

## 2.18 Capacity

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

## 2.32 Control Area

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

## 2. xxxxx Curtailment Services Provider Capacity

Capacity from a single Demand Side Resource nominated by a Curtailment Services Provider for participation in the Emergency Demand Response Program.

## 2.38a Demand Reduction

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

## 2.38d Demand Reduction Provider

~~An entity~~ Customer that is eligible, pursuant to the relevant ISO Procedures, to bid

Demand Side Resources of at least 1 MW as Energy into the Day-Ahead Market, ~~or, to the extent that the ISO's software can support their provision of non-synchronized Operating Reserves, the Real Time Market.~~

A Demand Reduction Provider can be (i) a Load Serving Entity or (ii) a Demand Reduction Aggregator.

### **2.39 Demand Side Resources**

A Resources located in the NYCA that are is capable of reducing demand in a responsive, measurable and verifiable manner within time limits, and that are is qualified to participate in competitive Energy, Capacity, and, to the extent that the ISO's software can support their participation, certain Operating Reserves, and Regulation Service -markets and in the Emergency Demand Response Program pursuant to this ISO Services Tariff and the ISO Procedures.

### **2.43 Dispatchable**

A bidding mode in which Generators or, ~~to the extent that the ISO's software can support their provision of non-synchronized Operating Reserves,~~ Demand Side Resources indicate that they are willing to respond to real-time control from the ISO. Dispatchable Generators-Suppliers may be either ISO-Committed Flexible or Self-Committed Flexible. Dispatchable Demand Side Resources must be ISO-Committed Flexible. Dispatchable Suppliers that are not providing Regulation Service will follow five-minute RTD Base Point Signals. Dispatchable Generators-Suppliers that are providing Regulation Service will follow six-second AGC Base Point Signals.

### **2.129 Operating Reserves**

Capacity that is available to supply Energy, ~~or, to the extent that the ISO's software can support Demand Side Resources' provision of non-synchronized Operating Reserves,~~ reduce demand ~~in the event of Contingency conditions~~ and that meets ~~the~~ requirements of the ISO. The ISO will administer Operating Reserves markets, in the manner described in this Article 4 and Rate Schedule 4 of this ISO Services Tariff, to satisfy the various Operating Reserves

requirements, including locational requirements, established by the Reliability Rules and other applicable reliability standards. The basic Operating Reserves products that will be procured by the ISO on behalf of the market are classified as follows:

- (1) Spinning Reserve: Operating Reserves provided by Generators and Demand Side Resources that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff that are already synchronized to the NYS Power System and can respond to instructions to change their output level, or reduce their Energy usage, within ten (10) minutes. Spinning Reserves provided by Demand Side Resources shall not be provided by Local Generators;
- (2) 10-Minute Non-Synchronized Reserve: Operating Reserves provided by Generators, or, ~~to the extent that the ISO's software can support their provision of this product,~~ Demand Side Resources, that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff and that can be started, synchronized and can change their output level, or reduce their Energy usage, within ten (10) minutes; and
- (3) 30-Minute Reserve: Synchronized Operating Reserves provided by Generators, and Demand Side Resources that are not Local Generators; or non-synchronized Operating Reserves provided by Generators ~~or, to the extent that the ISO's software can support their provision of this product,~~ Demand Side Resources, that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff, ~~and~~ that can respond to instructions to change their output level, or reduce their Energy usage, within thirty (30) minutes, including starting and synchronizing to the NYS Power System.

## 2.xxxx 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.

**2.153c 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, ~~Generators~~Resources, except that RTD may commit, for pricing purposes, Resources meeting Minimum Generation Levels -and capable of starting in ten minutes,~~and shall dispatch, but not commit, Demand Side Resources to the extent that it can support their participation.~~ 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.

**2.160b Resource**

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

**2.172f Start-Up Bid**

A Bid parameter that may vary hourly and that identifies the payment a Supplier requires to bring a Generator up to its specified minimum operating level from an offline state or a Demand Side Resource from a level of no Demand Reduction to its specified minimum level of Demand Reduction, provided however the Start-Up Bid shall be zero dollars for Demand Side Resources offering Regulation Service and synchronized Operating Reserves.

### **2.172b Sink Price Cap Bid**

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

### **2.172c Special Case Resource**

~~Loads-Demand Side Resources~~ capable of being interrupted upon demand, and ~~distributed-Local~~ Generators, rated 100 kW or higher, that are not visible to the ISO's Market Information System and that are subject to

special rules, set forth in Section 5.12.11(a) of this ISO Services Tariff and related ISO

Procedures, in order to facilitate their participation in the Installed Capacity market as Installed

Capacity Suppliers. Demand Reductions from Special Case Resource Capacity, not Local

Generators, may be offered as synchronized Operating Reserves and Regulation, and Energy in the Day-Ahead Market. Demand Reductions from Special Case Resource Capacity may also be offered as non-synchronized Operating Reserves.

### **2.172d Special Case Resource Capacity**

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

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 shall pay the Market Administration and Control Area Services Charge based only on their withdrawal billing units.

~~All qualified Demand Reduction Providers that submit Demand Reduction Bids and are scheduled in the SCUC or RTD to reduce demand are expected to reduce their real-time Energy consumption. 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.~~

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

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

- A. General Customer Forecasting and Bidding Requirements
- B. Load Forecasts

<Language omitted for editing purposes only – no changes proposed>

- C. Bids by Dispatchable and ISO-Committed Fixed ~~Generators~~Resources to Supply Energy and/or Ancillary Services

- 1. General Rules

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

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

## 2. Bid Parameters

Day-Ahead Bids by Dispatchable or ISO-Committed Fixed-~~Generators~~ ~~Suppliers~~ may identify -variable Energy price Bids, consisting of up to eleven monotonically increasing, constant cost incremental Energy steps, and other parameters described in Attachment D of this ISO Services Tariff and the ISO Procedures. Day-Ahead Bids from a Demand Side Resources offering Operating Reserves or Regulation shall be ISO-Committed Flexible and shall have an Energy Bid price no lower than \$75/MW hour. Day-Ahead Bids from a Demand Side Resource offering synchronized Operating Reserves or Regulation shall not include a non-zero Minimum Generation and Start-Up Bid. Day-Ahead Bids from a Demand Side Resource offering non-synchronized Operating Reserves may include a non-zero Minimum Generation and Start-Up Bids. Day-Ahead Bids from a Demand Side Resources offering Operating Reserves or Regulation shall not result in an Energy commitment in the Day-Ahead Market but shall be forwarded to the Real-Time Market if the Demand Side Resource is committed to provide



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

New York Independent System Operator, Inc.  
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#### **H. Bids to Purchase Energy in the Day-Ahead Market**

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

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

~~Demand Reduction Bids from~~ Demand Reduction Providers offering Energy from Demand Side Resources shall ~~be:~~ (i) bid the Demand Side Resource as ISO-Committed Flexible or ISO-Committed Fixed in whole megawatts; and, as described in Attachment D, shall: ~~and~~ (ii) identify the amount of demand, in whole MW megawatts, that is available for commitment in the Day-Ahead Market (for every hour of the dispatch day) and (ii)-(iii) identify the prices at which the Demand Reduction Provider will voluntarily enter into dispatch commitments to reduce demand provided, however, the price at which the Demand Reduction Provider will voluntarily enter into dispatch commitments to reduce demand shall be no lower

than \$75/MW hour. The Bids will identify the minimum period of time that the Demand Reduction Provider is willing to reduce demand. The Bid may separately identify the Demand

Reduction Provider's Curtailment Initiation Cost. Demand Reduction Bids from Demand

Reduction Providers that are not accepted in the Day-Ahead Market shall expire at the close of the Day-Ahead Market.

~~To the extent that the ISO's software can support their participation in the Day-Ahead Operating Reserves markets, Demand Reduction Providers that submit Bids on behalf of Demand Side Resources eligible to supply certain Operating Reserves under Rate Schedule 4 of this ISO Services Tariff, shall specify emergency response rates that shall determine the quantity of Operating Reserves each Demand Side Resource is capable of providing. If no Availability Bid is included in a Demand Reduction Bid for a Demand Side Resource that is eligible to provide Operating Reserves, that Bid will be rejected in its entirety. A Demand Reduction Provider may resubmit a complete Demand Reduction Bid, provided that the new Bid is timely.~~

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

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

requirements as determined by the ISO given the Regulation Service Demand Curve and Operating Reserve Demand Curves referenced above; (iii) Bilateral Transaction schedules; (iv) price Bids and operating Constraints submitted for Generators s or for Demand Side Resources; (v) price Bids for Ancillary Services; (vi) Decremental Bids and Sink Price Cap Bids for External Transactions; (vii) Ancillary Services in support of Bilateral Transactions; and (viii) Bids to purchase or sell Energy from or to the Day-Ahead Market. External Transactions with minimum run times greater than one hour will only be scheduled at the requested Bid for the full minimum run time. External Transactions with identical Bids and minimum run times greater than one hour will not be prorated. The SCUC schedule shall list the twenty-four (24) hourly injections and withdrawals for: (a) each Customer whose Bid the ISO accepts for the following Dispatch Day; and (b) each Bilateral Transaction scheduled Day-Ahead.

In the development of its SCUC schedule, the ISO may commit and de-commit Generators and Demand Side Resources, -based upon any flexible Bids, including Minimum Generation Bids, Start-Up Bids, Curtailment Initiation Cost Bids, Energy, and Incremental Energy Bids and Decremental Bids received by the ISO provided however that the ISO shall commit zero megawatts of Energy for Demand Side Resources committed to provide Operating Reserves and Regulation Service.

The ISO will select the least cost mix of Ancillary Services and Energy from Suppliers, Demand Side Resources, and Customers submitting Virtual Transactions bids. The ISO may substitute higher quality Ancillary Services (i.e., shorter response time) for lower quality Ancillary Services when doing so would result in an overall least bid cost solution. For example, 10-Minute Non-Synchronized Reserve may be substituted for 30-Minute Reserve if doing so would reduce the total bid cost of providing Energy and Ancillary Services.

provide the Transmission Owner with the Load forecast (for seven (7) days) as well as the ISO security evaluation data to enable local area reliability to be assessed. A Transmission Owner may request commitment of additional Generators (including specific output level(s)) if it determines that additional generation is needed to ensure local area reliability in accordance with the Local Reliability Rules. The ISO will use SRE to fulfill a Transmission Owner's request for additional units. Any requests by Transmission Owners to commit Generators not otherwise committed by the ISO in the Day-Ahead Market will be posted upon receipt on OASIS.

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

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

Day-Ahead Market and is scheduled in the SCUC to provide Energy through Demand Reduction ~~reduce demand~~ shall receive a Demand Reduction Incentive Payment from the ISO equal to the product of: (a) the Day-Ahead hourly LBMP at the Demand Reduction bus; and (b) the lesser of the actual hourly Demand Reduction or the scheduled hourly Demand Reduction (in MW). Each LSE that bids into the Day-Ahead Market, including each Customer that submits a Bid for a Virtual Transaction, and has a schedule accepted by the ISO to purchase Energy in the Day-Ahead Market will pay the product of: (a) the Day-Ahead hourly Zonal LBMP at each Point of Withdrawal; and (b) the scheduled Energy at each Point of Withdrawal. Each Customer that submits a Virtual Transaction bid into the ISO Day-Ahead Market and has a schedule accepted by the ISO to sell Energy in a Load Zone in the Day-Ahead Market will receive a payment equal to the product of (a) the Day-Ahead hourly zonal LBMP for that Load Zone; and (b) the hourly scheduled Energy for the Customer in that Load Zone.

~~A zonal floor bid price of \$75/MW hour is applicable to all Day-Ahead Demand  
Response Resources that bid into the Day-Ahead Energy market.~~

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

parameters in RTC than they did Day-Ahead. ISO-Committed Fixed Generators, ISO-Committed Flexible Generators and Demand Side Resources, and Self-Committed Flexible Generators may not increase their Day-Ahead Incremental Energy Bids that are applicable to any portion of their Capacity that was scheduled Day-Ahead, and may not increase their Minimum Generation Bids, or Start-Up Bids, for any hour in which they received a Day-Ahead Energy schedule. Demand Reduction Providers may not increase their Curtailment Initiation Cost Bids or their Demand Reduction Bid price for any hour in which they received a Day-Ahead Energy schedule. 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. Demand Reduction Providers shall not submit Bids in the Real-Time Market. 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 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).

## **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. Bids associated with Internal Bilateral Transactions shall be subject to the rules set forth above in Section 4.2.2(G).

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.

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~~5. Real-Time Demand Reductions~~

~~Demand Reduction Providers shall be permitted to submit Real Time Energy Bids to the extent that the ISO's software can support their participation in the real time Energy market and rules are established to govern their real time bidding options.~~

**C. External Transaction Scheduling**

RTC<sub>15</sub> will schedule External Transactions on an hour-ahead basis as part of its development of a co-optimized least-bid cost real-time commitment. RTC will alert the ISO when it appears that scheduled External Transactions need to be reduced for reliability reasons but will not automatically Curtail them. Curtailment decisions will be made by the ISO, guided by the information that RTC provides, pursuant to the rules established by Attachment B of this ISO Services Tariff and the ISO Procedures.

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

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

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### 4.4.3 Real-Time Dispatch

#### A. Overview

The Real-Time Dispatch will make dispatching decisions, send Base Point Signals to Internal Generators and, ~~to the extent that the ISO's software can support their participation,~~ 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.C 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.

#### B. Calculating Real-Time Market LBMPs and Advisory Prices

With the exceptions noted above in Section 4.4.2(E), 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.

**C. 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.

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

Operating Reserves, Regulation Service and Energy scheduled in the Day-Ahead Market from Demand Side Resources that are also providing Special Case Resource Capacity shall be converted to Demand Reductions in any hour in which the ISO requests that Special Case Resources reduce their demand pursuant to ISO Procedures. 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 Scarcity Pricing Rules, to be a Special Case Resource, provided however that Demand Reductions from this Special Case Resource Capacity shall not be settled as being provided by a Special Case Resource but shall be settled as being provided by a

Supplier of Operating Reserves, Regulation Service or Energy that was instructed by the ISO to reduce demand.

Offers in the Operating Reserves, Regulation Service or Energy markets, including offers scheduled in the Day-Ahead Market, from Demand Side Resources that are also providing Special Case Resource Capacity, shall not be accepted by the ISO in the Real-Time Market for any hour in which the ISO has requested Special Case Resources to reduce demand. Operating Reserves or Regulation Service scheduled Day-Ahead and not scheduled in real time pursuant to this subsection 4.4.3.D., will be eligible for a Day-Ahead Margin Assurance Payment, pursuant to Attachment J of this ISO Services Tariff.

**E. Converting to Demand Reduction Curtailment Services Provider Capacity scheduled as Operating Reserves, Regulation or Energy in the Real-Time Market**  
Operating Reserves, Regulation Service and Energy scheduled in the Day-Ahead Market by Demand Side Resources that are also providing Curtailment Services Provider Capacity, shall be converted to Demand Reductions in any hour in which the ISO requests Demand Reductions from the Emergency Demand Response Program pursuant to ISO Procedures. 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 Scarcity Pricing Rules, to be a Emergency Demand Response Program Resource, provided however that the Demand Reduction from this Curtailment Services Provider Capacity shall not be settled as being provided by a Emergency Demand Response Program Resource but shall be settled as being provided by a Supplier of Operating Reserves, Regulation Service or Energy that was instructed by the ISO to reduce demand.

Offers in the Operating Reserves, Regulation Service or Energy market, including offers scheduled in the Day-Ahead Market, from Demand Side Resources that are also providing Curtailment Services Provider Capacity, shall not be accepted by the ISO in the

Real-Time Market for any hour in which the ISO has instructed Resources participating in the Emergency Demand Response Program to reduce demand. Operating Reserves or Regulation Service scheduled Day-Ahead and not scheduled in real time pursuant to this subsection 4.4.3.E., will be eligible for a Day-Ahead Margin Assurance Payment, pursuant to Attachment J of this ISO Services Tariff.

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

Under Sections I.A.2.a and 2.b of Attachment B to this ISO Services Tariff, and Sections I.A.2.a and 2.b 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 5.1A of Rate Schedule 3 and Section 6.1A of Rate Schedule 4 of this ISO Services Tariff.

product of: (1) the Real-Time LBMP calculated in that RTD Interval for the applicable Generator bus; and (2) the actual Energy injection minus the Energy injection scheduled Day-Ahead. Generators will not be compensated for Energy produced during their start-up sequence.

#### **4.5a Payments to Suppliers of Regulation Service**

Suppliers of Regulation Service shall receive a payment that is calculated pursuant to Rate Schedule 3 of this ISO Services Tariff

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

Suppliers of Voltage Support Service shall receive a Voltage Support Service payment in accordance with the criteria and formula in Rate Schedule 2.

#### **4.7 Payments to ~~Generators~~Suppliers for Operating Reserves**

Suppliers of each type of Operating Reserve will receive payments for each MW of Operating Reserve that they provide, as requested by the ISO, pursuant to Rate Schedule 4.

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

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

Black Start Capability providers shall receive a payment for Black Start Capability as set forth in Rate Schedule 5.

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

If an eligible Supplier is forced to buy out of a Day-Ahead Energy, Regulation Service or Operating Reserve schedule in a manner that reduces its Day-Ahead Margin, that Supplier shall receive a Day-Ahead Margin Assurance Payment. Such payments shall be calculated pursuant to Attachment J of this ISO Services Tariff.

#### **4.10 Bid Production Cost Guarantee and Curtailment Initiation Cost Payments**

The ISO shall determine, on a daily basis, if any ISO-Committed Fixed or ISO-Committed Flexible Generator, or Customer that schedules imports, ~~or, when the ISO's software can support their provision of non-synchronized Operating Reserves, an ISO-Committed Flexible Demand Side Resource providing such Operating Reserves~~, that is committed by the ISO in the Day-Ahead Market will not recover its Minimum Generation Bid, Start-Up Bid, and Energy Bid Price through Day-Ahead LBMP and Day-Ahead Ancillary Services revenues. If



the sum of the Minimum Generation Bid, Start-Up Bid and the net Energy Bid Price over the twenty-four (24) hour day of such a ~~Supplier~~ Generator or Importer exceeds its Day-Ahead LBMP revenue over the twenty-four (24) hour day, then that ~~Supplier's~~ Generator or Importer's Day-Ahead LBMP revenue may be augmented by a supplemental Day-Ahead Bid Production Cost guarantee payment. However, the amount of the shortfall of such a ~~Supplier~~ Generator will be compared to the margin that the ~~Supplier~~ Generator receives from being scheduled to provide Ancillary Services that it can provide only if scheduled to operate. The ~~Supplier's~~ Generator's Ancillary Service margin is equal to the revenue it would have received for providing these Ancillary Services prior to any reductions based on a failure to provide these services less its Bid to provide these services, if any. If, and only to the extent that, the shortfall exceeds these Ancillary Service margins, the ~~Supplier~~ Generator will receive a payment pursuant to the provisions of Attachment C to this ISO Services Tariff. Suppliers bidding on behalf of Resources that were not committed by the ISO to operate in a given Dispatch Day, but which continue to operate due to minimum run time Constraints, shall not receive such a supplemental payment.

In addition, the ISO shall: (i) use Real-Time Market prices and schedules to calculate and pay real-time Bid Production Cost guarantee payments to ISO-Committed Flexible Generators and to Customers that schedule imports; ~~and, to the extent that the ISO's software can support their provision of non-synchronized Operating Reserves, Demand Side Resources, that are ISO committed during the entire Dispatch Day;~~ (ii) use RTD prices and schedules to calculate and pay real-time Bid Production Cost guarantee

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payments to any Self-Committed Flexible Generator if its self-committed minimum generation level does not exceed its Day-Ahead schedule at any point during the Dispatch Day; and (iii) use RTD prices and schedules to calculate and pay real-time Bid Production Cost guarantee payments for Minimum Generation Bids and Start-Up Bids to ISO-Committed Fixed Generators. All such payments shall be calculated in the manner described in Attachment C to this ISO Services Tariff. No such payments shall be made to Customers that schedule Exports or Wheels-Through. Except as expressly noted in (ii) above, Self-Committed Flexible and Self-Committed Fixed Resources shall not be eligible for these Bid Production Cost guarantee payments.

The ISO shall determine, on a daily basis, if any Demand Side Resource scheduled to provide synchronized Operating Reserves in the Day-Ahead Market will not recover its synchronized Operating Reserves Bids through its Day-Ahead synchronized Operating Reserves revenue. If the sum of the synchronized Operating Reserves Bids over the twenty-four (24) hour day of such a Demand Side Resource exceeds its Day-Ahead synchronized Operating Reserves revenue over the twenty-four (24) hour day, then that Demand Side Resource's Day-Ahead synchronized Operating Reserves revenue may be augmented by a supplemental Day-Ahead Bid Production Cost Guarantee payment.

An ISO-Committed Flexible Generator that is eligible to receive a Day-Ahead Bid Production Cost guarantee payment but that then self-commits in certain hours, thus becoming ineligible for a real-time Bid Production Cost guarantee payment, shall not be disqualified from receiving a Day-Ahead Bid Production Cost guarantee payment.

Any Supplier that provides Energy during a large event reserve pickup or a

maximum generation event, as described in Sections 4.4.4(A) (1) and (2) of this ISO Services Tariff shall be eligible for a Bid Production Cost guarantee payment calculated, under Attachment C, for the duration of the large event reserve pickup or maximum generation pickup and the three RTD intervals following the termination of the large event reserve pickup or maximum generation pickup. Such payments shall be excluded from the ISO's calculation of real-time Bid Production Cost guarantee payments otherwise payable to Suppliers on that Dispatch Day.

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The ISO shall determine, on a daily basis, if any Demand Reduction Provider committed to provide Energy by the ISO in the Day-Ahead Market will not recover its Curtailment Initiation Cost and its Demand Reduction Bid price through Day-Ahead LBMP revenues. If a Demand Reduction Provider's Curtailment Initiation Cost Bid plus its Demand Reduction Bid Price over the twenty-four (24) hour day exceeds its Day-Ahead LBMP revenue over the twenty-four (24) hour day, its Day-Ahead LBMP revenue may be augmented by a supplemental Bid Production Cost guarantee payment pursuant to the provisions of Attachment C.

The ISO shall determine, on a daily basis, if any Special Case Resource committed by the ISO will not recover its Minimum Payment Nomination through LBMP revenues. If a Special Case Resource's Minimum Payment Nomination over the period of requested performance, or four (4) hour period, whichever is greater, exceeds the LBMP revenue received as a Special Case Resource over that same period, its LBMP revenue may be augmented by a supplemental payment pursuant to the provisions of Attachment C, provided however, that the Minimum Payment Nomination for Special Case Resource Capacity shall not be included in this calculation for any interval in which Special Case Resource Capacity has a Real-Time schedule to provide Demand Reduction based on its Day-Ahead schedule for Operating Reserves or Regulation Service.

\_\_\_\_\_ Each Generator committed by the ISO in the Real-Time Market whose Real-Time LBMP payments for Energy produced are less than its Minimum Generation and Start-Up Bids to produce that Energy will be compensated by the ISO for the shortfall, in accordance with Attachment C. When the Interface between the NYCA and the Control Area in which the Non-Competitive Proxy Generator Bus is located is export constrained due to limits on Available Interface Capacity or Ramp Capacity limits for

coincident with the peak upon which the LSE Unforced Capacity Obligation of the LSE that serves that customer is based, unless that LSE's LSE Unforced Capacity Obligation is adjusted upwards to prevent double-counting.

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

The ISO will have discretion, pursuant to ISO Procedures, to exempt distributed Generators that are incapable of starting in two (2) hours from the requirement to operate on two (2) hours notification. Distributed Generators and Loads capable of being interrupted upon demand, that are not available on certain hours or days will be derated by the ISO, pursuant to ISO Procedures, to reflect the Load serving equivalence of the hours they are actually available.

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May 21, 2003

entity or the Installed Capacity Marketer has agreed to comply with the ISO notification requirements for Special Case Resources. LSEs and Installed Capacity Marketers may aggregate Special Case Resources and sell the Unforced Capacity associated with them in an ISO-administered auction if they comply with ISO notification requirements for Special Case Resources.

The ISO shall pay Special Case Resources that cause a verified Load reduction, in response to an ISO request to perform due to a Forecast Reserve Shortage, an ISO declared Major Emergency State, or in response to an ISO request to perform made in response to a request for assistance for Load relief purposes or as a result of a Local Reliability Rule, for such Load reduction, in accordance with ISO Procedures. Subject to performance verification, Special Case Resources shall be paid the zonal Real-Time LBMP for the duration of their verified Load reduction or four (4) hours, whichever is greater, in accordance with ISO Procedures, provided, however, Special Case Resource Capacity shall not be paid for Load reductions, otherwise payable, in any interval in which the Special Case Resource Capacity has a Real-Time schedule to provide Operating Reserves, or Regulation Service or Energy.

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

Resource Capacity has been scheduled to provide Operating Reserves,  
Regulation Service or Energy, the Minimum Payment Nomination for such  
Capacity for such interval shall be deemed to be zero.

Transmission Owners that require assistance from distributed Generators  
larger than 100 kW and Loads capable of being interrupted upon

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## ARTICLE 8

### ELIGIBILITY FOR ISO SERVICES

In order to participate in any ISO-administered market or to be a Primary Holder of a TCC, a Customer must satisfy the applicable requirements of this Article, Attachment K and Attachment L.

#### 8.1 Requirements Common to all Customers

##### A. Creditworthiness

All Customers and applicants seeking to become a Customer shall be subject to the creditworthiness requirements contained in Attachment K. In addition, customers that ~~bid-offer~~ Demand Reduction as Energy or Ancillary Services into the Day-Ahead Market ~~as Demand Reduction Providers~~ shall also be required to comply with the creditworthiness provisions of Attachment L.

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## ATTACHMENT C

### FORMULAS FOR DETERMINING BID PRODUCTION COST GUARANTEE PAYMENTS

#### I. Supplemental Payments to Generators

Three supplemental payments for Generators are described in this attachment: (i) Day-Ahead Bid Production Cost guarantees; (ii) Real-time Bid Production guarantees for all intervals except maximum generation pickups and large event reserve pickups; and (iii) Real-time Bid Production Cost guarantees for maximum generation pickups and large event reserve pickups. Generators shall be eligible for these payments under the circumstances described in Article 4 and Rate Schedule 4 of this ISO Services Tariff.

For purposes of this Section I only, Demand Side Resources that are eligible scheduled to provide ~~non-synchronized~~ Operating Reserves and Regulation Service under Rate Schedule 4 of this ISO Services Tariff, shall ~~be treated the same as Generators with respect to the determination not be eligible of for~~ supplemental payments ~~insofar as they are providing non-synchronized Operating Reserves.~~ Demand Reduction Providers Side Resources that provide Demand Reductions through-in the Day-Ahead Market shall be eligible for supplemental payments under Section II, but not this Section I. Demand Side Resources committed in the Day-Ahead market to provide synchronized Operating Reserves shall be eligible for supplemental payments under Section IV.

## **II. Supplemental Payments for Curtailment Initiation Costs**

A supplemental payment for Curtailment Initiation Costs shall be made when the Curtailment Initiation Cost Bid and the Demand Reduction Bid price offered by a Demand Reduction Provider for any Demand Reduction committed by the ISO in the Day-Ahead market over the twenty-four (24) hour day exceeds Day-Ahead LBMP revenue, provided however that Supplemental payments made to Demand Reduction Providers that fail to complete their scheduled reductions may be reduced by the ISO, pursuant to ISO Procedures.

## **III. Supplemental Payments for Special Case Resources**

A supplemental payment for Minimum Payment Nominations shall be made when the Minimum Payment Nomination for any Special Case Resource committed by the ISO ~~during a Forecast Operating Reserve shortage~~ exceeds the LBMP revenue received for performance by that Special Case Resource provided, however, that the Minimum Payment Nomination shall not be included for any Demand Reduction in which the Special Case Resource has a a Day-Ahead schedule to provide Operating Reserves or Regulation Service.

## **IV. Supplemental Payments for Demand Side Resources providing Ancillary Services**

A supplemental payment for synchronized Operating Reserves Bids from Demand Side Resources committed by the ISO in the Day-Ahead Market shall be made when the sum of the synchronized Operating Reserves Bids -over the twenty-four (24) hour day from such a Demand Side Resource exceeds its Day-Ahead synchronized Operating Reserves revenue over the twenty-four (24) hour day.