Supplemental Transaction Customer Settlements

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FOR TRAINING PURPOSES ONLY

Transaction Supplemental Payments

Settlement Name:

A. DAM Transaction Bid Production Cost Guarantee (BPCG)
B. Transaction Import Curtailment Supplier Guarantee

- Bilateral Import Curtailment
- Market Energy [LBMP] Import Curtailment

Objectives Per Settlement Name:

- Provide Settlement Description
- Identify Settlement Eligibility
- Name Settlement Determinants
- Name Settlement Intermediates
- Explain Settlement Algorithm
- Step Through Settlement Scenario
- Perform Settlement Example
- Note Settlement Reference Material

Transaction Supplemental Payments – DAM Bid Production Cost Guarantee (BPCG)

Settlement Description:

- Intended to guarantee a Transaction Customer, who is importing energy into the NYCA for sale into the NYISO DAM via a <u>Market Energy</u> [LBMP] <u>Import</u> or a <u>Bilateral Import</u> Transaction, does not incur a net DAM loss relative to the Transaction Contract's determined Bid Production Costs

Transaction Supplemental Payments DAM BPCG

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Settlement Eligibility

- *Transaction Customers will receive a payment for Day Ahead Market (DAM) Transaction Bid Production Cost Guarantee (BPCG) ($) if all of the following conditions exist:*

- The Transaction Contract is a DAM <u>Market Energy</u> [LBMP] <u>Import</u> or a <u>Bilateral Import</u> Transaction

  - Source Location is a NYISO external control area proxy bus
  - Sink Location is either the NYISO market reference proxy bus or an internal NYISO load bus
  - TransCnt Transaction Category = Import

- The transaction contract is scheduled in the NYISO DAM

  - Hr DAM Sched Trans: Trans (MW) > 0

- The sum of all hours for the given day of the given transaction contract's determined DAM Bid Production Cost ($) exceeds its DAM Energy Revenue ($)

  - Day DAM Trans BPCG ($) > 0

Transaction Supplemental Payments DAM BPCG

Settlement Determinants:

- Hr DAM TransCnt Bid : Energy [1-11] (MW)
- Hr DAM TransCnt Bid : Price [1-11] ($/MW)
- Hr DAM LBMP Energy (MWh)
- Hr DAM TUC Energy (MWh)
- Hr DAM Energy Price: Src ($/MWh)
- Hr DAM Loss Price: Src ($/MWh)
- Hr DAM Cong Price: Src ($/MWh)

Transaction Supplemental Payments DAM BPCG

Settlement Intermediates:

- Hr DAM TransCnt Cost ($)
- Hr DAM Total LBMP Stlmnt ($) [LBMP Trans]
- Hr DAM Imputed LBMP Revenue ($) [Bilaterals]
- Hr DAM Trans Net Cost ($)

Settlement Results:

- Day DAM Trans BPCG ($)

Transaction Supplemental Payments DAM BPCG

Settlement Algorithm:

Day DAM Trans BPCG ($) = Max [Sum of all hours for the given day of Hr DAM Trans Net Cost ($), 0]

Where Hr DAM Trans Net Cost ($) is calculated as:

Hr DAM Trans Net Cost ($) =

{Hr DAM TransCnt Cost ($) - Hr DAM Total LBMP Stlmnt ($)} *[For LBMP Imports]*

   OR

{Hr DAM TransCnt Cost ($) – Hr DAM Imputed LBMP Revenue ($)} *[For Bilateral Imports]*

And

Hr DAM TransCnt Cost ($) =

[{Hr DAM TransCnt Bid: Energy 1 (MW) * Hr Dam TransCnt Bid: Price 1 ($/MW)} +

 { [Hr DAM TransCnt Bid: Energy 2 (MW) - Hr DAM TransCnt Bid: Energy 1 (MW)] * Hr Dam TransCnt Bid: Price 2 ($/MW)} +

{ [Bid Energy 3 (MW) - Bid Energy 2 (MW)] * Bid Price 3 ($/MW) } + ...{ [Bid Energy 11 - Bid Energy 10] * Bid Price 11}]

Transaction Supplemental Payments DAM BPCG

Settlement Scenario:

Market Energy [LBMP] Import Transaction from PJM to NYISO Ref Bus

- HB 09 Bids
    - Bid Energy_1: 1 MW Bid Price_1: $36.00/MWh
    - Bid Energy_2: 2 MW Bid Price_2: $36.50/MWh
    - Bid Energy_3: 7 MW and Bid Price_3: $38.00/MWh
    - Bid Energy_4: 11 MW and Bid Price_4: $38.50/MWh

- HB 10 Trans Cnt Cost ($) = $ 496.65
- HB 11 Trans Cnt Cost ($) = $ 508.75

- DAM Schedule 11 MWs for HB 09-11
    HB 09: Hr DAM Total LBMP Stlmnt ($) = $440.11
    HB 10: Hr DAM Total LBMP Stlmnt ($) = $449.49
    HB11: Hr DAM Total LBMP Stlmnt ($) = $474.79

Transaction Supplemental Payments DAM BPCG

Settlement Example:

Day DAM Trans BPCG ($) = (-23.61) + 47.16 + 33.96 = **$ 57.51**

Where Hr DAM Trans Net Cost ($) is calculated as:

Hr DAM Trans Net Cost ($) =

HB 09 Hr DAM Trans Net Cost ($) = $ 416.50 - $ 440.11 = $ -23.61

HB 10 Hr DAM Trans Net Cost ($) = $ 496.65 - $ 449.49 = $ 47.16

HB 11 Hr DAM Trans Net Cost ($) = $ 508.75 - $ 474.79 = $ 33.96

And

Hr DAM TransCnt Cost ($) =

36.00 + 36.50 + 190.00 + 154.00= $ 416.50

Bid Block 1: 1 MW * $36.00/MWh = $ 36.00

Bid Block 2: (2-1) * $ 36.50/MWh = $ 36.50

Bid Block 3: (7-2) * $ 38.00/MWh = $ 190.00

Bid Block 4: (11-7) * $ 38.50/MWh = $ 154.00

Transaction Supplemental Payments

DAM BPCG

- **Reference Material**
  - MST
    - Attachment C, Section 18.3
  - Accounting and Billing Manual
    - Section 4.3.2
    - Appendix E
  - Advisory Billing File
    - Transaction Customer Section
      - *DAM Bid Cost Guarantee*
    - Hourly Bill Code: 528
    - Daily Bill Code: 768
  - DSS Corporate Report
    - Settlement Details – Transaction Customer – Day Ahead Market Bid Production Cost Guarantee

Transaction Supplemental Payments

Settlement Name:

A. DAM Transaction Bid Production Cost Guarantee (BPCG)

B. Transaction Import Curtailment Supplier Guarantee

- Bilateral Import Curtailment
- Market Energy Import Curtailment

Transaction Supplemental Payments – Transaction Import Curtailment Supplier Guarantee

New York ISO
Independent System Operator

Settlement Description:

- Uplift payment intended to compensate Transaction Customers (TC) when NYISO curtails a Bilateral Import or a Market Energy [LBMP] Import Transaction below their DAM schedule in real-time for system reliability.

- Payment to the Transaction Customer, when the given transaction contract is cut by NYISO for reliability reasons.

- Determined at the Real Time Dispatch (RTD) dispatch interval (~5-minute) for each Bilateral Import and Market Energy [LBMP] Import Transaction.

- The Hr Imp ECA Suppl Guar Cr Stlmt$ is > 0

Transaction Supplemental Payments
Trans. Import Curtailment Supplier Guarantee

Settlement Eligibility:

Transaction Customers will receive a payment for NYISO Import Curtailment Guarantee for <u>Bilateral Import</u> Transactions ($) if all of the following conditions exist:

- The Transaction Contract is a Real-Time <u>Bilateral Import</u> Transaction or a <u>Market Energy</u> [LBMP] <u>Import</u> Transaction
  - Source Location is a NYISO external control area proxy bus
  - Sink Location is either an internal NYISO load bus or the NYISO market reference bus
  - TransCnt Transaction Category = Import
  - Import Transactions at a CTS enabled Proxy Bus are NOT Eligible for an Import Curtailment Guarantee Payment

- The transaction contract flows in the NYISO Real-Time Energy Market below that scheduled in the <u>Day-Ahead</u> Market
  - Hr RTD Sched Trans: Trans (MW) < Hr DAM Sched Trans: Trans (MW)

Transaction Supplemental Payments
Trans. Import Curtailment Supplier Guarantee

Settlement Determinants:

- Trans Cut by Desc

- RTD RT Energy Price: Src ($/MWh)

- RTD RT Loss Price: Src ($/MWh)

- RTD RT Cong Price: Src ($/MWh)

- Hr DAM TransCnt Bid: Price [1-11] ($/MWh)

- Hr DAM TransCnt Bid: Energy [1-11] (MW)

- Hr RTD Sched Trans: Trans (MW)

- Hr DAM Sched Trans: Trans (MW)

- RTD Interval Seconds

Transaction Supplemental Payments
Trans. Import Curtailment Supplier Guarantee

Settlement Intermediates:

- RTD RT Total Price: Src ($/Mwh)

Settlement Results:

- RTD Imp ECA Suppl Guar Cr. Stlmt($)

- **Hr Imp ECA Suppl Guar Cr Stlmt ($)**

Note: Hr Imp ECA Suppl Guar Cr Stlmt ($) = Max [sum of all RTD intervals of RTD Imp ECA Suppl Guar Cr. Stlmt($) for the given hour, 0]
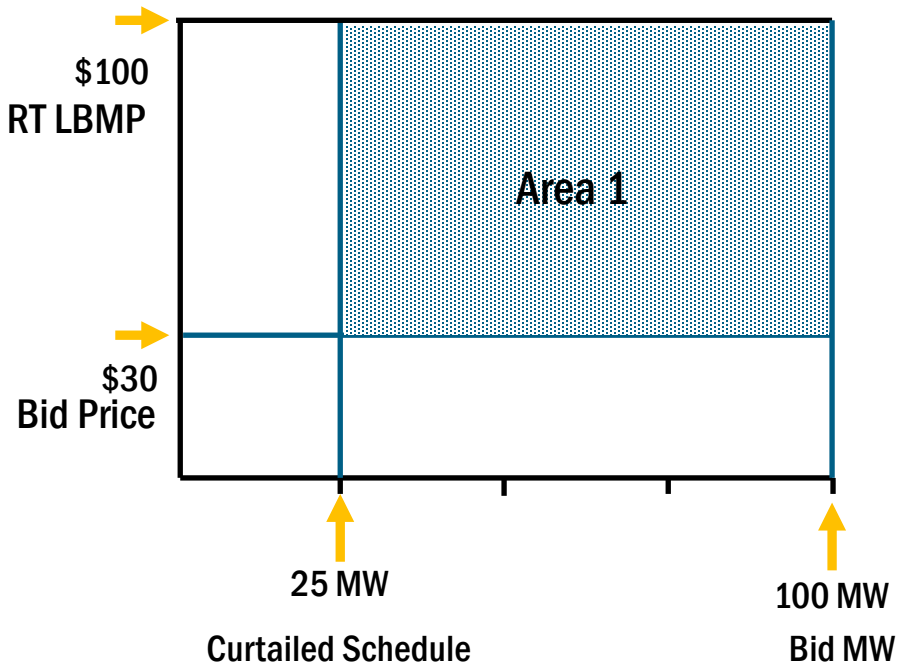
Transaction Supplemental Payments
Trans. Import Curtailment Supplier Guarantee

Settlement Algorithm:

Refer to examples on following slides

Trans. Import Curtailment Supplier Guarantee

$100
RT LBMP

$30
Bid Price

Area 1

25 MW
Curtailed Schedule

100 MW
Bid MW

Example #1 – Single Bid Point

DAM Schedule: 100 MWs

RTD Schedule : 25 MWs (Curtailment by NYISO due to reliability)

RT LBMP = $100/MWh
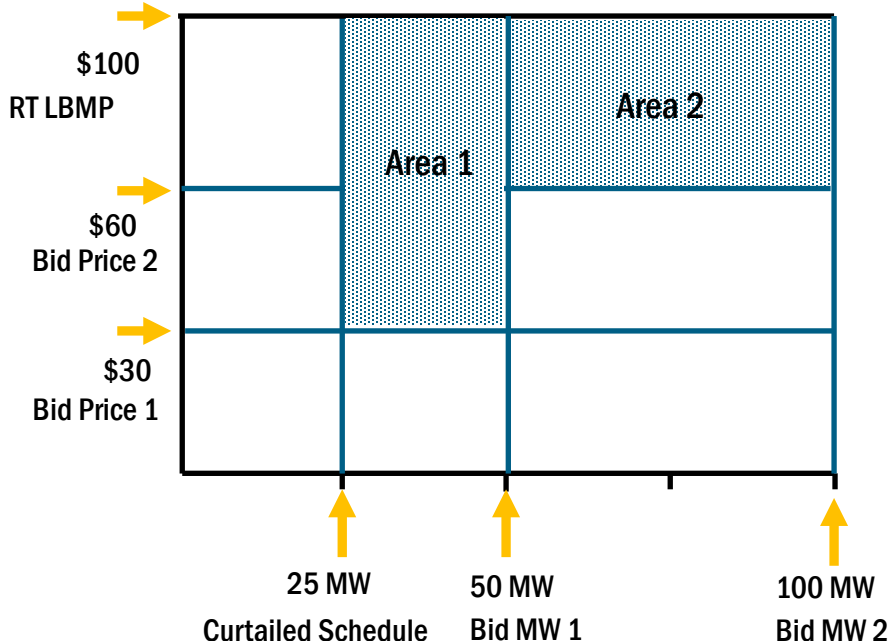
Bid MW	100 MW
Bid $	$30/MWh

Transaction Bid

Imp Suppl Guar Payment = Area 1

[Area_1 is always calculated from the point on the bid curve where the curtailment falls. In this example Area_1 falls in the first (and only) bid block]

Area_1 = {Hr DAM TransCnt Bid: Energy_1 (MW) – Hr RTD Sched Trans: Trans (MW)} * {(RTD RT Total Price: Src ($/MWh) – Hr DAM TransCnt Bid: Price_1)} * {RTD interval Sec/3600}

= {100-25} * {$100 - $30} * {300/3600} = {75 * 70 * .0833} = $437.33

Imp Suppl Guar Payment = $437.33

Note: MP was also paid for the 100 MWs (@DAM LBMP), but bought back 75 MWs (@RT LBMP)

Trans. Import Curtailment Supplier Guarantee

$100
RT LBMP

Area 2

$60
Bid Price 2

Area 1

$30
Bid Price 1

25 MW
Curtailed Schedule

50 MW
Bid MW 1

100 MW
Bid MW 2

Example #2 – Multiple Bid Points

DAM Schedule: 100 MWs
RTD Schedule : 25 MWs (Curtailment by NYISO due to reliability)
RT LBMP = $100/MWh

Bid MW	50 MW	100 MW
Bid $	$30/MWh	$60/MWh

Transaction Bid

Area_1: Calculated from the point on the bid curve where the curtailment falls. In this example Area_1 falls in the <u>first</u> bid block.
Area_2: Next bid block following the bid block associated with the curtailment. For Areas_2 and beyond, the applicable MWs are those for that applicable Bid Block minus the previous Bid block.
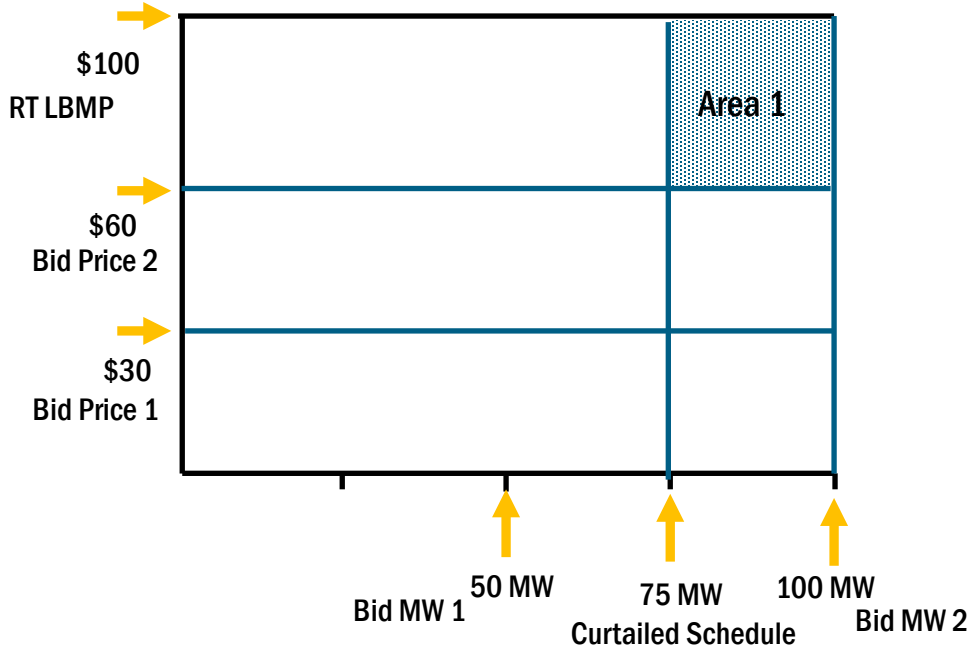
Imp Suppl Guar Payment = Area 1 +Area 2

Area_1 = {Hr DAM TransCnt Bid: Energy_1 (MW) – Hr RTD Sched Trans: Trans (MW)} * {(RTD RT Total Price: Src ($/MWh) – Hr DAM TransCnt Bid: Price_1} * {RTD interval Sec/3600}
= {50-25} * {$100 - $30} * {300/3600} = {25 * 70 * .0833} = $145.78

Area_2 = {Hr DAM TransCnt Bid: Energy_2 (MW) – Hr DAM TransCnt Bid: Energy_1 (MW) } * {(RTD RT Total Price: Src ($/MWh) – Hr DAM TransCnt Bid: Price_2 = {100-50} * {$100 - $60} * {300/3600} = {50 * 40* .0833} = $166.60

$145.78 + $166.60 = $312.38 = Imp Suppl Guar Payment
Note: MP was also paid for the 100 MWs (@DAM LBMP), but bought back 75 MWs (@RT LBMP)

Trans. Import Curtailment Supplier Guarantee

$100
RT LBMP

Area 1

$60
Bid Price 2

$30
Bid Price 1

50 MW
Bid MW 1

75 MW
Curtailed Schedule

100 MW
Bid MW 2

Imp Suppl Guar Payment = Area 1

Example #2 – Multiple Bid Points

DAM Schedule: 100 MWs

RTD Schedule : 75 MWs (Curtailment by NYISO due to reliability)

RT LBMP = $100/MWh

Bid MW	50 MW	100 MW
Bid $	$30/MWh	$60/MWh

Transaction Bid

Area_1 is always calculated from the point on the bid curve where the curtailment falls. In this example Area_1 falls in the second bid block.

Area_1 = {Hr DAM TransCnt Bid: Energy_2 (MW) – Hr RTD Sched Trans: Trans (MW)} * {(RTD RT Total Price: Src ($/MWh) – Hr DAM TransCnt Bid: Price_2) * {RTD interval Sec/3600}

= {100-75} * {$100 - $60} * {300/3600} = {25 * $40 * 0.0833} = $83.30
Imp Suppl Guar Payment = $83.30

Note: MP was also paid for the 100 MWs (@DAM LBMP), but bought back 25 MWs (@RT LBMP)

Transaction Supplemental Payments

Transaction Import Curtailment Supplier Guarantee

- **Reference Material**
  - MST
    - Article 4
    - Section 4.5.3.2
  - Accounting and Billing Manual
    - Section 7.2.2.1
  - Advisory Billing File
    - Transaction Customer Section
      - *R/T Bid Cost Guarantee [Imp ECA Suppl Guar ($)]*
    - Hourly Bill Code: 529
    - Daily Bill Code: 769
  - DSS Corporate Report
    - Currently under development