ATTACHMENT J

~~FORMULA FOR DETERMINING~~
~~DAY-AHEAD MARGIN ASSURANCE PAYMENT~~

~~I.~~ DETERMINATION OF DAY-AHEAD MARGIN ASSURANCE PAYMENTS

1.0   ~~Payments~~General Rule

If an eligible Supplier buys out of a Day-Ahead Energy, Regulation Service or Operating Reserve schedule in a manner that reduces its Day-Ahead Margin it shall receive a Day-Ahead Margin Assurance Payment, except as noted in Sections 4.0, and 5.0 of this Attachment J. The purpose of such payments is to protect Suppliers' Day-Ahead Margins associated with real-time reductions after accounting for: (i) any real-time profits associated with offsetting increases in real-time Energy, Regulation Service, or Operating Reserve Schedules; and (ii) any Supplier-requested real-time de-rate granted by the ISO.

2.0   Eligibility for Receiving Day-Ahead Margin Assurance Payments

The following categories of Suppliers shall be eligible to receive Day-Ahead Margin Assurance Payments: (i) all Self-Committed Flexible and ISO-Committed Flexible Generators that are online and dispatched by RTD; (ii) any Supplier that is scheduled out of economic merit order by the ISO in response to an ISO or Transmission Owner system security need or to permit the ISO to procure additional Operating Reserves; and (iii) any Supplier that is derated or decommitted by the ISO in response to an ISO or Transmission Owner system security need or to permit the ISO to procure additional Operating Reserves.

3.0   Calculation of Day-Ahead Margin Assurance Payments

~~Except as noted in Section 1.3 of this Attachment J,~~ Day-Ahead Margin ~~a~~Assurance

~~p~~Payments for ~~generating units~~ Suppliers shall be determined ~~using~~ by applying the following

equations to each individual Generator (or, when applicable, to each individual Demand Side

Resource):

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

$$CDMAP_{iu} = \left\{\left[DAS_{hu} - \max(RTBP_{iu}, AEI_{iu})\right]RTP_{iu} - \int_{LL_{iu}}^{DAS_{hu}} DAB_{hu}\right\} * \frac{Seconds_i}{3600},$$

$$CDMAP_{iu} = CDMAPen_{iu} + \sum_{p} CDMAPres_{iup} + CDMAPreg_{iu}.$$

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

$$CDMAPen_{iu} = \left\{\begin{array}{c}\left[DASen_{hu} - LL_{iu}\right] \times RTPen_{iu} \\ DASen_{hu} \\ - \int_{LL_{iu}} DABen_{hu}\end{array}\right\} * \frac{Seconds_i}{3600}.$$

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

$$CDMAPen_{iu} = MIN\left(\left\{\begin{array}{c}\left[DASen_{hu} - UL_{iu}\right) \times RTPen_{iu} \\ UL_{iu} \\ + \int_{DASen_{hu}} RTBen_{iu}\end{array}\right\} * \frac{Seconds_i}{3600}, 0\right)$$

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

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

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

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

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

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

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

$$CDMAPreg_{iu} = \left[\left(DASreg_{hu} - RTSreg_{iu}\right) \times MAX\left(\left(RTPreg_{iu} - RTBreg_{iu}\right), 0\right)\right] * \frac{Seconds_i}{3600}.$$

where:

h is the hour that includes interval i;

$DMAP_{hu}$ = the Day-Ahead Margin Assurance Payment attributable in any hour *h* to any ~~generating unit~~ Supplier *u*;

$CDMAP_{iu}$ = the contribution of ~~SCD~~RTD interval *i* to the Day-Ahead Margin Assurance Payment for ~~unit~~ Supplier *u*;

$CDMAPen_{iu}$ = the Energy contribution of RTD interval *i* to the Day-Ahead Margin Assurance Payment for Supplier *u*;

$CDMAPreg_{iu}$ = the Regulation Service contribution of RTD interval *i* to the Day-Ahead Margin Assurance Payment for Supplier *u*;

$CDMAPres_{iup}$ = the Operating Reserve contribution of RTD interval i to the Day-Ahead Margin Assurance Payment for Supplier u determined separately for each Operating Reserve product p;

$DASen_{hu}$ = ~~dD~~ay-~~aA~~head ~~e~~Energy schedule for ~~unit~~ Supplier u in hour h;

~~$RTBP_{iu}$ = average 6-second ramped SCD basepoint for unit u in interval i;~~
$DASreg_{hu}$ = Day-Ahead schedule for Regulation Service for Supplier u in hour h;

$DASres_{hup}$ = Day-Ahead schedule for Operating Reserve product p, for Supplier u in hour h;

$DABen_{hu}$ = Day-Ahead Energy bid curve for Supplier u in hour h;

$DABreg_{hu}$ = Day-Ahead Availability Bid for Regulation Service for Supplier u in hour h;

$DABres_{hup}$ = Day-Ahead Availability Bid for Operating Reserve product p for Supplier u in hour h;

$RTSen_{iu}$ = Real-time Energy scheduled for Supplier u in interval i, and calculated as the arithmetic average of the 6-second AGC Base Point Signals sent to Supplier u during the course of interval i;

$RTSreg_{iu}$ = Real-time schedule for Regulation Service for Supplier u in interval i.

$RTSres_{iup}$ = Real-time schedule for Operating Reserve product p for Supplier u in interval i.

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

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

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

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

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

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

$LL_{iu} = \max$ ~~$(RTBP_{iu}, AEI_{iu})$~~$(RTSen_{iu}, \min(AEI_{iu}, EOP_{iu}))$, but not more than $DASen_{hu}$ if $RTSen_{iu} \leq EOP_{iu}$ and $\min (RTSen_{iu}, \max(AEI_{iu}, EOP_{iu}))$, but not more than $DASen_{hu}$ otherwise;

$UL_{iu} = \min (RTSen_{iu}, \max(AEI_{iu}, EOP_{iu}))$ but not less than $DASen_{hu}$ if $RTSen_{iu} \geq EOP_{iu} \geq DASen_{hu}$ and $\max (RTSen_{iu}, \min(AEI_{iu}, EOP_{iu}))$ but not less than $DASen_{hu}$ otherwise;

$EOP_{iu} =$ the Economic Operating Point of Supplier u in interval i calculated without regard to ramp rates;

~~$DAB_{hu} =$ Bid curve for unit u submitted in the Day Ahead Market for hour h; and~~
$Seconds_i =$ number of seconds in interval i.

~~The value of $RTBP_{iu}$, in the equation above shall be determined using an arithmetic average of~~

~~the AGC Base Point Signals sent to a unit over the course of a given SCD interval, $i.e.$, the~~

period between the NYISO's issuance of two successive SCD Base Point Signals. The AGC

Base Point Signal for a unit Generator that is not providing Regulation Service during a given

SCDRTD interval shall be initialized by either: (i) the unitGenerator's last AGC Base Point

Signal from the prior SCD RTD interval; or (ii) the unitGenerator's actual metered generation at

the time new SCD RTD Base Point Signals are received by the ISO's AGC software, whichever

is closer to the unitGenerator's new SCDRTD Base Point Signal. AGC Base Point Signals for a

unit Generator that is not providing Regulation Service will ramp evenly over the course of the

SCD RTD interval starting at the initialized AGC Base Point Signal and ending at the level of its

new SCD RTD Base Point Signal. AGC Base Point Signals for units Generators providing

Regulation Service during a given SCD RTD interval are determined based on the ISO's need to

minimize the NYCA area control error.

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II. EXCEPTIONS TO DAY-AHEAD MARGIN ASSURANCE PAYMENTS

14.0 Generators Exception for Suppliers Lagging Behind SCDRTD Base Point Signals

An otherwise eligible Supplier Generators that does not respond to, or that lags behind, the ISO's Security Constrained Dispatch RTD Base Point Signals in a given SCD interval, as determined below, shall not be eligible for Day-Ahead Margin aAssurance pPayments for that interval. If such a Generator's Supplier's average aActual Energy iInjection in an SCDRTD interval (*i.e.*, its aActual eEnergy iInjections averaged over the SCDRTD interval) is less than or equal to its penalty limit for under-generation value for that interval, as computed below, it shall not be eligible for Day-Ahead Margin aAssurance pPayments for that SCD interval.

1.0.1 The Penalty Limit for Under-Generation Value

The Ppenalty limit for under-generation value is the tolerance described in Section 41.0a of Rate Schedule 3-A of this ISO Services Tariff, which is set pursuant to ISO Procedures, and used in the calculation of the persistent under-generation charge applicable to Suppliers that are not providing Regulation Service.

1.1 Class B Units

Class B Units are not eligible for Day Ahead Margin assurance payments unless they are scheduled by the NYISO out of economic merit order in response to an ISO or TO system security need or to permit the ISO to procure additional Operating Reserves.

5.0 Rules Applicable to Generator Derates

~~1.2 Generators Scheduled to Supply Ten-Minute Spinning Reserves~~

~~If a Class A Generator is scheduled to supply Spinning Reserves in real-time and is scheduled by the NYISO out of economic merit order in response to an ISO or TO system security need, or to permit the ISO to procure additional Operating Reserves, it shall be eligible for either a real-time Lost Opportunity Cost payments or a Day-Ahead Margin assurance payments. Such a Generator will be eligible for a Day-Ahead margin assurance payment between (i) the higher of its average six second ramped SCD Base Point Signal or its average actual Energy injection and (ii) its Day-Ahead Energy schedule. Such a Generator shall also be eligible for real-time Lost Opportunity Cost Payments to the extent that it supplied Spinning Reserves. No Generator, however, shall receive both Day-Ahead Margin assurance payments and real-time Lost Opportunity Cost payments for the same portion of its Day-Ahead bid curve. In the event that a Generator is eligible to receive both payments for a given portion of its bid curve, it will receive only the real-time Lost Opportunity Cost payment.~~

~~1.3~~ Generator Requested Derates

Generator<u>s</u> that request and are granted a derate of their real-time Operating Capacity, but <u>that are</u> otherwise ~~meet all other eligibility requirements pursuant to this Attachment J may~~ <u>eligible to</u> receive Day-Ahead Margin <u>a</u>~~a~~<u>A</u>ssurance <u>p</u>~~p~~<u>P</u>ayments <u>may receive a payment up to a Capacity level consistent with their revised Emergency Upper Operating Limit or Normal Upper Operating Limit, whichever is applicable</u>. If a Generator's

derated real-time Operating Capacity is lower than the sum of ~~less its real-time Spinning Reserve or real-time Regulation schedule, if any, is less than~~ its Day-Ahead Energy Regulation Services and ~~schedule, then the Generator's derated real-time~~ Operating Reserve schedules then when the ISO conducts the calculations described ~~Capacity less its real-time Spinning Reserve or real-time Regulation schedule, shall be used in place of the Day Ahead Energy schedule in the equations set forth~~ in Section 3.0 above, the $DASen$, $DASeg$ and $DASres_p$ variables will be reduced by $REDen$, $REDreg$ and $REDres_p$ respectively. $REDen$, $REDreg$ and $REDres_p$ shall be calculated using the formulas below:~~I of this Attachment J.~~

$$REDtot_{iu} = \max(DASen_{hu} + DASreg_{hu} + \Sigma_p DASres_{hup} - RTUOL_{iu}, 0)$$

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

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

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

$$REDen_{iu} = ((POTREDen_{iu}/(POTREDen_{iu} + POTREDreg_{iu} + \Sigma_p POTREDres_{iup}))*REDtot_{iu}$$

$$REDreg_{iu} = ((POTREDreg_{iu}/(POTREDen_{iu} + POTREDreg_{iu} + \Sigma_p$$

$$POTREDres_{iup}))*REDtot_{iu}$$

$$REDres_{iup} = ((POTREDres_{iup}/(POTREDen_{iu} + POTREDreg_{iu} + \Sigma_p$$

$$POTREDres_{iup}))*REDtot_{iu}$$

where:

$RTUOL_{iu} =$ The real-time Emergency Upper Operating Limit or Normal Upper Operating

          Limit whichever is applicable of Supplier u in interval i

$REDtot_{iu}$ = The total amount in MW that Day-Ahead schedules need to be reduced to account for the derate of Supplier u in interval i;

$REDen_{iu}$ = The amount in MW that the Day-Ahead Energy schedule is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;

$REDreg_{iu}$ = The amount in MW that Supplier u's Day-Ahead Regulation Service schedule is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment in interval i;

$REDres_{iup}$ = The amount in MW that Supplier u's Day-Ahead Operating Reserve schedule for Operating Reserves product p is reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment in interval i;

$POTREDen_{iu}$ = The potential amount in MW that Supplier u's Day-Ahead Energy schedule could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;

$POTREDreg_{iu}$ = The potential amount in MW that Supplier u's Day-Ahead Regulation Service Schedule could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;

$POTREDres_{iup}$ = The potential amount in MW that Supplier u's Day-Ahead Operating Reserve Schedule for Operating Reserve product p could be reduced for the purposes of calculating the Day-Ahead Margin Assurance Payment for Supplier u in interval i;

All other variables are as defined above.