserve Performance Index in interval i for Demand Side Resource u;

$UAGi$ = average actual Demand Reduction for interval i, represented as a positive generation value; and

$ADGi$ = average scheduled Demand Reduction for interval i, represented as a positive generation base point.

25.3.3 Formula for Day-Ahead Margin Assurance Payments for Limited Energy Storage Resources

Day-Ahead Margin Assurance Payments for Limited Energy Storage Resources scheduled to provide Regulation Service shall be determined by applying the following equations to each Resource using the terms as defined in Section 25.3.4; *provided, however*, that a Day-Ahead Margin Assurance Payment is payable only for intervals in which the NYISO has reduced the real-time Regulation Service offer (in MWs) of a Limited Energy Storage Resource and the NYISO is not pursuing LESR Energy Management for such Resource for such interval, pursuant to ISO Procedures:

If the LESR's real-time Regulation Service schedule is less than its Day-Ahead Regulation Service schedule then:

$$CDMAP_{reg_{iu}} = \left[(DAS_{reg_{iu}} - RTS_{reg_{iu}}) * (RTP_{reg_{iu}} - DAB_{reg_{iu}}) \right] * K_{rr} * \frac{\text{Seconds}_i}{3600}$$

If the LESR's real-time Regulation Service schedule is greater than or equal to the Day-Ahead Regulation Service schedule then:

$$CDMAPreg_{iu} = \left[DASreg_{hu} - RTSreg_{iu} \right] \times \text{MAX} \left(\left[RTPreg_{iu} - RTBreg_{iu} \right] \right) \times \frac{\text{Seconds}_i}{3600}$$

25.3.4 Terms Used in this Attachment J

The terms used in the formulas in this Attachment J shall be defined as follows:

h is the hour that includes interval i ;

$DMAPh_u$	=	the Day-Ahead Margin Assurance Payment attributable in any hour h to any Supplier u ;
$CDMAP_{iu}$	=	the contribution of RTD interval i to the Day-Ahead Margin Assurance Payment for Supplier u ;
$CDMAPen_{iu}$	=	the Energy contribution of RTD interval i to the Day-Ahead Margin Assurance Payment for Supplier u ;
$CDMAPreg_{iu}$	=	the Regulation Service contribution of RTD interval i to the Day-Ahead Margin Assurance Payment for Supplier u ;
$CDMAPres_{iup}$	=	the Operating Reserve contribution of RTD interval i to the Day-Ahead Margin Assurance Payment for Supplier u determined separately for each Operating Reserve product p ;
$DASen_{hu}$	=	Day-Ahead Energy schedule for Supplier u in hour h ;
$DASreg_{hu}$	=	Day-Ahead schedule for Regulation Service for Supplier u in hour h ;
$DASres_{hup}$	=	Day-Ahead schedule for Operating Reserve product p , for Supplier u in hour h ;
$DABen_{hu}$	=	Day-Ahead Energy bid curve for Supplier u in hour h ;
$DABreg_{hu}$	=	Day-Ahead Availability Bid for Regulation Service for Supplier u in hour h ;
$DABres_{hup}$	=	Day-Ahead Availability Bid for Operating Reserve product p for Supplier u in hour h ;
$RTSen_{iu}$	=	real-time Energy scheduled for Supplier u in interval i , and calculated as the arithmetic average of the 6-second AGC Base Point Signals sent to Supplier u during the course of interval i ;
$RTSreg_{iu}$	=	real-time schedule for Regulation Service for Supplier u in interval i .
$RTSres_{iup}$	=	real-time schedule for Operating Reserve product p for Supplier u in interval i .

$RTBreg_{iu}$ = real-time Availability Bid for Regulation Service for Supplier u in interval i .

$RTBen_{iu}$ = real-time Energy bid curve for Supplier u in interval i .

AEI_{iu} = average Actual Energy Injection by Supplier u in interval i but not more than $RTSen_{iu}$ plus Compensable Overgeneration;

$RTPen_{iu}$ = real-time price of Energy at the location of Supplier u in interval i ;

$RTPreg_{iu}$ = real-time price of Regulation Service at the location of Supplier u in interval i ;

$RTPres_{iup}$ = real-time price of Operating Reserve product p at the location of Supplier u in interval i ;

LL_{iu} = either, as the case may be:

(a) if $RTSen_{iu} < EOP_{iu}$, then $LL_{iu} = \min(\max(RTSen_{iu}, \min(AEI_{iu}, EOP_{iu})), DASen_{hu})$; or

(b) if $RTSen_{iu} \geq EOP_{iu}$, then $LL_{iu} = \min(RTSen_{iu}, \max(AEI_{iu}, EOP_{iu}), DASen_{hu})$,

UL_{iu} = either, as the case may be:

(a) if $RTSen_{iu} \geq EOP_{iu} \geq DASen_{hu}$, then $UL_{iu} = \max(\min(RTSen_{iu}, \max(AEI_{iu}, EOP_{iu})), DASen_{hu})$; or

(b) otherwise, then $UL_{iu} = \max(RTSen_{iu}, \min(AEI_{iu}, EOP_{iu}), DASen_{hu}); EOP_{iu}$
= the Economic Operating Point of Supplier u in interval i
calculated without regard to ramp rates;

$Seconds_i$ = number of seconds in interval i

K_{PI} = the factor derived from the Regulation Service Performance index for Resource u for interval i as defined in Rate Schedule 3 of this Services Tariff which shall initially be set at 1.0 for LESRs.

25.4 Exception for Generators Lagging Behind RTD Base Point Signals

If an otherwise eligible Generator's average Actual Energy Injection in an RTD interval (*i.e.*, its Actual Energy Injections averaged over the RTD interval) is less than or equal to its penalty limit for under-generation value for that interval, as computed below, it shall not be eligible for Day-Ahead Margin Assurance Payments for that interval.

The penalty limit for under-generation value is the tolerance described in Section 15.3A.1 of Rate Schedule 3-A of this ISO Services Tariff, which is used in the calculation of the persistent under-generation charge applicable to Generators that are not providing Regulation Service.

25.5 Rules Applicable to Supplier Derates

Suppliers that request and are granted a derate of their real-time Operating Capacity, but that are otherwise eligible to receive Day-Ahead Margin Assurance Payments may receive a payment up to a Capacity level consistent with their revised Emergency Upper Operating Limit or Normal Upper Operating Limit, whichever is applicable. The foregoing rule shall also apply to a Generator otherwise eligible for a Day-Ahead Margin Assurance Payment in hours in which the ISO has derated the Generator's Operating Capacity in order to reconcile the ISO's dispatch with the Generator's actual output, or to address reliability concerns that arise because the Generator is not following Base Point Signals. If a Supplier's derated real-time Operating Capacity is lower than the sum of its Day-Ahead Energy Regulation Services and Operating Reserve schedules then when the ISO conducts the calculations described in Section 25.3 above, the DASen, DASEg and DASres_p variables will be reduced by REDen, REDreg and REDres_p respectively. REDen, REDreg and REDres_p shall be calculated using the formulas below:

$$RED_{tot_{iu}} = \max(DASen_{hu} + DASreg_{hu} + \sum_p DASres_{hup} - RTUOL_{iu}, 0)$$

$$POTREDen_{iu} = \max(DASen_{hu} - RTSen_{iu}, 0)$$

$$POTREDreg_{iu} = \max(DASreg_{hu} - RTSreg_{iu}, 0)$$

$$POTREDres_{iup} = \max(DASres_{hup} - RTSres_{iup}, 0)$$

$$REDen_{iu} = ((POTREDen_{iu} / (POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup})) * RED_{tot_{iu}})$$

$$REDreg_{iu} = ((POTREDreg_{iu} / (POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup})) * RED_{tot_{iu}})$$

$$REDres_{iup} = ((POTREDres_{iup} / (POTREDen_{iu} + POTREDreg_{iu} + \sum_p POTREDres_{iup})) * RED_{tot_{iu}})$$

where:

$$RTUOL_{iu} = \text{The real-time Emergency Upper Operating Limit or Normal Upper Operating Limit whichever is applicable of Supplier u in interval i}$$

- $RED_{tot_{iu}}$ = The total amount in MW that Day-Ahead schedules need to be reduced to account for the derate of Supplier u in interval i;
- $RED_{en_{iu}}$ = The amount in MW that the Day-Ahead Energy schedule is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;
- $RED_{reg_{iu}}$ = The amount in MW that Supplier u's Day-Ahead Regulation Service schedule is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment in interval i;
- $RED_{res_{iup}}$ = The amount in MW that Supplier u's Day-Ahead Operating Reserve schedule for Operating Reserves product p is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment in interval i;
- $POTRED_{en_{iu}}$ = The potential amount in MW that Supplier u's Day-Ahead Energy schedule could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;
- $POTRED_{reg_{iu}}$ = The potential amount in MW that Supplier u's Day-Ahead Regulation Service schedule could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;
- $POTRED_{res_{iup}}$ = The potential amount in MW that Supplier u's Day-Ahead Operating Reserve Schedule for Operating Reserve product p could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier in interval;

All other variables are as defined above.

25.6 Import Curtailment Guarantee Payments

25.6.1 Eligibility for an Import Curtailment Guarantee Payment for an Import Curtailed by the ISO

In the event that the Energy injections scheduled by RTC₁₅ at a Proxy Generator Bus are Curtailed at the request of the ISO, then the Supplier or Transmission Customer that is subjected to the Curtailment, in addition to the charge for Energy Imbalance, shall be eligible for an Import Curtailment Guarantee Payment as determined in Section 25.6.2 of this Attachment J.

25.6.2 Formula for an Import Curtailment Guarantee Payment for a Supplier Whose Import Was Curtailed by the ISO

A Supplier eligible under Section 25.6.1 of this Attachment J shall receive an Import Curtailment Guarantee Payment for its curtailed Energy injections that is equal to the sum for each hour of the interval payments determined in the formula below.

Import Curtailment Guarantee Payment to Supplier u in association with Import t=

$$\max \left[\left(\text{RTLBMP}_{t,i} - \max \left(\text{DecBid}_{t,i}, 0 \right) \right) \cdot \left(\text{RTCen}_{t,i} - \text{RTDen}_{t,i} \right) \cdot \frac{S_i}{3600}, 0 \right].$$

Where

i = the relevant interval;

S_i = number of seconds in interval i;

RTLBMP_{t,i} = the real-time LBMP, in \$/MWh, for interval i at the Proxy Generator Bus which is the source of the Import t.

DecBid_{t,i} = the Decremental Bid, in \$/MWh, for Import t in hour h containing interval i;

RTCen_{t,i} = the scheduled Energy injections, in MWh, for Import t in hour h containing interval i as determined by Real-Time Commitment (RTC₁₅); and

RTDen_{t,i} = the scheduled Energy injections, in MWh, for Import t in interval i as determined by Real-Time Dispatch (RTD).

30.4 Market Monitoring Unit

30.4.1 Mission of the Market Monitoring Unit

The Market Monitoring Unit's goals are (1) to ensure that the markets administered by the ISO function efficiently and appropriately, and (2) to protect both consumers and participants in the markets administered by the ISO by identifying and reporting Market Violations, market design flaws and market power abuses to the Commission in accordance with Sections 30.4.5.3 and 30.4.5.4 below.

30.4.2 Retention and Oversight of the Market Monitoring Unit

The Board shall retain a consulting or other professional services firm, or other similar entity, to advise it on the matters encompassed by Attachment O and to carry out the responsibilities that are assigned to the Market Monitoring Unit in Attachment O. The Market Monitoring Unit selected by the Board shall have experience and expertise appropriate to the analysis of competitive conditions in markets for electric capacity, energy and ancillary services, and financial instruments such as TCCs, and to such other responsibilities as are assigned to the Market Monitoring Unit under Attachment O, and must also have sufficient resources and personnel to be able to perform the Core Functions and other assigned functions.

The Market Monitoring Unit shall be accountable to the non-management members of the Board, and shall serve at the pleasure of the non-management members of the Board.

30.4.3 Market Monitoring Unit Ethics Standards

The Market Monitoring Unit, including all persons employed thereby, shall comply at all times with the ethics standards set forth below. The Market Monitoring Unit ethics standards set forth below shall apply in place of the standards set forth in the ISO's OATT Attachment F Code

of Conduct, and/or the more general policies and standards that apply to consultants retained by the ISO.

30.4.3.1 The Market Monitoring Unit and its employees must have no material affiliation with any Market Party or Affiliate of any Market Party.

30.4.3.2 The Market Monitoring Unit and its employees must not serve as an officer, employee, or partner of a Market Party.

30.4.3.3 The Market Monitoring Unit and its employees must have no material financial interest in any Market Party or Affiliate of a Market Party. Ownership of mutual funds by Market Monitoring Units and their employees that contain investments in Market Parties or their Affiliates is permitted so long as: (a) the fund is publicly traded; (b) the fund's prospectus does not indicate the objective or practice of concentrating its investment in Market Parties or their Affiliates; and (c) the Market Monitoring Unit/Market Monitoring Unit employee does not exercise or have the ability to exercise control over the financial interests held by the fund.

30.4.3.4 The Market Monitoring Unit and its employees are prohibited from engaging in transactions in the markets administered by the ISO, other than in the performance of duties under the ISO's Tariffs. This provision shall not, however, prevent the Market Monitoring Unit, or its employees, from purchasing electricity, power and Energy as retail customers for their own account and consumption.

30.4.3.5 The Market Monitoring Unit and its employees must not be compensated, other than by the ISO, for any expert witness testimony or other commercial

services, in connection with any legal or regulatory proceeding or commercial transaction relating to the ISO or to the markets that the ISO administers.

30.4.3.6 The Market Monitoring Unit and its employees may not accept anything that is of more than *de minimis* value from a Market Party.

30.4.3.7 The Market Monitoring Unit and its employees must advise the Board in the event they seek employment with a Market Party, and must disqualify themselves from participating in any matter that could have an effect on the financial interests of that Market Party until the outcome of the matter is determined.

30.4.3.8 If the Market Monitoring Unit or any of its employees provide services to entities other than the ISO, the Market Monitoring Unit shall provide to the ISO's Board, and shall regularly update, a list of such entities and services. When the Market Monitoring Unit issues an opinion, report or recommendation to, for or addressing the ISO or the markets it administers that relates to, or could reasonably be expected to affect, an entity (other than the ISO) to which the Market Monitoring Unit or its employees provide services, the Market Monitoring Unit shall inform the ISO's Board of the opinion, report or recommendation it has issued, and that its opinion, report or recommendation relates to, or could reasonably be expected to affect, an entity to which the Market Monitoring Unit or its employees provide services.

30.4.4 Duties of the Market Monitoring Unit

The Market Monitoring Unit shall advise the Board, shall perform the Core Functions specified in Section 30.4.5 of Attachment O, and shall have such other duties and responsibilities

as are specified in Attachment O. The Market Monitoring Unit may, at any time, bring any matter to the attention of the Board that the Market Monitoring Unit may deem necessary or appropriate for achieving the purposes, objectives and effective implementation of Attachment O.

The Market Monitoring Unit shall not participate in the administration of the ISO's Tariffs, except for performing its duties under Attachment O. The Market Monitoring Unit shall not be responsible for performing purely administrative duties, such as enforcement of late fees or Market Party reporting obligations, that are not specified in Attachment O. The Market Monitoring Unit may (i) provide, or assist the ISO's efforts to develop, the inputs required to conduct mitigation, and (ii) assist the ISO's efforts to conduct "retrospective" mitigation (*see* Order 719 at PP. 369, 375) that does not change bids or offers (including physical bid or offer parameters) at or before the time such bids or offers (including physical bid or offer parameters) are considered in the ISO's market solution.

30.4.5 Core Market Monitoring Functions

The Market Monitoring Unit shall be responsible for performing the following Core Functions:

30.4.5.1 Evaluate existing and proposed market rules, tariff provisions and market design elements and recommend proposed rule and tariff changes to the ISO, to the Commission's Office of Energy Market Regulation staff, and to other interested entities, including the New York Public Service Commission, and participants in the ISO's stakeholder governance process. Provided that:

30.4.5.1.1 The Market Monitoring Unit is not responsible for systematic review of every tariff and market rule; its role is monitoring, not audit.

30.4.5.1.2 The Market Monitoring Unit is not to effectuate its proposed market design itself.

30.4.5.1.3 The Market Monitoring Unit's role in recommending proposed rule and Tariff changes is advisory in nature, unless a Tariff provision specifically concerns actions to be undertaken by the Market Monitoring Unit itself.

30.4.5.1.4 The Market Monitoring Unit must limit distribution of issues or concerns it identifies, and its recommendations to the ISO and to Commission staff in the event it believes broader dissemination could lead to exploitation. Limited distributions should include an explanation of why further dissemination should be avoided at that time.

30.4.5.2 Review and report on the performance of the wholesale markets to the ISO, the Commission, and other interested entities such as the New York Public Service Commission and participants in its stakeholder governance process on at least a quarterly basis, and issue a more comprehensive annual state of the market report. The Market Monitoring Unit may issue additional reports as necessary.

30.4.5.2.1 In order to perform the Core Functions, the Market Monitoring Unit shall perform daily monitoring of the markets that the ISO administers. The Market Monitoring Unit's daily monitoring shall include monitoring of virtual bidding.

30.4.5.2.2 The Market Monitoring Unit shall submit drafts of each of its reports to the ISO for review and comment sufficiently in advance of the report's issuance to provide an effective opportunity for review and comment by the ISO. The Market Monitoring Unit may disregard any suggestions with which it disagrees.

The ISO may not alter the reports prepared by the Market Monitoring Unit, nor dictate the Market Monitoring Unit's conclusions.

30.4.5.3 Identify and notify the Commission staff of instances in which a Market Party's or the ISO's behavior may require investigation, including, but not limited to, suspected Market Violations.

30.4.5.3.1 Except as provided in Section 30.4.5.3.2 below, in compliance with § 35.28(g)(3)(iv) of the Commission's regulations (or any successor provisions thereto) the Market Monitoring Unit shall submit a non-public referral to the Commission in all instances where it has obtained sufficient credible information to believe a Market Violation has occurred. Once the Market Monitoring Unit has obtained sufficient credible information to warrant referral to the Commission, the Market Monitoring Unit shall immediately refer the matter to the Commission and desist from further investigation of independent action related to the alleged Market Violation, except at the express direction of the Commission or Commission staff. The Market Monitoring Unit may continue to monitor for repeated instances of the reported activity by the same or other entities and shall respond to requests from the Commission for additional information in connection with the alleged Market Violation it has referred.

30.4.5.3.2 The Market Monitoring Unit is not required to refer the actions (or failures to act) listed in this Section 30.4.5.3.2 to the Commission as Market Violations, because they have: (i) already been reported by the ISO as a Market Problem under Article 3.5.1 of the ISO Services Tariff; and/or (ii) because they pertain to actions or failures that: (a) are expressly set forth in the ISO's Tariffs;

(b) involve objectively identifiable behavior; and (c) trigger a sanction or other consequence that is expressly set forth in the ISO Tariffs and that is ultimately appealable to the Commission. The actions (or failures to act) that are exempt from mandatory referral to the Commission are:

- 30.4.5.3.2.1 failure to meet a Contract or Non-Contract CRIS MW Commitment pursuant to Sections 25.7.11.1.1 and 25.7.11.1.2 of Attachment S to the ISO OATT that results in a charge or other a sanction under Section 25.7.11.1.3 of Attachment S of the ISO OATT;
- 30.4.5.3.2.2 Black Start performance that results in reduction or forfeitures of payments under Rate Schedule 5 to the ISO Services Tariff;
- 30.4.5.3.2.3 any failure by the ISO to meet the deadlines for completing System Impact Studies, or any failure by a Transmission Owner to meet the deadlines for completing Facilities Studies, under Sections 3.7 and 4.5 of the ISO OATT that results in the filing of a notice and/or the imposition of sanctions under those provisions;
- 30.4.5.3.2.4 failure of a Market Party to comply with the ISO's creditworthiness requirements set forth in Attachment K of the ISO Services tariff, or other action, that triggers sanctions under Section 7.5 of the ISO Services Tariff or Section 2.7.5 of the ISO OATT, specifically: (i) failure of a Market Party to make timely payment under Section 7.2.2 of the ISO Services Tariff or Section 2.7.3.2 of the ISO OATT that triggers a sanction under Sections 7.5.3(i) or 7.5.3(iv) of the ISO Services Tariff, or Sections 2.7.5.3(i), 2.7.5.3(iv), or 2.7.5.4 of the ISO OATT; (ii) failure of a Market Party to comply with a demand for additional credit support

under Article 26.5 of Attachment K of the ISO Services Tariff that triggers a sanction under Section 7.5.3(i) of the ISO Services Tariff or Section 2.7.5.3(i) of the ISO OATT; (iii) failure of a Market Party to cure a default in another ISO/RTO market under Sections 7.5.3(iii) of the ISO Services Tariff, or Section 2.7.5.3(iii) of the ISO OATT that triggers a sanction under either of those tariff provisions; (iv) failure of a Market Party that has entered into a Prepayment Agreement with the ISO under Appendix K-1 to Attachment K to the ISO Services Tariff to make payment in accordance with the terms of the Prepayment Agreement that triggers a sanction under the Prepayment Agreement or 7.5.3(i) of the ISO Services Tariff; and (v) failure of a Market Party to make timely payment on two occasions within a rolling twelve month period under Section 7.5.3(iv) of the ISO Services Tariff, or Section 2.7.5.3(iv) of the ISO OATT that triggers a sanction under either of those provisions.

To the extent the above list enumerates specific Tariff provisions, the exclusions specified above shall also apply to re-numbered and/or successor provisions thereto. The Market Monitoring Unit is not precluded from referring any of the activities listed above to the Commission.

30.4.5.4 Identify and notify the Commission staff of perceived market design flaws that could be effectively remedied by rule or tariff changes.

30.4.5.4.1 In compliance with § 35.28(g)(3)(v) of the Commission's regulations (or any successor provisions thereto) the Market Monitoring Unit shall submit a referral to the Commission when the Market Monitoring Unit has reason to

believe that a market design flaw exists, that the Market Monitoring Unit believes could effectively be remedied by rule or tariff changes.

30.4.5.4.1.1 If the Market Monitoring Unit believes broader dissemination of the possible market design flaw, and its recommendation could lead to exploitation, the Market Monitoring Unit shall limit distribution of its referral to the ISO and to the Commission. The referral shall explain why further dissemination should be avoided.

30.4.5.4.1.2 Following referral of a possible market design flaw, the Market Monitoring Unit shall continue to provide to the Commission additional information regarding the perceived market design flaw, its effects on the market, any additional or modified observations concerning the Market Monitoring Unit's proposed market rule or tariff change, any recommendations made by the Market Monitoring Unit to the ISO, its stakeholders, Market Parties or state public service commissions regarding the perceived market design flaw, and any actions taken by the ISO regarding the perceived market design flaw.

30.4.6 Market Monitoring Unit Responsibilities Set Forth Elsewhere in the ISO's Tariffs

30.4.6.1 Supremacy of (Attachment O)

Provisions addressing the Market Monitoring Unit, its responsibilities and its authority, have been centralized in Attachment O. However, provisions that address the Market Monitoring Unit can also be found in the Market Mitigation Measures that are set forth in Attachment H to the ISO Services Tariff, and elsewhere in the ISO's Tariffs. In the event of any inconsistency between the provisions of Attachment O and any other provision of the ISO OATT, the ISO Services Tariff, or any of their attachments and schedules, with regard to the

Market Monitoring Unit, its responsibilities and its authority, the provisions of Attachment O shall control.

30.4.6.2 Market Monitoring Unit responsibilities set forth in the Market Mitigation Measures

30.4.6.2.1 The ISO and its Market Monitoring Unit shall monitor the markets the ISO administers for conduct that the ISO or the Market Monitoring Unit determine constitutes an abuse of market power but that does not trigger the thresholds specified in the Market Mitigation Measures 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 of the Market Mitigation Measures, it shall make a filing under § 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. *See* Market Mitigation Measures Section 23.1.2.

30.4.6.2.2 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. *See* Market Mitigation Measures Section 23.2.4.4.

30.4.6.2.3 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. *See* Market Mitigation Measures Section 23.3.2.2.1.

30.4.6.2.4 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. *See* Market Mitigation Measures Section 23.3.2.2.2.

30.4.6.2.5 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 the Market Mitigation Measures, contact the Market Party engaging in the identified conduct to request an explanation of the conduct. If a Market Party anticipates submitting bids in a market administered by the ISO that will exceed the thresholds specified in Section 23.3.1 of the Market Mitigation Measures for identifying conduct inconsistent with competition, the Market Party may contact

the ISO to provide an explanation of any legitimate basis for any such changes in the Market Party's bids. If a Market Party's explanation of the reasons for its bidding indicates to the satisfaction of the ISO that the questioned conduct is consistent with competitive behavior, no further action will be taken. A preliminary determination by the ISO shall be provided to the Market Monitoring Unit for its review and the ISO shall consider the Market Monitoring Unit's recommendations in reaching its decision. Upon request, the ISO shall also consult with a Market Party with respect to the information and analysis used to determine reference levels under Section 23.3.1.4 of the Market Mitigation Measures for that Market Party. If cost data or other information submitted by a Market Party indicates to the satisfaction of the ISO that the reference levels for that Market Party should be changed, revised reference levels shall be determined by the ISO, reviewed by the Market Monitoring Unit and, following the ISO's consideration of the Market Monitoring Unit's recommendation, communicated to the Market Party, and implemented by the ISO as soon as practicable. *See* Market Mitigation Measures Section 23.3.3.1.

30.4.6.2.6 With regard to a Market Party's request for consultation that satisfies the requirements of Sections 23.3.3.3.1.3 and 23.3.3.3.1.6 of the Market Mitigation Measures, and consistent with the duties assigned to the ISO in Section 23.3.3.3.1.6.1 of the Market Mitigation Measures, a preliminary determination by the ISO regarding the Market Party's consultation request shall be provided to the Market Monitoring Unit for its review and the ISO shall consider the Market

Monitoring Unit's recommendations in reaching its decision. *See* Market Mitigation Measures Section 23.3.3.3.1.6.1 and 23.3.3.3.1.6.2.

30.4.6.2.7 If a 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%

(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 the Market Mitigation Measures;

and a calculation of a virtual market penalty pursuant to the formula set forth in Section 23.4.3.3.4 of the Market Mitigation Measures for the Market Party would produce a positive number, then the ISO will ask the Market Party to demonstrate that the real-time Incremental Energy Bid(s) for that hour were submitted for reasons that are consistent with competitive behavior. If the Market Party is unable to show to the satisfaction of the ISO (with review and comment by the Market Monitoring Unit) that the submitted real-time Incremental Energy Bid(s) were consistent with competitive behavior then the mitigation measure specified

below in Section 23.4.7.3.1 of the Market Mitigation Measures shall be imposed for the Market Party's Generator, along with a penalty calculated in accordance with Section 23.4.3.3.4 of the Market Mitigation Measures which may be imposed. The application of a penalty under Section 23.4.3.3.4 of the Market Mitigation Measures shall not preclude the simultaneous application of a penalty pursuant to Section 23.4.3.3.3 of the Market Mitigation Measures. The responsibilities of the Market Monitoring Unit that are addressed in this section of the Plan are also addressed in Section 23.4.7.2 of the Market Mitigation Measures.

30.4.6.2.8 Reasonably in advance of the deadline for submitting offers in an External Reconfiguration Market and in accordance with the deadlines specified in ISO Procedures, the Responsible Market Party for External Sale UCAP may request the ISO to provide a projection of ICAP Spot Auction clearing prices for the New York City Locality over the Comparison Period for the External Reconfiguration Market. Prior to completing its projection of ICAP Spot Auction clearing prices for the New York City Locality over the Comparison Period for the External Reconfiguration Market, the ISO shall consult with the Market Monitoring Unit regarding such price projection. *See* Market Mitigation Measures Section 23.4.5.4.3.

30.4.6.2.9 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. *See* Market Mitigation Measures Section 23.4.5.5.

30.4.6.2.10 Any proposal or decision by a Market Participant to retire or otherwise remove an Installed Capacity Supplier from the In-City Unforced Capacity market, or to de-rate 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 the New York City Locality subsequent to such action. 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. *See* Market Mitigation Measures Section 23.4.5.6.

30.4.6.2.11 When evaluating a request by a Developer or Interconnection Customer pursuant to Section 23.4.5.7 of the Market Mitigation Measures, the ISO shall seek comment from the Market Monitoring Unit on matters relating to the determination of price projections and cost calculations. *See* Market Mitigation Measures Section 23.4.5.7.

30.4.6.3 Market Monitoring Unit responsibilities set forth in the ISO Services Tariff

30.4.6.3.1 The ICAP Demand Curve periodic review schedule and procedures shall provide an opportunity for the Market Monitoring Unit to review and comment on the draft request for proposals, the independent consultant's report, and the ISO's proposed ICAP Demand Curves. *See* ISO Services Tariff Section 5.14.1.2.5.

30.4.6.4 Market Monitoring Unit responsibilities set forth in the Rate Schedules to the ISO Services Tariff.

30.4.6.4.1 Responsibilities related to the Regulation Service Demand Curve

In order to respond to operational or reliability problems that arise in real-time, the ISO may procure Regulation Service at a quantity and/or price point different than those specified in Section 15.3.7 of Rate Schedule 3 to the ISO Services Tariff. 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 90 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.

After the first year the Regulation Service Demand Curve is in place, the ISO shall perform periodic reviews, subject to the scope requirement specified in Section 15.3.7 of Rate Schedule 3 to the ISO Services Tariff, 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. *See* Section 15.3.7 of Rate Schedule 3 to the ISO Services Tariff.

30.4.6.4.2 Responsibilities related to the Operating Reserves Demand Curves

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 in Section 15.4.7 of Rate Schedule 4 to the ISO Services Tariff. 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 in Section 15.4.7 of Rate Schedule 4 to the ISO Services Tariff in order to avoid future operational or reliability problems it may temporarily modify them for a period of up to 90 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.

After the first year the Operating Reserves Demand Curves are in place, the ISO shall perform periodic reviews, subject to the scope requirement specified in Section 15.4.7 of Rate Schedule 4 to the ISO Services Tariff, 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. *See* Section 15.4.7 of Rate Schedule 4 to the ISO Services Tariff.

30.4.6.5 Market Monitoring Unit responsibilities set forth in the Attachments to the ISO Services Tariff (other than the Market Mitigation Measures).

30.4.6.5.1 Responsibilities related to Transmission Shortage Cost

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 Cost 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 90 days, provided however the ISO shall file such change with the Commission pursuant to § 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 consult with those entities as soon as reasonably possible after implementing a temporary modification and shall explain the reasons for the change. *See* Section 17.1.4 of Attachment B to the ISO Services Tariff.

30.4.6.5.2 Responsibilities under Appendix 4 to the Operating Protocol for the Implementation of Commission Opinion No. 476 (the “Operating Protocol”)

The ISO and PJM and their Market Monitoring Units shall, to the extent compatible with their respective tariffs and with any other market monitoring procedures that they have filed with the Commission:

- 30.4.6.5.2.1 Conduct such investigations as may be necessary to ensure that gaming, abuse of market power, or similar activities do not take place with regard to power transfers under the 600/400 MW contracts;
- 30.4.6.5.2.2 Conduct investigations that go into the region of the other ISO jointly with the ISO, PJM and both Market Monitoring Units;
- 30.4.6.5.2.3 Inform each other of any such investigations; and
- 30.4.6.5.2.4 Share information related to such investigations, as necessary to conduct joint investigations, subject to the requirements of Section C of Appendix 4 to the Operating Protocol and Section 30.6.6 of Attachment O.

See Section A of Appendix 4 to Attachment M-1 to the ISO Services Tariff.

30.4.6.6 Market Monitoring Unit responsibilities set forth in the ISO OATT

30.4.6.7 Market Monitoring Unit responsibilities set forth in the Rate Schedules to the ISO OATT

30.4.6.8 Market Monitoring Unit responsibilities set forth in the Attachments to the ISO OATT

30.4.6.8.1 Responsibilities related to Transmission Shortage Cost

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 Cost 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 90 days, provided however the ISO shall file such change with the Commission pursuant to §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 consult with those entities as soon as reasonably possible after implementing a temporary modification and shall explain the reasons for the change. *See* Section 16.1.4 of Attachment J to the ISO OATT.

30.4.6.8.2 Following the Management Committee vote, the draft Reliability Needs Assessment (RNA), with working group, Operating Committee, and Management Committee input, will be forwarded to the ISO Board for review and action. Concurrently, the draft RNA will be provided to the Market Monitoring Unit for its review and consideration of whether market rules changes are necessary to address an identified failure, if any, in one of the ISO's competitive markets. *See* Section 31.2.3.2 of Attachment Y to the ISO OATT.

30.4.6.8.3 Following the Management Committee vote, the draft Comprehensive Reliability Plan (CRP), with working group, Operating Committee, and Management Committee input, will be forwarded to the ISO Board for review and action. Concurrently, the draft CRP will also be provided to the Market Monitoring Unit for its review and consideration of whether market rule changes are necessary to address an identified failure, if any, in one of the ISO's competitive markets. *See* Section 31.2.6.2 of Attachment Y to the ISO OATT.

30.4.6.8.4 Following the Management Committee vote, the draft Congestion Analysis and Resource Integration Study (CARIS), with Business Issues Committee and Management Committee input, will be forwarded to the ISO Board for review and action. Concurrently, the draft CARIS will be provided to the Market Monitoring Unit for its review and consideration. *See* Section 31.3.2.2 of Attachment Y to the ISO OATT.

30.4.6.9 Market Monitoring Unit responsibilities set forth in other documents that have been formally filed with the Commission.

30.4.7 Availability of Data and Resources to Market Monitoring Unit

30.4.7.1 The ISO shall ensure that the Market Monitoring Unit has sufficient access to ISO resources, personnel and market data to enable the Market Monitoring Unit to carry out its functions under Attachment O. Consistent with Section 30.6.1 of Attachment O, the Market Monitoring Unit shall have complete access to the ISO's databases of market information.

30.4.7.2 Any data created by the Market Monitoring Unit, including but not limited to reconfiguration of the ISO's data, will be kept within the exclusive control of the Market Monitoring Unit. The Market Monitoring Unit may share the data it creates, subject to the limitations on distribution of and obligation to protect the confidentiality of Protected Information that are contained in Attachment O, the ISO Services Tariff, and the ISO's Code of Conduct.

30.4.7.3 Where data outside the ISO's geographic footprint would be helpful to the Market Monitoring Unit in carrying out its duties, the Market Monitoring Unit should seek out that data (with assistance from the ISO, where appropriate).