

BPCG and Related Tariff Provisions¹

Definitions (Services Tariff)

Eighth Revised Sheet No. 28

2.15b Bid Production Cost Guarantee (“BPCG”)

A payment made in accordance with Section 4.10 and Attachment C of this ISO Services Tariff.

Fifth Revised Sheet No. 35

2.44 Dispatch Day

The twenty-four (24) hour (or, if appropriate, the twenty-three (23) or twenty-five (25) hour) period commencing at the beginning of each day (0000 hour).

Supplemental Event Interval

Any RTD interval in which there is a maximum generation pickup or a large event reserve pickup and each of the three RTD intervals following the termination of the maximum generation pickup or the large event reserve pickup; provided, however, that the three following RTD intervals will not be included in this determination to the extent that they occur in the next Dispatch Day.

Sixth Revised Sheet No. 58

2.137 Performance Tracking System

A system designed to ~~report~~provide quantitative comparisons of actual and scheduled metrics values versus expected and forecasted values for Generators and Loads. This system ~~is~~will be used by the ISO to measure compliance with criteria associated with ~~, but not limited to,~~ the provision of Energy and Ancillary Services~~Regulation Service~~.

Services Tariff Body

(Excluding Section 4.10 of the Services Tariff)

Fourth Revised Sheet No. 87.01

4.1.7 Commitment of Generator for Reliability

Generators ~~ing units~~ committed by the ISO for service to ensure NYCA or local system reliability will recover startup, incremental Energy, and minimum generation costs not recovered in the Dispatch Day. Payment for such costs shall be determined pursuant to the provisions of

Section 4.10 and Attachment C of this ISO Services Tariff. 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.

Original Sheet No. 91B

4.2.5 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

First Revised Sheet No. 92

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 the Generator is still needed, it will continue to accrue start-up cost payments on a linear basis.~~ 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, ~~and its start-up payment entitlement will cease at that point.~~

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 subsequently aborted by the ISO as described in this Section 4.2.5, may be eligible for a BPCG Supplemental payments to these Generators, if necessary, will be determined pursuant to the provisions of Section 4.10 and Attachment C of this ISO Services Tariff. ~~The costs of such a BPCG and~~ 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

Sixth Revised Sheet No. 99A

A. RTD-CAM Modes

1. Reserve Pickup

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

First Revised Sheet No. 99A.01

necessary de-commit, Resources capable of starting or stopping within 10-minutes. The ISO will continue to optimize for Energy and Operating Reserves, will recognize locational Operating Reserve requirements, but will suspend Regulation Service requirements. If Resources are committed or de-committed in this RTD-CAM mode the schedules for them will be passed to RTC and the Real-Time Dispatch for their next execution.

The ISO will have discretion to classify a reserve pickup as a “large event” or a “small event.” In a small event the ISO will have discretion to reduce Base Point Signals in order to reduce transmission line loadings. The ISO will not have this discretion in large events. ~~As is explained in Section 4.10 below,~~ The distinction also has significance with respect to a Supplier’s Resources’ eligibility to receive BPCGs’ Production Cost guarantee payments in accordance with Section 4.10 and Attachment C of this ISO Services Tariff.

2. Maximum Generation Pickup

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

First Revised Sheet No. 99A.03**B. Calculating Real-Time LBMPs**

When RTD-CAM is activated, except when it is in reserve pickup mode, it shall calculate *ex ante* Real-Time LBMPs at each Generator bus, and for each Load Zone, every five minutes, in accordance with the procedures set forth above in Section 4.4.3B. When it is in reserve pickup mode, RTD-CAM will calculate *ex ante* Real-Time LBMPs every ten minutes, but shall otherwise follow the procedures set forth above in Section 4.4.3B. In addition, when RTD-CAM is activated, Suppliers will be calculate Bid Production Cost payments for eligible for BPCGs Generators during large event, but not small event, reserve pickups and during maximum generation pickups in accordance with . These payments are described in Section 4.10, and in Rate Schedule 4, and Attachment C of this ISO Services Tariff.

C. Posting Commitment Decisions

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

Fourth Revised Sheet No. 140A

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.

A Supplier that bids a Special Case Resource may be eligible for a BPCG pursuant to Section 4.10 and Attachment C of this ISO Services Tariff.

~~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~~

Original Sheet No. 140B

~~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

Section 4.10 (Services Tariff)

Seventh Revised Sheet No. 105

4.10 Bid Production Cost Guarantee ~~and Curtailment Initiation Cost~~ Payments

4.10.1 Day-Ahead BPCGs for Generators

The ISO shall determine ~~on a daily basis, if any Supplier eligible under Section 2.1 of Attachment C of this ISO Services Tariff for a Day-Ahead BPCG ISO-Committed Fixed or ISO-Committed Flexible Generator, other than a Limited Energy Storage Resource, or Customer that schedules imports, that is committed by the ISO in the Day Ahead Market²~~ will not recover its ~~accepted~~ Minimum Generation Bid, Start-Up Bid, and ~~Incremental Energy Bid Price~~ through Day-Ahead LBMP and ~~net~~ Day-Ahead Ancillary Services revenues ~~for Voltage Support Service, Regulation Service, and Synchronized Operating Reserves.~~ Such determination shall be made ~~for an entire Day-Ahead Market day, and such determination shall be made separately for each Generator.~~ On the basis of such determination, the ISO shall pay a Day-Ahead BPCG to the Supplier pursuant to Section 2.0 of Attachment C of this ISO Services Tariff. ~~¶~~

4.10.2 Day-Ahead BPCGs for Imports

~~The ISO shall determine if a Supplier supplying an Import and eligible under Section 3.1 of Attachment C of this ISO Services Tariff for a Day-Ahead BPCG will not recover its Decremental Bid.~~ ~~through Day-Ahead LBMP.~~ Such determination shall be made for an entire Day-Ahead Market day and such determination shall be made separately for each Import transaction. On the basis of such determination, the ISO shall pay a Day-Ahead BPCG to the Supplier pursuant to Section 3.0 of Attachment C of this ISO Services Tariff.

Eight Revised Sheet No. 106

~~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 Generator or Importer exceeds its Day Ahead LBMP revenue over the twenty-four (24) hour day, then that Generator or Importer's Day Ahead LBMP revenue may be augmented by a supplemental Day Ahead Bid Production Cost guarantee payment calculated pursuant to the provisions of Attachment C to this ISO Services Tariff. However, the amount of the shortfall of such a Generator will be compared to the margin that the Generator receives from being scheduled to provide Ancillary Services that it can provide only if scheduled to operate. The 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 Generator will receive a payment pursuant to the provisions of Attachment C to this ISO Services Tariff.~~

First Revised Sheet No. 106.00

~~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.~~

4.10.3 Real-Time BPCGs for Generators Except for Supplemental Events Intervals

~~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; provided however, no real time Bid Production Cost guarantee payment shall be made to a Limited Energy Storage Resource; (ii) use RTD prices and schedules to calculate and pay real time Bid Production Cost guarantee~~

Eight Revised Sheet No. 106.01

~~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 this Section 4.10, Self Committed Flexible and Self Committed Fixed Resources shall not be eligible to receive Bid Production Cost guarantee payments.~~

First Revised Sheet No. 106.02

~~Both Bid costs, and LBMP and Ancillary Services revenues received during NYISO authorized Start-Up, Shutdown or Testing Periods shall be excluded from the calculation of the daily Bid Production Cost guarantee payment.~~

The ISO shall determine if a Supplier eligible under Section 4.1 of Attachment C of this ISO Services Tariff for a real-time BPCG will not recover its accepted Minimum Generation Bid, Start-Up Bid, and Incremental Energy Bid through real-time LBMP and net real-time Ancillary Services revenues for Voltage Support Service, Regulation Service, and Synchronized Operating Reserves. Such determination shall be made for an entire Dispatch Day (except for Supplemental Event Intervals). Such determination shall be made separately for each Generator. On the basis of such determination, the ISO shall pay a real-time BPCG to the Supplier pursuant to Section 4.0 of Attachment C of this ISO Services Tariff.

4.10.4 BPCGs for Generators for Supplemental Events Intervals

The ISO shall determine if a Supplier eligible under Section 5.1 of Attachment C of this ISO Services Tariff for a BPCG for a Supplemental Event Interval will not recover its accepted Minimum Generation Bid, Start-Up Bid, and Incremental Energy Bid through real-time LBMP and net real-time Ancillary Services revenues for Voltage Support Service, Regulation Service, and Operating Reserves in that interval. Such determination shall be made separately for each Supplemental Event Interval, and such determination shall be made separately for each Generator. On the basis of such determination, the ISO shall pay a BPCG to the Supplier for a Supplemental Events Interval pursuant to Section 5.0 of Attachment C of this ISO Services Tariff.

~~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.³ 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.⁴ 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.⁵~~

4.10.5 Real-Time BPCGs for Imports

The ISO shall determine if a Supplier supplying an Import and eligible under Section 6.1 of Attachment C of this ISO Services Tariff for a real-time BPCG will not recover its Decremental Bid. Such determination shall be made for an entire Dispatch Day. Such determination shall be made separately for each Import transaction. On the basis of such determination, the ISO shall pay a real-time BPCG to the Supplier pursuant to Section 6.0 of Attachment C of this ISO Services Tariff.

4.10.6 BPCGs for Long Start-Up Time Generators that Are Aborted by the ISO Prior to their Dispatch

The ISO shall determine if a Supplier eligible under Section 7.1 of Attachment C of this ISO Services Tariff for a BPCG for a long start-up time Generator (i.e., a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) that is aborted by the ISO prior to its dispatch will not recover the portion of its Start-Up Bid that corresponds to the portion of its start-up sequence that it completed prior to being aborted. Such determination shall be made for an entire Dispatch Day, and such determination shall be made separately for each long start-up time Generator. On the basis of such determination, the ISO shall pay a

BPCG to the Supplier pursuant to Section 7.0 of Attachment C of this ISO Services Tariff.

Eighth Revised Sheet No. 106A

4.10.7 BPCGs for Demand Reduction in the Day-Ahead Market

The ISO shall determine, on a daily basis, if a Demand Reduction Provider eligible under Section 8.1 of Attachment C of this ISO Services Tariff for a BPCG for Demand Reduction in the Day-Ahead Market 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. Such determination shall be made for an entire Day-Ahead Market day, and such determination shall be made separately for each Demand Side Resource. On the basis of such determination, the ISO shall pay a BPCG to the Demand Reduction Provider pursuant to Section 8.0 of Attachment C of this ISO Services Tariff. 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.

4.10.8 BPCGs for Special Case Resources

The ISO shall determine, on a daily basis, if a Supplier eligible under Section 9.1 of Attachment C of this ISO Services Tariff for a BPCG for a Special Case Resource by Special Case Resource committed by the ISO will not recover its Minimum Payment Nomination through real-time LBMP revenues. Such determination shall be made for an entire Dispatch Day, and such determination shall be made separately for each Special Case Resource. On the basis of such determination, the ISO shall pay a BPCG to the Supplier pursuant to Section 9.0 of Attachment C of this ISO Services Tariff. 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

Sixth Revised Sheet No. 106B

Attachment C.

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.~~

4.10.9 Day-Ahead BPCGs for Demand Side Resource Scheduled to Provide Synchronized Operating Reserves and Regulation Service

~~The ISO shall determine if a Supplier that bids Demand Side Resources committed by the ISO to provide synchronized Operating Reserves and Regulation Service will not recover its **synchronized** Operating Reserves and Regulation Service Bid. Such Supplier shall be ~~make a supplemental payment pursuant to the terms~~ eligible under Section 10.1 of Attachment C to this ISO Services Tariff for a Day-Ahead BPCG 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.⁶ Such determination shall be made for an entire Day-Ahead Market day, and such determination shall be made separately for each Demand Side Resource. On the basis of such determination, the ISO shall pay a BPCG to the Customer pursuant to Section 10.0 of Attachment C of this ISO Services Tariff.~~

4.10.10 Real-Time BPCGs for Demand Side Resource Scheduled to Provide Synchronized Operating Reserves and Regulation Service

~~The ISO shall determine if a Supplier that bids Demand Side Resources committed by the ISO to provide synchronized Operating Reserves and Regulation Service will not recover its **synchronized** Operating Reserves and Regulation Service Bid. Such Supplier shall be ~~make a supplemental payment pursuant to the terms~~ eligible under Section 11.1 of Attachment C to this ISO Services Tariff for a real-time BPCG if any Demand Side Resource scheduled to provide synchronized Operating Reserves in the Real-Time Market will not recover its synchronized Operating Reserves offers through its Real-Time synchronized Operating Reserves revenues and Regulation Service margin.⁷ Such determination shall be made for an entire Dispatch Day, and such determination shall be made separately for each Demand Side Resource. On the basis of such determination, the ISO shall pay a BPCG to the Customer pursuant to Section 11.0 of Attachment C of this ISO Services Tariff.~~

⁶ This sentence was originally located in Section 4.10 of this ISO Services Tariff (Tariff Sheet 106).

⁷ This sentence was originally located in Section 4.10 of this ISO Services Tariff (Tariff Sheet 106.02).

Second Revised Sheet No. 276.02

4.2 Other Day-Ahead Payments

~~A Supplier that bids on behalf of a Generator that provides Regulation Service may be eligible for a Day-Ahead BPCG pursuant to Section 4.10 and Attachment C of this ISO Services Tariff. As provided in Article 4 and Attachment C of the Services Tariff, the ISO shall compensate each ISO-Committed Flexible Generator that provides Regulation Service, other than a Limited Energy Storage Resource, if its Bid Production Cost to provide the Energy and Ancillary Services it is scheduled to supply in the Day Ahead Market, including start-up costs, minimum Load costs, and Availability Bids, exceeds the revenues it receives from the sale of Energy and Ancillary Services.~~

No payments shall be made to any Supplier providing Regulation Service in excess of the amount of Regulation Service scheduled by the ISO in the Day-Ahead Market, except to the extent that a Supplier is directed to provide the excess amount by the ISO. . . . <no changes to end of page>

Third Revised Sheet No. 276.05

5.3 Other Real-Time Regulation Service Payments

~~A Supplier that bids on behalf of a Generator that provides Regulation Service may be eligible for a BPCG pursuant to Section 4.10 and Attachment C of this ISO Services Tariff. As is provided in Article 4 and Attachment C of the Services Tariff, the ISO shall compensate each ISO-Committed Flexible Generator that provides Regulation Service, other than a Limited Energy Storage Resource, if its Bid Production Cost to provide the Energy and Ancillary Services it is scheduled to supply in the Real Time Market, including start-up costs, minimum Load costs, and Availability Bids, exceeds the revenues it receives from the sale of Energy and Ancillary Services.~~

Third Revised Sheet No. 276.06

~~No payments shall be made to any Supplier providing Regulation Service in excess of the amount of Regulation Service scheduled by the ISO in the Real Time Market, except to the extent that a Supplier is directed to provide the excess amount by the ISO. [NOTE: This was moved to Section 5.4]~~

Finally, whenever a Supplier's real-time Regulation Service schedule is reduced by the ISO to a level lower than its Day-Ahead schedule for that product, the Supplier's Day-Ahead Margin shall be protected after accounting for any margin associated with other products that the Supplier's is scheduled to provide in real-time, provided however, that the Day-Ahead Margin of a Limited Energy Storage Resource may not be protected if the ISO has reduced its real-time Regulation Service offer to a level lower than its Day-Ahead schedule to account for the Energy storage capacity of such Limited Energy Storage Resource. The rules governing the calculation of these Day-Ahead Margin Assurance Payments are set forth in Attachment J to this ISO Services Tariff.

Fourth Revised Sheet No. 276B

5.4 Payments and Performance-Based Adjustments to Payments for Regulation Service Providers

Each Supplier that is scheduled in real-time to provide Regulation Service shall be paid in accordance with the following formula.⁸ The amount paid to each Supplier for providing Regulation Service in each RTD interval i shall be reduced to reflect the Supplier's performance pursuant to the following formula. No payments shall be made to any Supplier providing Regulation Service for any excess amount of Regulation Service beyond that scheduled by the ISO in the Real-Time Market, except to the extent that a Supplier is directed to provide the excess amount by the ISO.

$$\text{Total Payment} = \sum_i (\text{Total Payment}_i * (s_i/3600))$$

Where:

Total Payment_i = (DAMCPreg_i x DARcap_i) + ((RTRcap_i x K_{PI}) - DARcap_i) x RTMCPreg_i) established by NERC, NPCC or Good Utility Practice for Control Performance and System Security. The PSF is set initially at zero. Should the ISO's compliance with these measures deteriorate, in a manner that can be improved if regulation performance improves, the PSF will be increased. Resources providing Regulation Service will be required to increase their performance index to obtain the same total Regulation Service payment as they received during periods of good ISO performance, as measured by these standards. The factor K_{PI} shall initially be set at 1.0 for Limited Energy Storage Resources.

6.0 Energy Settlement Rules for Generators Providing Regulation Service

6.1 Energy Settlements

A. For any interval in which a Generator is providing Regulation

⁸ This sentence has been added because this Section 5.4 never fully incorporated the formula set forth below. This is intended solely to be a clean-up.

9.0 Temporary Suspension of Regulation Service Markets During Reserve Pickups and Maximum Generation

During any period in which the ISO has activated its RTD-CAM software and called for a “large event” or “small event” reserve or maximum generation pickup, as described in Article 4.4.4(A) of this ISO Services Tariff, the ISO will suspend Generators’ obligation to follow the AGC Base Point Signals sent to Regulation Service providers, freeing them to provide Energy

Third Revised Sheet No. 280.01

and will suspend the real-time Regulation Service market. The ISO will not procure any Regulation Service and will establish a real-time Regulation Service market clearing price of zero for settlement and balancing purposes. The ISO will resume sending AGC Base Point Signals and restore the real-time Regulation Service market as soon as possible after the end of the reserve or maximum generation pickup.

Rate Schedules 4 (Services Tariff)

Sixth Revised Sheet No. 296

Day-Ahead locational Shadow Prices will be calculated by SCUC. Each hourly Day-Ahead Shadow Price for each Operating Reserves requirement shall equal the marginal Bid cost of scheduling Resources to provide additional Operating Reserves to meet that requirement in that hour, including any impact on the ~~System Bid~~ Production Cost of procuring Energy or Regulation Service that would result from procuring an increment of Operating Reserve to meet the requirement in that hour, as calculated

Fifth Revised Sheet No. 297

5.2 Other Day-Ahead Payments

A Supplier that bids on behalf of (i) a Generator that provides Operating Reserves or (ii) a Demand Side Resource that provides Operating Reserves may be eligible for a Day-Ahead BPCG pursuant to Section 4.10 and Attachment C of this ISO Services Tariff.

~~As is provided in Section 4.10 and Attachment C of this ISO Services Tariff, the ISO shall compensate each ISO-Committed Flexible Generator providing Operating Reserves if its Bid Production Cost to provide the Energy and Ancillary Services it is scheduled to supply in the Day-Ahead Market, including start-up costs, minimum Load costs, and Availability Bids, exceeds the revenues it receives from the sale of Energy and Ancillary Services. As is provided in Attachment C of this ISO Services Tariff, the ISO shall compensate ISO-Committed Demand Side Resources providing Operating Reserves if their Bids to provide Operating Reserves scheduled in the Day-Ahead Market exceed the revenues received from the sale of Operating Reserves and from any margin earned on the sale of Regulation Service in the Day-Ahead Market settlement.~~

Seventh Revised Sheet No. 302

6.3. Other Real-Time Payments

The ISO shall pay Generators that are selected to provide Operating Reserves Day-Ahead, but are directed to convert to Energy production in real-time, the applicable ~~r~~Real-~~t~~Time LBMP for all Energy they are directed to produce in excess of their Day-Ahead Energy schedule.

A Supplier that bids on behalf of (i) a Generator that provides Operating Reserves or (ii) a Demand Side Resource that provides Operating Reserves may be eligible for a BPCG pursuant to Section 4.10 and Attachment C of this ISO Services Tariff.

~~As is provided in Section 4.10 and Attachment C of this ISO Services Tariff, the ISO shall compensate each eligible Generator providing Operating Reserves if its Bid Production Cost to provide the Energy and Ancillary Services it is scheduled to supply in the Real Time Market, including Minimum Generation Bid and Start-Up Bid costs exceeds the revenues it receives from the sale of Energy and Ancillary Services. Any Generator 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, solely for the duration 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.~~

Attachment C (Services Tariff)

Fourth Revised Sheet No. 421

ATTACHMENT C

~~FORMULAS FOR DETERMINING BID PRODUCTION COST GUARANTEE PAYMENTS~~

1.0 INTRODUCTION

~~I. Supplemental Payments to Generators and Demand Resources~~

~~Ten Three BPCGs supplemental payments for eligible Suppliers Generators are described in this attachment: (i) a Day-Ahead BPCG for Generators Bid Production Cost guarantees; (ii) a Day-Ahead BPCG for Imports; (iii) a Real-time BPCG for Generators Bid Production guarantees except for all Supplemental Events Intervals except maximum generation pickups and large event reserve pickups; and (iviii) a Real-time BPCG Bid Production Cost guarantees for Generators for Supplemental Events Intervals maximum generation pickups and large event reserve pickups; (v) a real-time BPCG for Imports; (vi) a BPCG for long start-up time Generators (i.e., a Generator cannot be scheduled by SCUC to start up in time for the next Dispatch Day) that are aborted by the ISO prior to their dispatch; (vii) a BPCG for Demand Reduction in the Day-Ahead Market; (viii) a Special Case Resources BPCG, (ix) a BPCG for Demand Side Resources providing synchronized Operating Reserves and Regulation Service in the Day-Ahead Market, and (x) a BPCG for Demand Side Resources providing synchronized Operating Reserves and Regulation Service in the Real-Time Market. Suppliers Generators shall be eligible for these payments in accordance with the eligibility requirements and formulas established in this Attachment C, under the circumstances described in Article 4 and Rate Schedule 4 of this ISO Services Tariff.~~

~~The BPCGs described in this Attachment C are each calculated and paid independently from each other, such that a Customer's eligibility to receive one type of BPCG shall have no impact on the Customer's eligibility to receive another type of BPCG.~~

~~Demand Side Resources that are committed to provide non-synchronized Operating Reserves shall be treated the same as Generators with respect to the determination of supplemental payments.⁹ Demand Reduction Providers that provide Demand Reductions in the Day Ahead Market shall be eligible for supplemental payments under Section II, but not this Section I. Demand Side Resources committed in the Day Ahead market to provide synchronized Operating Reserves shall be eligible for supplemental payments under Section IV A. Demand Side Resources committed in the real time market to provide synchronized Operating Reserves or Regulation Service shall be eligible for supplemental payments under Section IV B.~~

⁹ Non-synchronized Operating Reserves are not eligible to receive a BPCG.

Second Revised Sheet No. 421A

2.0 ~~A.~~ DAY-AHEAD BPCGS~~id Production Cost Guarantee Formulas~~ FOR GENERATORS

2.1 Eligibility to Receive a Day-Ahead BPCG for Generators

(a) Eligibility.

A Supplier that bids on behalf of an ISO-Committed Fixed Generator or an ISO-Committed Flexible Generator that is committed by the ISO in the Day-Ahead Market shall be eligible to receive a Day-Ahead BPCG.

(b) Non-Eligibility.

Notwithstanding Section 2.1(a):

(i) a Supplier that bids on behalf of a Limited Energy Storage Resource shall not be eligible to receive a Day-Ahead BPCG;

(ii) a Suppliers that bids~~ing~~ on behalf of a Resources that ~~were~~~~is~~ not committed by the ISO ~~to operate in the a given Dispatch Day-Ahead Market, but which~~ continues to operate beyond its Day-Ahead schedule due to minimum run time Constraints, ~~shall not be eligible to receive a Day-Ahead BPCG receive such a supplemental payment.); and~~

(iii) a Supplier shall not be eligible to receive a Day-Ahead BPCG under this Section 2.0 for an External Transaction.

2.2 Formulas for Determining Day-Ahead BPCGs for Generators:

(a) Applicable Formula. A Supplier's BPCG for a Generator g shall be as follows:

(i) if T_{gh}^{DA} (as defined below) is equal to zero, then the Day-Ahead BPCG for Generator g shall be as calculated pursuant to Section 2.2(b);

(ii) if T_{gh}^{DA} (as defined below) is greater than zero, but less than EH_{gh}^{DA} , then the Day-Ahead BPCG for Generator g shall be as calculated pursuant to Section 2.2(c); and

(iii) if T_{gh}^{DA} (as defined below) is greater than EH_{gh}^{DA} , then the Day-Ahead BPCG for Generator g shall be zero.

(b) No Day-Ahead Bilateral Transactions.

Day-Ahead Bid Production Cost Guarantee for Generator g =

$$\max \left[\sum_{h=1}^N \left(\begin{array}{l} EH_{gh}^{DA} \\ \int C_{gh}^{DA} + MGC_{gh}^{DA} \max(MGH_{gh}^{DA} - T_{gh}^{DA}, 0) / MGH_{gh}^{DA} + SUC_{gh}^{DA} NSUH_{gh}^{DA} \\ \max(T_{gh}^{DA}, MGH_{gh}^{DA}) \\ - LBMP_{gh}^{DA} EH_{gh}^{DA} - NASR_{gh}^{DA} \end{array} \right) \right], 0$$

(c) Bilateral Transactions Less Than Day-Ahead Schedule

Day-Ahead Bid Production Cost Guarantee for Generator g =

$$\max \left[\sum_{h=1}^N \left(\begin{array}{l} \max(T_{gh}^{DA}, MGH_{gh}^{DA}) \\ \int C_{gh}^{DA} + MGC_{gh}^{DA} \min\left(\frac{T_{gh}^{DA}}{MGH_{gh}^{DA}}, 1\right) \\ MGH_{gh}^{DA} \\ - LBMP_{gh}^{DA} (EH_{gh}^{DA} - T_{gh}^{DA}) - NASR_{gh}^{DA} (EH_{gh}^{DA} - T_{gh}^{DA}) \end{array} \right) \right], 0$$

$$\sum_{g \in G} \max \left[\sum_{h=1}^2 \left(\begin{array}{l} EH_{gh}^{DA} \\ \int C_{gh}^D + MGC_{gh}^D MGH_{gh}^D + SUC_{gh}^D NSUH_{gh}^D \\ MGH_{gh}^{DA} \\ - LBMP_{gh}^D EH_{gh}^D - NASR_{gh}^D \end{array} \right) \right], 0 \quad 10$$

¹⁰ In the Day-Ahead BPCG formulas, the variable “N” has been inserted in place of “24.”

(d) Variable Definitions. The terms used in this Section 2.2 shall be defined as follows:

Where:

G = set of Generators;¹¹

N = number of hours in the Day-Ahead Market day;

T_{gh}^{DA} = Bilateral Transactions scheduled Day-Ahead to be sourced by Generator g in hour h expressed in terms of MWh;

EH_{gh}^{DA} = Energy scheduled Day-Ahead to be produced by Generator g in hour h expressed in terms of MWh;

MGH_{gh}^{DA} = Energy scheduled Day-Ahead to be produced by the minimum generation segment of Generator g in hour h expressed in terms of MWh;

C_{gh}^{DA} = Bid cost submitted by Generator g , or when applicable the mitigated Bid cost curve for Generator g , in the Day-Ahead Market for hour h expressed in terms of \$/MWh;

MGC_{gh}^{DA} = Minimum Generation Bid by Generator g , or when applicable the mitigated Minimum Generation Bid for Generator g , for hour h in the Day-Ahead Market, expressed in terms of \$/MWh;

SUC_{gh}^{DA} = Start-Up Bid by Generator g , or when applicable the mitigated Start-Up Bid for Generator g , in hour h into the Day-Ahead Market expressed in terms of \$/start; provided, however, that:

(i) the Start-Up Bid for Generator g , or when applicable the mitigated Start-Up Bid for Generator g , in hour h shall be reduced pro rata if Generator g fails to run for the number of hours for which it was scheduled to run in the Day-Ahead Market, unless the ISO did not economically schedule Generator g to run in real time for the hours for which it was scheduled to run in the Day-Ahead Market;

(ii) for a long start-up time Generator (*i.e.*, a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) that is committed by the ISO and runs in real-time, the Start-Up Bid for Generator g in hour h shall be the Generator's Start-Up Bid, or when applicable the mitigated Start-Up Bid for Generator

¹¹ The current Day-Ahead BPCG formula indicates that the NYISO should sum the outcome of the formula where the Generator at issue (g) is an element of the set of all Generators (G), but Attachment C is intended to calculate the BPCG payable to a given Generator. For this reason, the symbols " Σ " and " $g \in G$ " have been deleted from the start of the formulas, along with related variables.

g, for the hour (as determined at the point in time in which the ISO provided notice of the request for start-up); and¹²

$NSUH_{gh}^{DA}$ = number of times Generator g is scheduled Day-Ahead to start up in hour h;

$LBMP_{gh}^{DA}$ = Day-Ahead LBMP at Generator g's bus in hour h expressed in \$/MWh;

Fourth Revised Sheet No. 422

$NASR_{gh}^{DA}$ = Net Ancillary Services revenue, expressed in terms of \$, paid to Generator g as a result of having been committed to produce Energy for the LBMP Market and/or Ancillary Services Day-Ahead to operate in hour h is computed by summing the following: (1) Voltage Support Service payments received by that Generator for that hour, if it is not a Supplier of Installed Capacity and has been scheduled to operate in that hour; (2) Regulation Service payments made to that Generator for all Regulation Service it is scheduled Day-Ahead to provide in that hour, less that Generator's Day-Ahead Bid to provide that amount of Regulation Service in that hour (unless the Bid exceeds the payments that Generator receives for providing Regulation Service that was committed to produce Energy for the LBMP Market and/or Ancillary Services Day-Ahead, in which case this component shall be zero); and (3) payments made to that Generator for providing Spinning Reserve and synchronized 30-Minute Reserve in that hour if it is committed Day-Ahead to provide such reserves in that hour, less that Generator's Day-Ahead Bid to provide Spinning Reserve and synchronized 30-Minute Reserve in that hour.

3.0 DAY-AHEAD BPCGS FOR IMPORTS

3.1 Eligibility to Receive a Day-Ahead BPCG for Imports

A Supplier that bids an Import that is committed by the ISO in the Day-Ahead Market shall be eligible to receive a Day-Ahead BPCG.

3.2 BPCGs Calculated by Transaction ID

For purposes of calculating a Day-Ahead BPCG for an Import under this Section 3.0, the ISO shall treat the Import as being from a single Resource for all hours of the Day-Ahead Market day in which the same Transaction ID is used, and the ISO shall treat the Import as being from a different Resource for all hours of the Day-Ahead Market day in which a different Transaction ID is used.

¹² The Start-Up Bid variable has been modified to take into account long start-up time Generators whose Start-Up Bid is the hour in which the NYISO initially requested that the Generator begin its start-up sequence. See also Section 7 of this Attachment C for a description of the treatment of long start-up Generators that are aborted by the ISO prior to running in real-time.

3.3 Formula for Determining Day-Ahead BPCGs for Imports

Day-Ahead Bid Production Cost Guarantee for Import t by Supplier s =

$$\text{Max} \left(\sum_{h=1}^N \left[(\text{DecBid}_{th}^{\text{DA}} - \text{LBMP}_{ph}^{\text{DA}}) (\text{SchImport}_{th}^{\text{DA}}) \right], 0 \right)$$

Where:

N = number of hours in the Day-Ahead Market day;

DecBid_{th}^{DA} = Decremental Bid, in \$/MWh, supplied by Supplier s for Import t for hour h;

LBMP_{ph}^{DA} = Day-Ahead LBMP, in \$/MWh, for hour h at Proxy Generator Bus p which is the source of the Import t supplied by Supplier s; and

SchImport_{th}^{DA} = total Day-Ahead schedule, in MWh, for Import t by Supplier s in hour h.

4.0 B. REAL-TIME BPCGSid Production Guarantee Formulas FOR GENERATORS ALL IMPORTSEXCEPT and Real-Time Bid Production Guarantee Formulas FOR ALL SUPPLEMENTAL EVENTS INTERVALS WITH No Maximum Generation Pickups or Large Event Reserve Pickups for All Other Generators

4.1 Eligibility for Receiving Real-Time BPCGs for Generators Except for Supplemental Events Intervals

(a) Eligibility.

A Supplier shall be eligible to receive a real-time BPCG for all intervals (excluding Supplemental Events Intervals as described in Section 5.0 of this Attachment C and intervals described in Section 4.1(b)(iii) of this Attachment C) if it bids on behalf of

(i) an ISO-Committed Flexible Generator or an ISO-Committed Fixed Generator that is committed by the ISO in the Real-Time Market;

(ii) a Self-Committed Flexible Generator if the Generator's minimum generation level does not exceed its Day-Ahead schedule at any point during the Dispatch Day, or

(iii) Resources committed via SRE, or committed or dispatched by the ISO as Out-of-Merit Generation to ensure NYCA or local system reliability, shall remain eligible to receive a real-time Bid Production Cost guarantee payment for the hours of the day that they are committed via SRE or are committed or dispatched by the ISO as Out-of-Merit Generation to meet NYCA or local reliability without regard to the Bid mode(s) employed during the Dispatch Day;

provided, however, that Generators that Bid in Self-Committed mode only (i) during ISO authorized Start-Up, Shutdown or Testing Periods, and (ii) hours when they are committed via SRE or are committed or dispatched by the ISO as Out-of-Merit Generation to meet NYCA or local reliability, will not be precluded from receiving a real-time ~~BPCG~~id Production Cost guarantee payment for the other hours of the Dispatch Day due to these Self-Committed mode Bids.¹³

(b) Non-Eligibility.

Notwithstanding Section 4.1(a):

(i) a Supplier that bids on behalf of a Limited Energy Storage Resource shall not be eligible to receive a real-time BPCG;¹⁴

(ii) a Supplier shall not be eligible to receive a real-time BPCG under this Section 4.0 for an External Transaction; and¹⁵

(iii) a Supplier that bids on behalf of a Generator during an interval in which the dispatch of the Generator is constrained by its downward ramp rate shall not be eligible to receive a real-time BPCG.¹⁶

4.2 Formula for Determining Real-Time BPCGs for Generators Except for Supplemental Events Intervals

Real-Time Bid Production Cost Guarantee for Generator g =¹⁷

$$\max \left\{ \sum_{i=1}^N \left(\begin{array}{l} \left(\frac{EI_{gi}^{RT}}{EI_{gi}^{DA}} \left(\int C_{gi}^{RT} + MGC_{gi}^{RT} (MGI_{gi}^{RT} - MGI_{gi}^{DA}) \right) * \frac{S_i}{3600} \right) \\ - LBMP_{gi}^{RT} (EI_{gi}^{RT} - EI_{gi}^{DA}) \\ - (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - RRAP_{gi} + RRAC_{gi} \end{array} \right) + \sum_{j=1}^L (SUC_{gi}^{RT} (NSUI_{gj}^{RT} - NSUI_{gj}^{DA})) \right\}, 0$$

¹³ This sentence was originally located in Section 4.10 of the Services Tariff (Tariff Sheets 106.01 and 106.02).

¹⁴ The substance of this sentence was originally located in Section 4.10 of the Services Tariff (Tariff Sheet 106).

¹⁵ The substance of this sentence was originally located in Section 4.10 of the Services Tariff (Tariff Sheet 106.01).

¹⁶ The substance of this sentence was originally located in Section I.B of Attachment C of the Services Tariff (Tariff Sheet 423).

¹⁷ In the following formula, the symbols “Σ” and “g∈G” have been removed from the start of the equation.

$$\sum_{g \in G} \max \left[\sum_{i=1}^N \left(\left(\begin{array}{l} EI_{gi}^{RT} \\ \int C_{gi}^{RT} + MGC_{gi}^{RT} (MGI_{gi}^{RT} - MGI_{gi}^{DA}) \\ EI_{gi}^{DA} \end{array} \right) * \frac{s_i}{3600} \right) - LBMP_{gi}^{RT} (EI_{gi}^{RT} - EI_{gi}^{DA}) \right] + \sum_{j=1}^L (SUC_{gj}^{RT} (NSUI_{gj}^{RT} - NSUI_{gj}^{DA})) - 0$$

$$- (NASR_{gi}^{TOT} - NASR_{gi}^{DA}) - RRAP_{gi} + RRAC_{gi}$$

Fifth Revised Sheet No. 422A

where:

s_i = number of seconds in RTD interval i;

T_{gi}^{RT} = Bilateral Transactions scheduled real-time to be sourced by Generator g in hour h expressed in terms of MW;¹⁸

T_{gi}^{DA} = Bilateral Transactions scheduled Day-Ahead to be sourced by Generator g in hour h expressed in terms of MW;¹⁹

C_{gi}^{RT} = Bid cost submitted by Generator g, or when applicable the mitigated Bid cost for Generator g, in the RTD for the hour that includes RTD interval i expressed in terms of \$/MWh, except in hours in which the NYISO has increased Generator g's minimum operating level, either (i) at the Generator's request, or (ii) in order to reconcile the ISO's dispatch with the Generator's actual output or to address reliability concerns that arise because the Generator is not following Base Point Signals, in which case C_{gi}^{RT} shall be deemed to be zero;

MGI_{gi}^{RT} = metered Energy produced by minimum generation segment of Generator g in RTD interval i expressed in terms of MW;

MGI_{gi}^{DA} = Energy scheduled Day-Ahead to be produced by minimum generation segment of Generator g in RTD interval i expressed in terms of MW;

MGC_{gi}^{RT} = Minimum Generation Bid by Generator g, or when applicable the mitigated Minimum Generation Bid for Generator g, in the Real-Time Market for the hour that includes RTD interval i, expressed in terms of \$/MWh;

¹⁸ The real-time BPCG formula has been modified to account for the effect of Bilateral Transactions on the determination of real-time BPCGs.

¹⁹ The real-time BPCG formula has been modified to account for the effect of Bilateral Transactions on the determination of real-time BPCGs.

SUC_{gj}^{RT} = Start-Up Bid by Generator g, or when applicable the mitigated Start-Up Bid for Generator g, for the hour that includes interval j into RTD expressed in terms of \$/start;

provided, however, except that:

(i) the Start-Up Bid SUC_{gj}^{RT} shall be deemed to be zero in the cases of (1) Self-Committed Fixed and Self-Committed Flexible Generators, (2) Generators that are economically committed by RTC or RTD that have 10-minute start-up times that are not synchronized and producing Energy within 20 minutes after their scheduled start time, and (3) Generators that are economically committed by RTC that have greater than 10-minute start-up times that are not synchronized and producing Energy within 45 minutes after their scheduled start time; ~~Rules addressing the handling of Start-Up Bids submitted by Generators that are committed via SRE under particular factual circumstances are set forth below;~~²⁰

(ii) If a Generator has been committed via SRE and its SRE schedule immediately precedes or follows a real-time commitment that did not result from a Day-Ahead commitment, the Generator's Start-Up Bid included in its daily real-time BPCGid Production Cost guarantee calculation for this contiguous real-time commitment period shall be the Start-Up Bid submitted in response to the SRE request (subject to mitigation, where appropriate);

(iii) If a Generator has been committed via SRE and its SRE schedule immediately precedes or follows a real-time schedule that ~~did~~ resulted from a Day-Ahead commitment, then the Generator's Start-Up Bid included in its daily real-time BPCGid Production Cost guarantee calculation for this contiguous real-time commitment period shall be set to zero; and

(iv) if a Generator g has been committed via SRE, the Start-Up Bid by such Generator g, or when applicable the mitigated Start-Up Bid for such Generator g, for the hour that includes interval j shall be reduced pro rata if Generator g fails to complete the lesser of its SRE schedule or its minimum run time;

$NSUI_{gj}^{RT}$ = number of times Generator g started up in the hour that includes RTD interval j;

²⁰ The rules addressing Start-Up Bids by Generators that are committed via SRE are described in parts (ii), (iii), and (iv) in the definition of the SUC_{gj}^{RT} variable.

$NSUI_{gj}^{DA}$ = number of times Generator g is scheduled Day-Ahead to start up in the hour that includes RTD interval j;

Third Revised Sheet No. 422B

$LBMP_{gi}^{RT}$ = Real-Time LBMP at Generator g's bus in RTD interval i expressed in terms of \$/MWh;

N = ~~except for imports,~~ the number of eligible RTD intervals in the Dispatch Day

(i) excluding Supplemental Event i intervals in which there are any maximum generation pickups or large event reserve pickups and the three RTD intervals following the termination of the large event reserve pickup or maximum generation pickup (which are addressed separately in Section 5.0 subsection 1.3 below); and

(ii) excluding any RTD intervals where EI_{gi}^{RT} is less than or equal to EI_{gi}^{DA} ; ~~provided, however, and~~

(iii) excluding intervals during Start-Up Periods, Shutdown Periods, or Testing Periods;²¹

~~for imports, the variable N is the number of eligible RTD intervals in the day excluding any RTD intervals where EI_{gi}^{RT} is less than or equal to EI_{gi}^{DA} ;~~

L = all intervals in the Dispatch Day

EI_{gi}^{RT} = either, as the case may be:²²

(i) if $EOP_{ig} > AEI_{ig}$, then $\min(\max(AEI_{ig}, RTSen_{ig}), EOP_{ig})$; ~~or~~

(ii) if otherwise, then ~~and~~ $\max(\min(AEI_{ig}, RTSen_{ig}), EOP_{ig})$; otherwise

EI_{gi}^{DA} = Energy scheduled in the Day-Ahead Market to be produced by Generator g in the hour that includes RTD interval i expressed in terms of MW, plus the greater of (a) T_{gi}^{RT} minus T_{gi}^{DA} and (b) zero.²³

$RTSen_{ig}$ = Real-time Energy scheduled for Generator g in interval i, and calculated as the arithmetic average of the 6-second AGC Base Point Signals sent to

²¹ The substance of this part (iii) was originally located on Tariff Sheet 106.02 of Attachment C of the ISO Services Tariff.

²² The variable EI_{gi}^{RT} was modified to improve its clarity, but was not substantively changed.

²³ The EI_{gi}^{DA} variable has been modified to account for the effect of Bilateral Transactions.

Generator g during the course of interval i expressed in terms of MW;

AEI_{ig} = average Actual Energy Injection by Generator g in interval i but not more than $RTSen_{ig}$ plus any Compensable Overgeneration expressed in terms of MW;

EOP_{ig} = the Economic Operating Point of Generator g in interval i expressed in terms of MW;

Third Revised Sheet No. 423

$NASR_{gi}^{TOT}$ = Net Ancillary Services scheduled revenue, expressed in terms of \$, paid to Generator g as a result of either having been committed Day-Ahead to operate in the hour that includes RTD interval i or having operated in interval i is computed by summing the following: (1) Voltage Support Service payments received by that Generator for that RTD interval, if it is not a Supplier of Installed Capacity; (2) Regulation Service payments that would be made to that Generator for that hour based on a Performance Index of 1, less the Bid(s) placed by that Generator to provide Regulation Service in that hour at the time it was committed to produce Energy for the LBMP Market and/or Ancillary Services to do so (unless the Bid(s) exceeds the payments that Generator receives for providing Regulation Service, in which case this component shall be zero); (3) payments made to that Generator for providing Spinning Reserve or synchronized 30-Minute Reserve in that hour, less the Bid placed by that Generator to provide such reserves in that hour at the time it was scheduled to do so; and (4) Lost Opportunity Cost payments made to that Generator in that hour as a result of reducing that Generator's output in order for it to provide Voltage Support Service.

$NASR_{gi}^{DA}$ = The proportion of the Day-Ahead net Ancillary Services revenue, expressed in terms of \$, that is applicable to interval i calculated by multiplying the $NASR_{gh}^{DA}$ for the hour that includes interval i by $s_i/3600$.

$RRAP_{gi}$ = Regulation Revenue Adjustment Payment for Generator g in RTD interval i expressed in terms of \$.

$RRAC_{gi}$ = Regulation Revenue Adjustment Charge for Generator g in RTD interval i expressed in terms of \$.

~~Time periods including reserve pickups, and time periods following a reserve pickup in which the dispatch of a given Generator is constrained by its downward ramp rate, will not be included in the above calculation of supplemental payments for that Generator.~~

4.3 For Intervals at the End of the Hour, the Bid for the Next Hour Shall Apply

For RTD intervals in an hour that start 55 minutes or later after the start of that hour, a Bid used to determine real-time BPCGs in Section 4.2 will be the Bid for the next hour in accordance with ISO Procedures. For RTD-CAM intervals in an hour that starts 50 minutes or later after the start of that hour, a Bid used to determine real-time BPCGs in Section 4.2 will be the Bid for the next hour, in accordance with ISO Procedures.

Original Sheet No. 423.00

~~Supplemental payments to Generators that trip before completing their minimum run-time (for Generators that were not scheduled to run Day Ahead) or before running for the number of hours they were scheduled to operate (for Generators scheduled to run Day Ahead) may be reduced by the ISO, per ISO Procedures.²⁴~~

Third Revised Sheet No. 423.01

In the event that the ISO re-institutes penalties for poor Regulation Service performance under Section 8.0 of Rate Schedule 3 such penalties will not be taken into account when calculating supplemental payments under this Attachment C.

5.0 ~~C. Real-Time BPCGs~~ Real-Time BPCGs ~~Production Cost Guarantees~~ **FOR GENERATORS FOR SUPPLEMENTAL EVENTS INTERVALS ~~WITH Maximum Generation Pickups or Large Event Reserve Pickups~~**

5.1 Eligibility for BPCGs for Generators for Supplemental Events Intervals

(a) Eligibility.

(i) Any Supplier who meets the eligibility requirements for a real-time BPCG described in Section 4.1(a) of this Attachment C and whose Energy dispatch is the result of a large event reserve pick-up as described in Section 4.4.4.A.1 of this ISO Services Tariff shall be eligible to receive a BPCG under this Section 5.0.²⁵

(ii) Any Supplier whose Generator is located in the location(s) for which an emergency has been declared under Section 4.4.4.A.2 of this ISO Services Tariff and is requested to dispatch Energy as the result of a maximum generation pick-up shall be eligible to receive a BPCG under this Section 5.0.

(b) Non-Eligibility.

Notwithstanding Section 5.1(a), a Supplier shall not be eligible to receive a BPCG for Supplemental Events Intervals if the Supplier is not eligible for a real-time BPCG for any of the reasons described in Section 4.1(b) of this Attachment C.

5.2 Formula for Determining BPCGs for Generators for Supplemental Events Intervals

²⁴ The substance of this sentence has been relocated to the variable “SUC_{gh}^{DA}” in Section 2.2 of this Attachment C and to the variable “SUC_{gi}^{RT}” in Section 4.2 of this Attachment C.

²⁵ The NYISO is proposing a change to ensure that these BPCGs only apply to Suppliers whose dispatch is affected, and not to all Suppliers. A code change is required to ensure that these BPCGs only apply to Suppliers whose dispatch is affected by a large event reserve pick-up and not to all Suppliers. The code change is currently expected to be completed at the same time that the revised tariff sheets become effective.

Real-Time Bid Production Cost Guarantee Payment for Generator g =

$$\left[\sum_{i=1}^M \max \left(\begin{array}{l} \left(\frac{EI_{gi}^{RT}}{EI_{gi}^{DA}} \int C_{gi}^{RT} + MGC_{gi}^{RT} (MGI_{gi}^{RT} - MGI_{gi}^{DA}) \right) * \frac{S_i}{3600} \\ - LBMP_{gi}^{RT} (EI_{gi}^{RT} - EI_{gi}^{DA}) \end{array} \right), 0 \right]^{26}$$

$$- \left(NASR_{gi}^{TOT} - NASR_{gi}^{DA} \right) - RRAP_{gi} + RRAC_{gi}$$

$$\sum_{g \in G} \left[\sum_{i=1}^M \max \left(\begin{array}{l} \left(\frac{EI_{gi}^{RT}}{EI_{gi}^{DA}} \int C_{gi}^{RT} + MGC_{gi}^{RT} (MGI_{gi}^{RT} - MGI_{gi}^{DA}) \right) * \frac{S_i}{3600} \\ - LBMP_{gi}^{RT} (EI_{gi}^{RT} - EI_{gi}^{DA}) \end{array} \right), 0 \right]$$

$$- \left(NASR_{gi}^{TOT} - NASR_{gi}^{DA} \right) - RRAP_{gi} + RRAC_{gi}$$

where:

M = number of Supplemental Event Intervals in which there are maximum generation pickups or large event reserve pickups in the 24-hour day and the three RTD intervals following the termination of the large event reserve pickup or maximum generation pickup,²⁷ but excluding any intervals in which there are maximum generation pickups or large event reserve pickups where EI_{gi}^{RT} is less than or equal to EI_{gi}^{DA} ; and

EI_{gi}^{RT} = (i) for any intervals in which there are maximum generation pickups, the average Actual Energy Injections, expressed in MWh, for Generator g in interval i, and

²⁶ The symbols “Σ” and “g∈G” have been removed from the start of the formula; and the term “max” has been moved to the start of the formula.

²⁷ The deleted language is included in the definition of the term “Supplemental Events Intervals.”

(ii) for any intervals in which there are large event reserve pickups, EL_{gi}^{RT} is as defined in Section 4.2 above.²⁸

_____The definition of all other variables is identical to those defined in Section 4.2 above.

6.0 REAL-TIME BPCGS FOR IMPORTS

6.1 Eligibility for Receiving Real-Time BPCGs for Imports

(a) Eligibility.

A Supplier that bids an Import that is committed by the ISO in the Real-Time Market shall be eligible to receive a real-time BPCG for all intervals.

(b) Non-Eligibility.

Notwithstanding Section 6.1(a):

(i) ~~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 ~~an~~ Imports at such Non-Competitive Proxy Generator Bus in that hour ~~will~~ shall not be eligible for ~~a real-time BPCG shortfall payments for these~~ Transactions; and

(ii) ~~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 ~~an~~ Imports at such Proxy Generator Bus in that hour will not be eligible for ~~a real-time BPCG shortfall payments for these~~ Transactions.

6.2 BPCGs Calculated by Transaction ID

For purposes of calculating a real-time BPCG for an Import under this Section 6.0, the ISO shall treat the Import as being from a single Resource for all hours of the Dispatch Day in which the same Transaction ID is used, and the ISO shall treat the Import as being from a different Resource for all hours of the Dispatch Day in which a different Transaction ID is used.

6.3 Formula for Determining Real-Time BPCGs for Imports

²⁸ The current formula for real-time BPCGs for Generators for Supplemental Events Intervals does not account for the difference in the determination of Energy injections for the calculation of BPCGs for intervals in which there are maximum generation pickups and for intervals in which there are large event reserve pickups. This modification clarifies this distinction.

Real-Time Bid Production Cost Guarantee for Import t by Supplier s =

$$\text{Max} \left(\sum_{i=1}^N \left[(\text{DecBid}_{ti}^{\text{RT}} - \text{LBMP}_{pi}^{\text{RT}}) \times \max(\text{SchImport}_{ti}^{\text{RT}} - \text{SchImport}_{ti}^{\text{DA}}, 0) \right] * S_i / 3600 \right), 0$$

Where:

N = number of intervals in the Dispatch Day;

DecBid_{ti}^{RT} = Decremental Bid, in \$/MWh, supplied by Supplier s for Import t for interval i;

LBMP_{pi}^{RT} = real-time LBMP, in \$/MWh, for interval i at Proxy Generator Bus p which is the source of the Import t supplied by Supplier s;

SchImport_{ti}^{RT} = total real-time schedule, in MW, for Import t by Supplier s in interval i; and

SchImport_{ti}^{DA} = total Day-Ahead schedule, in MW, for Import t by Supplier s in hour that contains interval i.

S_i = number of seconds in RTD interval i.

7.0 BPCGS FOR LONG START-UP TIME GENERATORS THAT ARE ABORTED BY THE ISO PRIOR TO THEIR DISPATCH

7.1 Eligibility for BPCGs for Long Start-Up Time Generators that Are Aborted by the ISO Prior to their Dispatch

A Supplier that bids on behalf of a long start-up time Generator (i.e., a Generator that cannot be scheduled by SCUC to start up in time for the next Dispatch Day) that is committed by the ISO for reliability purposes as a result of a Supplemental Resource Evaluation and is aborted by the ISO prior to its dispatch, as described in Section 4.2.5 of the ISO Services Tariff, shall be eligible to receive a BPCG under this Section 7.0.

7.2 Methodology for Determining BPCGs for Long Start-Up Time Generators that Are Aborted by the ISO Prior to their Dispatch

A Supplier Generators whose long start-up times Generator's start-up is aborted shall receive of greater than twenty-four (24) hours will have their start-up cost Bids equally a prorated portion of its Start-Up Bid for the hour in which the ISO requested that the Generator begin its start-up sequence, over the course of each day included in their start-up period.

Consequently, units whose start-ups are aborted will receive a prorated portion of those payments, based on the portion of the start-up sequence that they have completed (e.g., if a long start-up time Generator-unit with a seventy-two (72) hour start-up time has its start-up sequence aborted after forty-eight (48) hours, it would receive two-thirds (2/3) of its sStart-uUp cost Bid).

Fourth Revised Sheet No. 423A

H.8.0 Supplemental Payments FOR CURTAILMENT INITIATION COSTS BPCGS FOR DEMAND REDUCTION IN THE DAY-AHEAD MARKET

8.1 Eligibility for BPCGS for Demand Reduction in the Day-Ahead Market

A Demand Reduction Provider that bids a Demand Side Resource that is committed by the ISO in the Day-Ahead Market to provide Demand Reduction shall be eligible to receive a BPCG under this Section 8.0.

8.2 Formula for Determining BPCGS for Demand Reduction in the Day-Ahead Market

A supplemental payment for Curtailment Initiation Costs shall be made when the Curtailment Initiation Cost Bid and the Demand Reduction Bid price offered by a Demand Reduction Provider for any Demand Reduction committed by the ISO in the Day-Ahead market over the [twenty-four (24) hour] day exceeds Day-Ahead LBMP revenue, provided however that

Supplemental payments made to Demand Reduction Providers that fail to complete their scheduled reductions may be reduced by the ISO, pursuant to ISO Procedures.²⁹

Day-Ahead BPCG for Demand Reduction Provider d =

$$\text{Max} \left[\sum_{h=1}^N (\text{MinCurCost}_d^h + \text{IncrCurCost}_d^h - \text{CurRev}_d^h) + \text{CurInitCost}_d, 0 \right]$$

where:

$$\text{CurInitCost}_d = \sum_{h=1}^N (\text{Min}(\text{ActCur}_d^h, \text{SchdCur}_d^h)) / \left(\sum_{h=1}^N \text{SchdCur}_d^h \right) * \text{CurCost}_d$$

$$\text{MinCurCost}_d^h = \text{Min} \left[(\text{ActCur}_d^h / \text{SchdCur}_d^h), 1 \right] * \text{MinCurBid}_d^h$$

²⁹ The formula in Section 8.2 of this Attachment C addresses the reduction of BPCGs for Demand Reduction Providers that fail to complete their scheduled reductions.

$$\text{IncrCurCost}_d^h = \text{Min} \left[\int_{\text{MinCur}_d^h}^{\text{ActCur}_d^h} \text{IncrCurBid}_d^h, 0 \right]$$

$$\text{CurRev}_d^h = \text{LBMP}_{dh}^{\text{DA}} * \text{ActCur}_d^h$$

N = number of hours in the Day-Ahead Market day.

CurInitCost_d = daily Curtailment Initiation Cost credit for Day-Ahead Demand Reduction Provider d;

MinCurCost_d^h = minimum Curtailment cost credit for Day-Ahead Demand Reduction Provider d in hour h;

IncrCurCost_d^h = incremental Curtailment cost credit for Day-Ahead Demand Reduction Provider d for hour h;

CurCost_d = total bid Curtailment Initiation Costs for Day-Ahead Demand Reduction Provider d for the day;

CurRev_d^h = actual revenue for Day-Ahead Demand Reduction Provider d in hour h;

ActCur_d^h = actual Energy curtailed by Day-Ahead Demand Reduction Provider d in hour h expressed in terms of MWh;

SchdCur_d^h = Energy scheduled Day-Ahead to be curtailed by Day-Ahead Demand Reduction Provider d in hour h expressed in terms of MWh;

MinCurBid_d^h = minimum Curtailment initiation Bid submitted by Day-Ahead Demand Reduction Provider d for hour h expressed in terms of \$/MWh;

IncrCurBid_d^h = Bid cost submitted by Day-Ahead Demand Reduction Provider d for hour h expressed in terms of \$/MWh;

MinCur_d^h = Energy scheduled Day-Ahead to be produced by the minimum Curtailment segment of Day-Ahead Demand Reduction Provider d for hour h expressed in terms of MWh; and

$\text{LBMP}_{dh}^{\text{DA}}$ = Day-Ahead LBMP for Day-Ahead Demand Reduction Provider d for hour h expressed in \$/MWh.

9.0 SUPPLEMENTAL PAYMENTS FOR SPECIAL CASE RESOURCES BPCGS

9.1 Eligibility for Special Case Resources BPCGS

Any Supplier that bids a Special Case Resource that is committed by the ISO in the Real-Time Market shall be eligible to receive a BPCG under this Section 9.0.

9.2 Methodology for Determining Special Case Resources BPCGs

A ~~BPCG supplemental payment~~ for Minimum Payment Nominations shall be made when the Minimum Payment Nomination for any Special Case Resource committed by the ISO over the period of requested performance or four (4) hours, whichever is greater,³⁰ exceeds the LBMP revenue received for performance by that Special Case Resource; *provided, however,* that the ISO shall set to zero the Minimum Payment Nomination for Special Case Resource Capacity in each interval in which such capacity was scheduled Day-Ahead to provide Operating Reserves, Regulation Service or Energy.

IV10.0 SUPPLEMENTAL PAYMENTS BPCGS FOR DEMAND SIDE RESOURCES PROVIDING SYNCHRONIZED Synchronized OPERATING RESERVES AND REGULATION SERVICE IN THE DAY-AHEAD MARKET

10.1 Eligibility for BPCGs for Demand Side Resources Providing Synchronized Operating Reserves and Regulation Service in the Day-Ahead Market

Any Supplier that bids a Demand Side Resource that is committed by the ISO to provide synchronized Operating Reserves and Regulation Service in the Day-Ahead Market shall be eligible to receive a BPCG under this Section 10.0.

10.2 Formula for Determining BPCGs for Demand Side Resources Providing Synchronized Operating Reserves and Regulation Service in the Day-Ahead Market

~~A—A BPCG supplemental payment to a Demand Side Resource with a synchronized Operating Reserves or Regulation Service schedule in the Day-Ahead Market shall be calculated as follows: by setting to zero all terms provided in Section I. A. of this Attachment C, with which Day Ahead supplemental payments are calculated, with the exception of the term $NASR_{gh}^{DA}$ which shall be calculated pursuant to its description.~~³¹

BPCG for Demand Side Resource d Providing Ancillary Services Day-Ahead =

$$\max \left[\left(\sum_{h=1}^N NASR_{dh}^{DA} \right), 0 \right]$$

³⁰ The substance of this provision was originally located in Section 4.10 of the ISO Services Tariff (Tariff Sheets 106A and 140A).

³¹ The formula for determining BPCGs for Demand Side Resources providing synchronized Operating Reserves and Regulation Services in the Day-Ahead Market that was originally included in this section only functioned for Generators. A new formula has been included that functions for Demand Side Resources. This formula is substantively unchanged, but the variables are appropriate for Demand Side Resources, rather than Generators.

where:

N = number of hours in the Day-Ahead Market day.

$NASR_{dh}^{DA}$ = Net Ancillary Services revenue, in \$, paid to Demand Side Resource d as a result of having been committed to provide Ancillary Services Day-Ahead to operate in hour h is computed by summing the following: (1) Regulation Service payments made to that Demand Side Resource for all Regulation Service it is scheduled Day-Ahead to provide in that hour, less Demand Side Resource d 's Day-Ahead Bid to provide that amount of Regulation Service in that hour (unless the Bid exceeds the payments that the Demand Side Resource receives for providing Regulation Service that was committed to provide Ancillary Services Day-Ahead, in which case this component shall be zero); and (2) payments made to Demand Side Resource d for providing Spinning Reserve and synchronized 30-Minute Reserve in that hour if it is committed Day-Ahead to provide such reserves in that hour, less Demand Side Resource d 's Day-Ahead Bid to provide Spinning Reserve and synchronized 30-Minute Reserve in that hour.

Substitute Second Revised Sheet No. 424

11.0 BPCGS FOR DEMAND SIDE RESOURCES PROVIDING SYNCHRONIZED OPERATING RESERVES AND REGULATION SERVICE IN THE REAL-TIME MARKET

11.1 Eligibility for BPCGs for Demand Side Resources Providing Synchronized Operating Reserves and Regulation Service in the Real-Time Market

Any Supplier that bids a Demand Side Resource that is committed by the ISO to provide synchronized Operating Reserves and Regulation Service in the Real-Time Market shall be eligible to receive a BPCG under this Section 11.0.

11.2 Formula for Determining BPCGs for Demand Side Resources Providing Synchronized Operating Reserves and Regulation Service in the Real-Time Market

~~B. A BPCG supplemental payment to a Demand Side Resource with a synchronized Operating Reserves schedule in the real-time Market shall be calculated as follows: by setting to zero all terms provided in Section I.B. of this Attachment C, with which real-time supplemental payments are calculated, with the exception of the terms $NASR_{gi}^{DA}$ and $NASR_{gi}^{TOT}$, which shall be calculated pursuant to their description.³²~~

³² The formula for determining BPCGs for Demand Side Resources providing synchronized Operating Reserves and Regulation Services in the Real-Time Market that was originally included in this section only functioned for

BPCG for Demand Side Resource d Providing Ancillary Services in Real-Time =

$$\max \left[\left(\sum_{i=1}^N \langle \text{NASR}_{di}^{\text{TOT}} - \text{NASR}_{di}^{\text{DA}} \rangle \right), 0 \right]$$

where:

N = number of hours in the Dispatch Day;

$\text{NASR}_{di}^{\text{TOT}}$ = Net Ancillary Services scheduled revenue, in \$, paid to Demand Side Resource d as a result of either having been scheduled Day-Ahead in the hour that includes RTD interval i or having been scheduled in interval i is computed by summing the following: (1) Regulation Service payments that would be made to Demand Side Resource d for that hour based on a Performance Index of 1, less the Bid(s) placed by Demand Side Resource d to provide Regulation Service in that hour at the time it was committed to provide Ancillary Services (unless the Bid(s) exceeds the payments that Demand Side Resource d receives for providing Regulation Service, in which case this component shall be zero); (2) payments made to Demand Side Resource d for providing Spinning Reserve or synchronized 30-Minute Reserve in that hour, less the Bid placed by Demand Side Resource d to provide such reserves in that hour at the time it was scheduled to do so; and

$\text{NASR}_{di}^{\text{DA}}$ = The proportion of the Day-Ahead net Ancillary Services revenue, in \$, that is applicable to interval i calculated by multiplying the $\text{NASR}_{dh}^{\text{DA}}$ for the hour that includes interval i by the quotient of the number of seconds in RTD interval i divided by 3600.

Generators. A new formula has been included that functions for Demand Side Resources. The formula is substantively unchanged, but the variables are appropriate for Demand Side Resources, rather than Generators.

Definitions (OATT)

Substitute Sixth Revised Sheet No. 28

1.10c Dispatch Day: As defined in the ISO Services Tariff.~~The twenty-four (24) hour period commencing at the beginning of each day (0000 hour).~~

Supplemental Event Intervals: As defined in the ISO Services Tariff.

Fourth Revised Sheet No. 44

1.32a Performance Tracking System: ~~A system designed to provide quantitative comparisons of actual values versus expected and forecasted values for Generators and Loads (See Rate Schedule 3 of the ISO Services Tariff). This system will be used by the ISO to measure compliance with criteria associated with the provision of Regulation and Frequency Response Service.~~As defined in the ISO Services Tariff.