

## 4.2 Day-Ahead Markets and Schedules

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### 4.2.1 ~~Pre-Scheduled Transaction Requests~~

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

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in the priority order in which the Request was originally submitted until it is either accepted for scheduling, is withdrawn or expires, pursuant to ISO Procedures, prior to the close of the Day-Ahead Market for the specified Dispatch Day.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

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

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

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

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

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

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

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

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

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

4.2.~~21~~.1.1 Bids to supply Energy, including Bids to supply Energy in Virtual Transactions;

4.2.~~21~~.1.2 Bids to supply Ancillary Services;

4.2.~~21~~.1.3 Requests for Bilateral Transaction schedules;

4.2.~~21~~.1.4 Bids to purchase Energy, including Bids to purchase Energy in Virtual Transactions; and

4.2.~~21~~.1.5 Demand Reduction Bids.

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

**4.2.~~21~~.2 Load Forecasts**

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

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

**4.2.~~21~~.3 Bids by Dispatchable and ISO-Committed Fixed Resources to Supply Energy and/or Ancillary Services**

4.2.~~21~~.3.1 General Rules

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

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

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

#### 4.2.~~21~~.3.2 Bid Parameters

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

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

#### 4.2.~~21~~.3.3 Upper Operating Limits

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

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

Self-Committed Fixed Generators shall provide the ISO with a schedule of their expected Energy output for each hour. Self-Committed Fixed Generators are responsible for ensuring that any hourly changes in output are consistent with their response rates. Self-Committed Fixed Generators shall also submit UOL<sub>NS</sub>, UOL<sub>ES</sub> and variable Energy Bids for possible use by the ISO in the event that RTD-CAM initiates a maximum generation pickup, as described in Section 4.4.43 of this ISO Services Tariff.

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

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

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

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

#### **4.2.21.7 Bilateral Transactions**

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

#### **4.2.~~21~~.8 Bids to Purchase Energy in the Day-Ahead Market**

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

#### **4.2.~~21~~.9 Day-Ahead Bids from Demand Reduction Providers to Supply Energy from Demand Reductions**

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

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

By 8 a.m., the ISO will develop and publish its statewide Load forecast on the OASIS.

The ISO will use this forecast to perform the SCUC for the Dispatch Day.

#### **4.2.43 Security Constrained Unit Commitment ("SCUC")**

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

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

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



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

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

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

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

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

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

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

All Generator commitments made in the Day-Ahead Market pursuant to this

Section 4.2.43.1 shall be posted on the ISO website following the close of the Day-Ahead Market, in accordance with ISO procedures. In addition, the ISO shall post on its website a non-binding, advisory notification of a request, or any modifications thereto, made pursuant to this Section 4.2.43.1 in the Day-Ahead Market by a Transmission Owner to commit a Generator that is located within a Constrained Area, as defined in Attachment H of this Services Tariff. The advisory notification shall be provided upon receipt of the request and in accordance with ISO procedures.

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

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

outages when possible. Actions taken by the ISO in performing supplemental commitments will not change any financial commitments that resulted from the Day-Ahead Market

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

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

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

A Supplier that bids on behalf of a long start-up time Generator, including one that is committed and whose start is subsequently aborted by the ISO as described in this Section

4.2.54, may be eligible for a Bid Production Cost Guarantee pursuant to the provisions of Section 4.6.6 and Attachment C of this ISO Services Tariff. The costs of such a Bid Production Cost guarantee will be recovered by the ISO under Rate Schedule 1 of the ISO OATT.

The ISO shall perform the SRE as follows: (1) The ISO shall develop a forecast of daily system peak Load for days two (2) through seven (7) in this seven (7)-day period and add the appropriate reserve margin; (2) the ISO shall then forecast its available Generators for the day in question by summing the Operating Capacity for all Generators currently in operation that are available for the commitment cycle, the Operating Capacity of all other Generators capable of starting on subsequent days to be available on the day in question, and an estimate of the net Imports from External Bilateral Transactions; (3) if the forecasted peak Load plus reserves exceeds the ISO's forecast of available Generators for the day in question, then the ISO shall commit additional Generators capable of starting prior to the day in question (*e.g.*, start-up period of two (2) days when looking at day three (3)) to assure system reliability; (4) in choosing among Generators with comparable start-up periods, the ISO shall schedule Generators to minimize Minimum Generation Bid and Start-Up Bid costs of meeting forecasted peak Load plus Ancillary Services consistent with the Reliability Rules; (5) in determining the appropriate reserve margin for days two (2) through seven (7), the ISO will supplement the normal reserve requirements to allow for forced outages of the short start-up period units (*e.g.*, gas turbines) assumed to be operating at maximum output in the unit commitment analysis for reliability.

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

unit begins to start up at any time during day one (1), it would begin to produce Energy forty-eight (48) hours later on day three (3). Similarly, the Minimum Generation Bids for a Generator with a start-up period of three (3) days would be binding only for day four (4).

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

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

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

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

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

accepted by the ISO will be paid the product of: (a) the Day-Ahead hourly zonal LBMP for the Load Zone associated with that Trading Hub; and (b) the Bilateral Transaction scheduled MW.

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