

## **ATTACHMENT II**

# **NYISO Market Monitoring Plan**

## **Addendum B**

### **List of Data the NYISO May Request from Market Parties**

~~June-March 21, 2008~~

The following data or information may be obtained by the NYISO from Market Parties in accordance with § 6.2.2 of the Market Monitoring Plan. Market parties shall retain the following categories of data or information for at least two years, or such other period specified in any applicable data or information retention policy issued by the NYISO.

1. Production costs -- Data or information relating to the costs or operating a specified Electric Facility (for generating units such data or information shall include, but not be limited to, heat rates, start-up fuel requirements, fuel purchase costs, and operating and maintenance expenses) or data or information relating to the costs of providing load reductions from a specified facility participating as a Demand Side Resource in the NYISO Operating Reserves or Regulation Service markets.
2. Opportunity costs -- Data or information relating to a claim of relatively high opportunity costs, including, but not limited to, contracts or price quotes.
3. Logs -- Data or information relating to the operating status of an Electric Facility, including, for generating units, generator logs showing the generating status of a specified unit or data or information relating to the operating status of a specified facility participating as a Demand Side Resource in the NYISO Operating Reserves or Regulation Service markets. Such data or information shall include, but not be limited to, any information relating to the validity of a claimed forced outage or derating of a generating unit or other Electric Facility or a facility participating as a Demand Side Resource in the NYISO Operating Reserves or Regulation Service markets.
4. Bidding Agreements -- Data or information relating to the ability of a Market Party or its Affiliate to determine the pricing or output level of generating capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of or otherwise memorializing the ability of the Market Party or its Affiliate to make such determinations. At the request of the producing entity, any document produced in response to the foregoing specification may be subject to redaction or other measures for the protection of confidential or commercially sensitive information as deemed appropriate by the NYISO, provided that the NYISO receives the complete text of all provisions relating to the subjects specified herein.

- 1.3m Business Issues Committee:** A standing committee of the ISO created pursuant to the ISO Agreement to establish rules related to business issues and provide a forum for discussion of those rules and issues.
- 1.3n Capability Period:** Six-month periods which are established as follows: (1) from May 1 through October 31 of each year ("Summer Capability Period"); and (2) from November 1 of each year through April 30 of the following year ("Winter Capability Period"); or such other periods as may be determined by the Operating Committee of the ISO. A Summer Capability Period followed by a Winter Capability Period shall be referred to as a "Capability Year". Each Capability Period shall consist of On-Peak and Off-Peak periods.
- 1.3o Capacity:** The capability to generate or transmit electrical power, or the ability to reduce demand at the direction of the ISO, measured in megawatts ("MW").
- 1.3p Capacity Benefit Margin ("CBM"):** That amount of Total Transfer Capability reserved by the ISO on the NYS Transmission System to ensure access to generation from interconnected systems to meet generation reliability requirements.
- 1.3q Capacity Reservation Cap:** The maximum percentage of transmission Capacity from a Transmission Owner's sets of ETCNL that may be converted into ETCNL TCCs or the maximum percentage of a Transmission Owner's RCRRs that may be converted into RCRR TCCs, as the case may be, as established by the ISO pursuant to Section 5.3 of Attachment M.
- 1.3r Centralized Transmission Congestion Contracts ("TCC") Auction ("Auction"):** The process by which TCCs are released for sale for the Centralized TCC Auction Period, through a bidding process administered by the ISO or an auctioneer.
- 1.3s Centralized TCC Auction Period ("Auction Period"):** The period equal to one or more whole Capability Periods, determined by the ISO, for which the award of TCCs in the Auction is valid.
- 1.3t Reserved for Future Use.**

facilitate the operation of the NYS Transmission System.

- 1.5g Contingency:** An actual or potential unexpected failure or outage of a system component, such as a Generator, transmission line, circuit breaker, switch or other electrical element. A Contingency also may include multiple components, which are related by situations leading to simultaneous component outages.
- 1.5h Contract Establishment Date:** The date, listed in Attachment L, on which the listed existing agreements which are the source of Grandfathered Rights and Grandfathered TCCs were executed.
- 1.6 Control Area:** An electric power 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.
- 1.6a Credit Assessment:** An assessment of a Customer's creditworthiness, conducted by the ISO in accordance with Section IV.C. of Attachment W of this Tariff.
- 1.6b Cross-Sound Scheduled Line:** A transmission facility that interconnects the NYCA to the New England Control Area at Shoreham, New York and terminates near New Haven, Connecticut.
- 1.7 Curtailment or Curtail:** A reduction in Firm or non-Firm Transmission Service in response to a transmission capacity shortage as a result of system reliability conditions.
- 1.7a Customer:** An entity which has complied with the requirements contained in the ISO Services Tariff, including having signed a Service Agreement, and is qualified to utilize the Market Services and the Control Area Services provided by the ISO under the ISO Services Tariff; provided, however, that a party taking services under the ISO Services Tariff pursuant to an unsigned Service Agreement filed with the Commission by the ISO shall be deemed a Customer.

- 1.7b Day-Ahead:** Nominally, the twenty-four (24) hour period directly preceding the Dispatch Day, except when this period may be extended by the ISO to accommodate weekends and holidays.
- 1.7c Day-Ahead LBMP:** The LBMPs calculated based upon the ISO's Day-Ahead Security Constrained Unit Commitment process.
- 1.7d Day-Ahead Market:** The ISO Administered Market in which Capacity, Energy and/or Ancillary Services are scheduled and sold Day-Ahead consisting of the Day-Ahead scheduling process, price calculations and Settlements.
- 1.7e Decremental Bid:** A monotonically increasing Bid Price curve provided by an entity engaged in a Bilateral Import or Internal Transaction to indicate the LBMP below which that entity is willing to reduce its Generator's output and purchase Energy in the LBMP Markets, or by an entity engaged in a Bilateral Wheel Through transaction to indicate the Congestion Component cost below which that entity is willing to accept Transmission Service.
- 1.8 Delivering Party:** The entity supplying Capacity and Energy to be transmitted at Point(s) of Receipt.
- 1.8a Demand Side Resources:** A Resources that results in the reduction-control of a Load in a responsive, and measurable, and verifiable manner and within time limits established in the ISO Procedures.
- 1.8a.1 Dennison Scheduled Line:** A transmission facility that interconnects the NYCA to the Hydro Quebec Control Area at the Dennison substation, located near Massena, New York and extends through the province of Ontario, Canada (near the City of Cornwall) to the Cedars substation in Quebec, Canada.
- 1.8b Dependable Maximum Net Capability ("DMNC"):** The sustained maximum net output of a Generator, as demonstrated by the performance of a test or through actual operation, averaged over a continuous time period as defined in the ISO Procedures.
- 1.9 Designated Agent:** Any entity that performs actions or functions on behalf of the Transmission Owner, an Eligible Customer, or the Transmission Customer required under the Tariff.
- 1.9a Desired Net Interchange ("DNI"):** A mechanism used to set and maintain the desired Energy interchange (or transfer) between two Control Areas; it is

scheduled ahead of time and can be changed only manually in real-time.

- 1.9b Developer:** An Eligible Customer developing a generation project larger than 10 megawatts, or a merchant transmission project, proposing to connect to the New York State Transmission System, in compliance with the NYISO Minimum Interconnection Standard.
- 1.10 Direct Assignment Facilities:** Facilities or portions of facilities that are constructed by the Transmission Owner(s) for the sole use/benefit of a particular Transmission Customer requesting service under the Tariff. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Transmission Customer and shall be subject to Commission approval.
- 1.10a Direct Sale:** The sale of TCCs directly to a buyer by the Primary Owner through a non-discriminatory auditable sale conducted on the ISO's OASIS, in compliance with the requirements and restrictions set forth in Commission Orders 888 et seq. and 889 et seq.
- 1.10b Dispatchable:** A bidding mode in which Generators or, ~~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~~ Resources may either be ISO-Committed Flexible or Self Committed Flexible. Dispatchable Demand Side Resources must be ISO Committed Flexible. Dispatchable Resources that are not providing Regulation Service will follow five-minute RTD Base Point Signals. Dispatchable ~~Generators~~ Resources that are providing Regulation Service will follow six-second AGC Base Point Signals.
- 1.10c Dispatch Day:** The twenty-four (24) hour period commencing at the beginning of each day (0000 hour).
- 1.10d Dispute Resolution Administrator ("DRA"):** An individual hired by the ISO to administer the Dispute Resolution Process established in the ISO Tariffs and ISO Agreement.
- 1.10e Dispute Resolution Process ("DRP"):** The procedures: (1) described in the ISO Tariffs and the ISO Agreement that are used to resolve disputes between Market Participants and the ISO involving services provided under the ISO Tariffs (excluding applications for rate changes or other changes to the ISO Tariffs or rules relating to such services); and (2) described in the ISO/NYSRC Agreement that are used to resolve disputes between the ISO and NYSRC involving the implementation and/or application of the Reliability Rules.

**1.27i** Reserved for future use.

**1.27j On-Peak:** The hours between 7:00 a.m. and 11:00 p.m. inclusive, prevailing Eastern Time, Monday through Friday, except for NERC-defined holidays, or as otherwise decided by the ISO.

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

**1.28a Operating Capacity:** Capacity that is readily converted to Energy and is measured in MW.

**1.28b Operating Committee:** A standing committee of the ISO created pursuant to the ISO Agreement, which coordinates operations, develops procedures, evaluates proposed system expansions and acts as a liaison to the NYSRC.

**1.28b.1 Operating Requirement:** The amount calculated in accordance with Article III of Attachment W.

**1.28c Operating Reserves:** Capacity that is available to supply Energy, or to the extent that the ISO's software can support participation by 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 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 may not be provided by Demand Side Resources that are Local Generators;

(2) 10-Minute Non-Synchronized Reserve: Operating Reserve provided by Generators, or, ~~to the extent that the ISO's software can support their provision of this product,~~ Demand Side Resources, including Demand Side Resources using Local Generators, that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff and that can be started, synchronized and can change their output level, ~~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.

**1.28c.1 Operating Reserve Demand Curve:** A series of quantity/price points that defines the maximum Shadow Price for Operating Reserves meeting a particular Operating Reserve requirement corresponding to each possible quantity of Resources that the ISO's software may schedule to meet that requirement. A single Operating Reserve Demand Curve will apply to both the Day-Ahead Market and the Real-Time Market for each of the ISO's nine Operating Reserve requirements.

**1.28d Operating Study Power Flow:** A Power Flow analysis that is performed at least once before each Capability Period that is used to determine each Interface Transfer Capability for the Capability Period (See Attachment M).

**1.28e Operational Control:** Directing the operation of the Transmission Facilities Under ISO Operational Control to maintain these facilities in a reliable state, as defined by the Reliability Rules. The ISO shall approve operational decisions concerning these facilities, made by each Transmission Owner before the Transmission Owner implements those decisions. In accordance with ISO Procedures, the ISO shall direct each Transmission Owner to take certain actions to restore the system to the Normal State. Operational Control includes security



**1.36d 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.

**1.36d.1 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 or Neptune Scheduled Line.

**1.36d.2 Real-Time Commitment ("RTC"):** A multi-period security constrained unit commitment and dispatch model that co-optimizes to solve simultaneously for Load, Operating Reserves and Regulation Service on a least as-bid production cost basis over a two hour and fifteen minute optimization period. The optimization evaluates the next ten points in time separated by fifteen minute intervals. Each RTC run within an hour shall have a designation indicating the time at which its results are posted: "RTC<sub>00</sub>," RTC<sub>30</sub>, and "RTC<sub>45</sub>:" post on the hour, and at fifteen, thirty, and forty-five minutes after the hour, respectively. Each RTC run will produce binding commitment instructions for the periods beginning fifteen and thirty minutes after its scheduled posting time and will produce advisory commitment guidance for the remainder of the optimization period, RTC<sub>15</sub> will also establish 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, ~~Generators~~<sup>Resources</sup>, 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 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.

**1.36d.4 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.

**2.10 Reserved for future use.**

**2.11 Base Point Signals**

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

**2.11a Basis Amount**

The greatest amount owed to the ISO for purchases of Energy and Ancillary Services in any month during the Prior Equivalent Capability Period, as adjusted by the ISO to reflect material changes in the extent of the Customer's participation in the ISO-administered Energy and Ancillary Services Markets.

## **2.17 Capability Period**

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

### **2.17a Capability Period Auction**

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

### **2.17b Capability Year**

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

## **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").

### **2.18a Capacity Limited Resource**

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

### 2.31 Contingency

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

### ~~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.

#### 2.32a Control Area System Resource

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

### **2.33a Curtailment Customer Aggregator**

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

#### **2.33a.1 Curtailment Initiation Cost**

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

### **2.33b Curtailment Services Provider**

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

#### **2.33c Curtailment Services Provider Capacity**

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

### **2.34 Customer**

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

### **2.35 Day-Ahead**

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

### **2.36 Day-Ahead LBMP**

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

#### **2.36a Day-Ahead Margin**

That portion of Day-Ahead LBMP for an SCD interval that represents the difference between the Supplier's accepted Bid Price and the Day-Ahead LBMP for that interval.

#### **2.36b Day-Ahead Margin Assurance Payment**

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

### **2.37 Day-Ahead Market**

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

### **2.38 Decremental Bid**

A monotonically increasing Bid curve provided by an entity engaged in a Bilateral Import or Internal Transaction to indicate the LBMP below which that entity is willing to reduce its Generator's

output, and purchase Energy in the LBMP Markets, or by an entity engaged in a Bilateral Wheel Through Transaction to indicate the Congestion Component cost below which that entity is willing to accept Transmission Service.

### **2.38a Demand Reduction**

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

### **2.38b Demand Reduction Aggregator**

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

### **2.38c Demand Reduction Incentive Payment**

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

## 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~~ controlling 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 or Regulation Service markets, or in the Emergency Demand Response Program~~ pursuant to this ISO Services Tariff and the ISO Procedures.

## 2.39a Dennison Scheduled Line

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

## 2.40 Dependable Maximum Net Capability ("DMNC")

The sustained maximum net output of a Generator, as demonstrated by the performance of a test or through actual operation, averaged over a continuous time period as defined in the ISO Procedures.



### 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 may be  
either ISO-Committed Flexible or Self-Committed Flexible. Dispatchable Demand Side  
~~Resources must be ISO-Committed Flexible. Dispatchable Suppliers~~ Resources that are not  
providing Regulation Service will follow five-minute RTD Base Point Signals. Dispatchable  
~~Generators~~ Resources that are providing Regulation Service will follow six-second AGC Base  
Point Signals.

### 2.44 Dispatch Day

~~The twenty-four (24) hour period commencing at the beginning of each day (0000~~  
hour).

### 2.45 Dispute Resolution Administrator ("DRA")

An individual hired by the ISO to administer the Dispute Resolution Process established  
in the ISO Tariffs and ISO Agreement.

### 2.46 Dispute Resolution Process ("DRP")

~~The procedures: (1) described in the ISO Tariffs and the ISO Agreement that are used to~~  
resolve disputes between Market Participants and the ISO involving services provided under the  
ISO Tariffs (excluding applications for rate changes or other changes to the ISO Tariffs or rules

## 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 may not be provided by Demand Side Resources that are 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, including Demand Side Resources using Local Generators, that meet the eligibility criteria set forth in Rate Schedule 4 of this ISO Services Tariff and that can be started, synchronized and can change their output level, ~~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.

least as-bid production cost basis over a two hour and fifteen minute optimization period. The optimization evaluates the next ten points in time separated by fifteen minute intervals. Each RTC run within an hour shall have a designation indicating the time at which its results are posted;- “RTC<sub>00</sub>,” “RTC<sub>15</sub>,” “RTC<sub>30</sub>,” and “RTC<sub>45</sub>” post on the hour, and at fifteen, thirty, and forty-five minutes after the hour, respectively. Each RTC run will produce binding commitment instructions for the periods beginning fifteen and thirty minutes after its scheduled posting time and will produce advisory commitment guidance for the remainder of the optimization period. RTC<sub>15</sub> will also establish External Transaction schedules. Additional information about RTC’s functions is provided in Section 4.4.2 of this ISO Services Tariff.

#### **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.

## **2.159 Required System Capability**

Generation capability required to meet an LSE's peak Load plus Installed Capacity

Reserve obligation as defined in the Reliability Rules.

### **2.159.1 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.

### **2.159a 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.

### **2.159b 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 6.0 of Part IV of Attachment B.

**2.160** Reserved for future use.

## 2.160a 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.

## 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.

## **2.172b 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. Special Case Resources that are not Local Generators, may be offered as synchronized Operating Reserves and Regulation Service and Energy in the Day-Ahead Market. Special Case Resources, using Local Generators rated 100 kw or higher, that are not visible to the ISO's Market Information System may also be offered as non-synchronized Operating Reserves.

### **2.172c.1 Special Case Resource Capacity**

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

## **2.172d Start-Up Period**

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

**2.172e Station Power**

Station Power shall mean the Energy used by a Generator:

1. for operating electric equipment located on the Generator site, or portions thereof, owned by the same entity that owns the Generator, which electrical equipment is used by the Generator exclusively for the production of Energy and any useful thermal energy associated with the production of Energy; and

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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.

~~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.

#### **4.1.7 Commitment for Local Reliability**

Generating units committed by the ISO for service to ensure local reliability will recover startup and minimum generation costs not recovered in the Dispatch Day. Payment for such costs shall be determined pursuant to the provisions of Attachment C. Such payments shall be recovered by the ISO from the local customers for whose benefit the generation was committed in accordance with Rate Schedule 1 of the ISO OATT. Payments made by the ISO to those Generators shall be in accordance with Attachment C.

Customers submitting Bids in the Day-Ahead Market, other than Pre-scheduled Transaction Requests, shall provide the ISO, as appropriate with:

1. Bids to supply Energy, including Bids to supply Energy in Virtual Transactions;
2. Bids to supply Ancillary Services;
3. Requests for Bilateral Transaction schedules;
4. ~~Bids to purchase Energy, including Bids to purchase Energy in Virtual~~  
Transactions; and
5. Demand Reduction Bids.

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

**B. Load Forecasts**

~~The Load forecast shall indicate the predicted level of Load in MW by Point of~~

Withdrawal for each hour of the following seven (7) days.

**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 ~~Generator~~ Supplier will voluntarily enter into dispatch commitments. Bids to supply Energy at Proxy Generator Buses shall be priced no lower than the Bid that provides the highest scheduling priority for sales to the relevant LBMP Market plus the product of (i) the Scheduling Differential and (ii) three.

If the ~~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 Demand Side Resources offering Operating Reserves or Regulation Service shall be ISO-Committed Flexible and shall have an Energy Bid price no lower than \$75/MW hour.

Day-Ahead 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.

### **3. Upper Operating Limits**

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

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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 or Operating Reserves from Demand Side Resources

~~Demand Reduction Bids from Demand Reduction Providers offering Energy from Demand Side Resources shall be:~~ (i) bid in whole megawatts and, as described in Attachment D, shall: (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 (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.~~

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

By 6 a.m., on the day prior to the Dispatch Day, the ISO will verify the Individual Load forecasts from the LSEs. Should the ISO determine that Individual Load forecasts are inconsistent with the ISO's forecast, the ISO will evaluate the discrepancies between them. By 8 a.m., the ISO will develop and publish its statewide Load forecast on the OASIS. The ISO will use this forecast to perform the SCUC for the Dispatch Day.

#### 4.92.4 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 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.

#### 4.2.5 Reliability Forecast

In the SCUC program, system operation shall be optimized based on Bids over the Dispatch Day. However, to preserve system reliability, the ISO must ensure that there will be

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.

#### 4.3 In-Day Scheduling Changes

After the Day-Ahead schedule is published, the ISO shall evaluate any events, including, but not limited to, the loss of significant Generators or transmission facilities that may cause the

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. 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

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.

**~~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:

#### 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**

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

~~Reserved for future use.~~

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 subsection 4.4.3.D., 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.

**E. 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

~~Reserved for future use.~~

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 subsection 4.4.3.D., 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.

~~Reserved for future use.~~

**~~DE.~~ 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.

Additionally, Generators providing~~ingers 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.

The ISO shall make a supplemental payment pursuant to the terms of Attachment C to this Tariff if any Demand Side Resource scheduled to provide synchronized Operating Reserves in the Day-Ahead Market will not recover its synchronized Operating Reserves offers through its Day-Ahead synchronized Operating Reserves revenues and Regulation Service margin.

Demand Side Resources committed Day-Ahead to provide non-synchronized Operating Reserves shall be treated the same as Generators with respect to the determination of supplemental payments.

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 make a supplemental payment pursuant to the terms of Attachment C to this Tariff if any Demand Side Resource scheduled to provide synchronized Operating Reserves in the Real-Time Market will not recover its synchronized Operating Reserves or Regulation offers through its Real-Time synchronized Operating Reserves revenues and Regulation Service margin.

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 ISO shall set to zero the Minimum Payment Nomination for that amount of Special Case Resource Capacity in each interval that was scheduled Day-Ahead to provide Operating Reserves, Regulation Service or Energy.

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 a Non-Competitive Proxy Generator Bus or the Interface between the NYCA and the Control Area in which the Non-Competitive Proxy Generator Bus is located is export constrained due to limits on Available Interface Capacity or Ramp Capacity limits for that Interface in an hour, External Generators and other Suppliers scheduling Imports at such Non-Competitive Proxy Generator Bus in that hour will not be eligible for Real-Time shortfall payments for those Transactions.

When a Proxy Generator Bus that is associated with a designated Scheduled Line is export constrained due to limits on Available Interface Capacity in an hour, External Generators and other Suppliers scheduling Imports at such Proxy Generator Bus in that hour will not be eligible for real-time shortfall payments for those Transactions.

The ISO shall recover supplemental payments and Demand Reduction Incentive Payments to Demand Reduction Providers pursuant to Rate Schedule 1 of its Open Access Transmission Services Tariff, from all Loads excluding exports and Wheels Through on a zonal basis in proportion to the benefits received after accounting for, pursuant to ISO Procedures, Demand Reduction imbalance charges paid by Demand Reduction Providers pursuant to Section 4.4.5.

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 settle Demand Reductions, in the interval and for the capacity for which Special Case Resource Capacity has been scheduled Day-Ahead to provide Operating Reserves, Regulation Service or Energy, as being provided by a Supplier of Operating Reserves, Regulation Service or Energy.

In the event that a 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, the ISO shall set to zero the Minimum Payment Nomination for Special Case Resource Capacity in each interval in which such Capacity was scheduled Day-Ahead to provide Operating Reserves.

Regulation Service or Energy.-

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] Demand Reduction Providers that ~~bid-offer~~ Demand Reductions as Energy into the Day-Ahead Market ~~as Demand Reduction Providers~~ shall also be required to comply with the creditworthiness provisions of Attachment L.