Transaction Customer Residual Settlements

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FOR TRAINING PURPOSES ONLY

What are Residuals?

- NYISO is a non-profit organization and must remain revenue neutral - income from charges should equal payments for credits

- Residuals result from over collection or financial imbalances

- Residual Adjustments allocate cash imbalances to withdrawal side customers (includes LSEs and Transaction Customers)

How are residuals allocated?

- **Based on load ratio share of the following:**
  - NYISO-wide

Load ratio share allocations for residuals exclude CTS-NE MWHrs from the calculation

Load Ratio Share for Residuals

LOAD RATIO SHARE (LRS): An LSE's portion of load compared to the Designated Total Load*

$$\text{Load Ratio Share (LRS)} = \frac{\text{RT Actual MWs}}{\text{NYISO Wide Total Load}}$$

Transaction Customer Residuals

Settlement Name	Settlement Description	Load Ratio Share
DAM Energy Residuals	Designed to allocate (charge or payment) any cash imbalance in NYISO's DAM Energy settlements to the Market Participants transacting energy via export and/or wheel-through transactions	NYISO Wide
DAM Loss Residuals	Designed to allocate (charge or payment) any cash imbalance in NYISO's DAM Loss settlements to the Market Participants transacting energy via export and/or wheel-through transactions	NYISO Wide
Balancing Market Energy Residuals	Designed to allocate (charge or payment) any cash imbalance in NYISO's Balancing Market *Energy* settlements to the Market Participants transacting energy via export and/or wheel-through transactions	NYISO Wide
Balancing Market Loss Residuals	Designed to allocate (charge or payment) any cash imbalance in NYISO's Balancing Market *Loss* settlements to the Market Participants transacting energy via export and/or wheel-through transactions	NYISO Wide
Balancing Market Congestion Residuals	Designed to allocate (charge or payment) any cash imbalance in NYISO's Balancing Market *Congestion* settlements to the Market Participants transacting energy via export and/or wheel-through transactions	NYISO Wide

Transaction Customer – Residual Settlements

■ **Settlement Name:**

- DAM Energy Residuals
- DAM Loss Residuals
- Balancing Market Energy Residuals
- Balancing Market Loss Residuals
- Balancing Market Congestion Residuals

Transaction Customer – Residual Settlements

- **Transaction Customer DAM Energy Residual Description:**

  - Designed to allocate (charge or payment) any cash imbalance in NYISO's DAM Energy settlements to the Market Participants transacting energy via export and/or wheel-through transactions

Transaction Customer - DAM Energy Residuals

- ■ Settlement Eligibility:

- ■ *Transaction Customers will receive a charge or payment for DAM Energy Residuals ($) if all of the following conditions exist:*

  - The Transaction Customer transacted energy via exports and/or wheel-throughs
    - *Hr RT Export Trans: TC (MW) > 0 or Hr RT Wheel-Thru Trans: TC (MW) > 0*

  - There is a NYISO DAM Energy Residual ($) for the given hour
    - *Hr Total NYISO DAM Resid Energy ($) <> 0*

Transaction Customer - DAM Energy Residuals

- **Settlement Determinants:**
  - Hr RT Export Trans: TC (MWh)
  - Hr RT Wheel-Thru Trans: TC (MWh)
  - Hr Total NYISO RT LSE Load (MWh)
  - Hr Total NYISO RT Export Trans (MWh)
  - Hr Total NYISO RT WT Trans (MWh)
  - Hr Ttl NYISO <u>DAM Engy</u> Cr to PS ($)
  - Hr Ttl NYISO <u>DAM Engy</u> Ch to LSE ($)
  - Hr Ttl NYISO <u>DAMLBMP Engy</u> Ch: TC ($)

Transaction Customer - DAM Energy Residuals

- **Settlement Intermediates:**
  - Hr RT TC Ld Ratio Sh: LSE, Exp, WT
  - Hr Total NYISO <u>DAM Resid Energy</u> ($)

- **Settlement Results:**
  - Hr DAM Resid Enrgy Stlmnt: TC ($)

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Transaction Customer - DAM Energy Residuals

- ## Settlement Algorithm:

Hr DAM Resid Enrgy Stlmnt: TC ($) =
(Hr RT TC Ld Ratio Sh: LSE, Exp, WT * Hr Total NYISO DAM Resid Energy ($)) * -1

Where:
Hr RT TC Ld Ratio Sh: LSE, Exp, WT = {Hr RT Export Trans: TC (MWh) + Hr RT Wheel-Thru Trans: TC (MWh)} /
{Hr Total NYISO RT LSE Load (MWh) + Hr Total NYISO RT Export Trans (MWh) + Hr Total NYISO RT WT Trans (MWh)}

Hr Total NYISO DAM Resid Energy ($) =
Hr Ttl NYISO DAM Engy Cr to PS ($) + {Hr Ttl NYISO DAM Engy Ch to LSE ($) + Hr Ttl NYISO DAM LBMP Engy Ch: TC ($)}

Transaction Customer - DAM Energy Residuals

Settlement Scenario:

For Hour 0800 – 0900 the following data was recorded:

- Hourly RT Export Transaction Schedule for Jack's Energy = 500 MWs
- Hourly Wheel-through Transaction Schedule for Jack's Energy = 0 MWs
- Hourly Total NYISO RT LSE Load = 14,000 MWs
- Hourly Total NYISO RT Export Transactions = 1,200 MWs
- Hourly Total NYISO RT Wheel-Thru = 60 MWs
- Hourly Total NYISO DA Market Credit to Power Suppliers = $ 476,000
- Hourly total NYISO DA Market Charge to LSEs = $ - 470,000
- Hourly Total NYISO DA Market Charge to Trans Customers = $ -97,000

Transaction Customer - DAM Energy Residuals

- ## Settlement Algorithm:

Hr DAM Resid Enrgy Stlmnt: TC ($) = .0328 * -$91,000 * -1 **= $2,984.80**

Where:
Hr RT TC Ld Ratio Sh: LSE, Exp, WT = (500 + 0)/(14,000+1,200+60)=0.0328

Hr Total NYISO DAM Resid Energy ($) = 476,000 + (-470,000+ (-97,000)) **= -$91,000**

Transaction Customer – Residual Settlements

■ **Settlement Name:**

  ✓ DAM Energy Residuals

  • DAM Loss Residuals

  • Balancing Market Energy Residuals

  • Balancing Market Loss Residuals

  • Balancing Market Congestion Residuals

Transaction Customer - DAM Loss Residuals

- **Transaction Customer DAM Loss Residual Settlement Description:**

  - Designed to allocate (charge or payment) any cash imbalance in NYISO's DAM Loss settlements to the Market Participants transacting energy via export and/or wheel-through transactions

Transaction Customer – DAM Loss Residuals

■ **Settlement Eligibility:**

■ *Transaction Customers will receive a charge or payment for DAM Loss Residuals ($) if all of the following conditions exist:*

- The Transaction Customer transacted energy via exports and/or wheel-throughs
  - Hr RT Export Trans: TC (MW) > 0 or Hr RT Wheel-Thru Trans: TC (MW) > 0)
- There is a NYISO DAM Loss Residual ($) for the given hour
  - Hr Total NYISO DAM Resid Loss ($) <> 0

Transaction Customer – DAM Loss Residuals

- ■ **Settlement Determinants:**
  - Hr RT Export Trans: TC (MWh)
  - Hr RT Wheel-Thru Trans: TC (MWh)
  - Hr Total NYISO RT LSE Load (MWh)
  - Hr Total NYISO RT Export Trans (MWh)
  - Hr Total NYISO RT WT Trans (MWh)

  - Hr Ttl NYISO <u>DAM Loss</u> Cr to PS ($)
  - Hr Ttl NYISO <u>DAM Loss</u> Ch to LSE ($)
  - Hr Ttl NYISO <u>DAM LBMP Lss</u> Ch: TC ($)
  - Hr Ttl NYISO <u>DAM TUC Lss</u> Ch: TC ($)

Transaction Customer – DAM Loss Residuals

- ## Settlement Intermediates:

  - Hr RT TC Ld Ratio Sh :LSE, Exp, WT

  - Hr Total NYISO <u>DAM Resid Loss</u> ($)

- ## Settlement Results:

  - Hr DAM Resid Loss Stlmnt :TC ($)

Transaction Customer – DAM Loss Residuals

- ## Settlement Algorithm:

Hr DAM Resid Loss Stlmnt: TC ($) =

(Hr RT TC Ld Ratio Sh: LSE, Exp, WT * Hr Total NYISO DAM Resid Loss ($)) * -1)

Where:

Hr RT TC Ld Ratio Sh: LSE, Exp, WT =

{Hr RT Export Trans: TC (MWh) + Hr RT Wheel-Thru Trans: TC (MWh)} /

{Hr Total NYISO RT LSE Load (MWh) + Hr Total NYISO RT Export Trans (MWh) + Hr Total NYISO RT WT Trans (MWh)}

Hr Total NYISO DAM Resid Loss ($) =

Hr Ttl NYISO DAM Loss Cr to PS ($) + {Hr Ttl NYISO DAM Loss Ch to LSE ($) + Hr Ttl NYISO DAM LBMP Lss Ch: TC ($) + Hr Ttl NYISO DAM TUC Lss Ch: TC ($)}

Transaction Customer – Residual Settlements

■ **Settlement Name:**

✓ DAM Energy Residuals

✓ DAM Loss Residuals

• Balancing Market Energy Residuals

• Balancing Market Loss Residuals

• Balancing Market Congestion Residuals

Transaction Customer – Balancing Market Energy Residuals

- **Transaction Customer Balancing Market Energy Residual Settlement Description:**

    - Designed to allocate (charge or payment) any cash imbalance in NYISO's Balancing Market *Energy* settlements to the Market Participants transacting energy via export and/or wheel-through transactions

Transaction Customer – Balancing Market Energy Residuals

- ## Settlement Eligibility:

- *Transaction Customers will receive a charge or payment for Balancing Market Energy Residuals ($) if all of the following conditions exist:*

  - The Transaction Customer transacted energy via exports and/or wheel-throughs
    - Hr RT Export Trans: TC (MW) > 0 or Hr RT Wheel-Thru Trans: TC (MW) > 0).
  - There is a NYISO Balancing Market Energy Residual ($) for the given hour
    - Hr Total NYISO Bal Resid Energy ($) <> 0

Transaction Customer – Balancing Market Energy Residuals

■ **Settlement Determinants:**

- Hr RT Export Trans: TC (MWh)
- Hr RT Wheel-Thru Trans: TC (MWh)
- Hr Total NYISO RT LSE Load (MWh)
- Hr Total NYISO RT Export Trans (MWh)
- Hr Total NYISO RT WT Trans (MWh)
- Hr Ttl NYISO Bal Engy Cr to PS ($)
- Hr Ttl NYISO Bal Engy Ch to LSE ($)
- Hr Ttl NYISO BalLBMP Engy Ch: TC ($)

Transaction Customer – Balancing Market Energy Residuals

- ## Settlement Intermediates:
  - Hr RT TC Ld Ratio Sh: LSE, Exp, WT
  - Hr Total NYISO <u>Bal Resid Energy</u> ($)

- ## Settlement Results:
  - Hr Bal Resid Enrgy Stlmnt: TC ($)

Transaction Customer –
Balancing Market Energy Residuals

■ Settlement Algorithm:

Hr Bal Resid Enrgy Stlmnt: TC ($) =
(Hr RT TC Ld Ratio Sh: LSE, Exp, WT * Hr Total NYISO Bal Resid Energy ($)) * -1)

Where:

Hr RT TC Ld Ratio Sh: LSE, Exp, WT =

{Hr RT Export Trans: TC (MWh) + Hr RT Wheel-Thru Trans: TC (MWh)} /

{Hr Total NYISO RT LSE Load (MWh) + Hr Total NYISO RT Export Trans (MWh) + Hr Total NYISO RT WT Trans (MWh)}

Hr Total NYISO Bal Resid Energy ($) =

Hr Ttl NYISO Bal Engy Cr to PS ($) + {Hr Ttl NYISO Bal Engy Ch to LSE ($) + Hr Ttl NYISO Bal LBMP Engy Ch: TC ($)}

Transaction Customer – Residual Settlements

- **Settlement Name:**

  ✓ DAM Energy Residuals

  ✓ DAM Loss Residuals

  ✓ Balancing Market Energy Residuals

  - Balancing Market Loss Residuals

  - Balancing Market Congestion Residuals

Transaction Customer –
Balancing Market Loss Residuals

- **Transaction Customer Balancing Market Loss Residual Settlement Description:**

  - Designed to allocate (charge or payment) any cash imbalance in NYISO's Balancing Market *Loss* settlements to the Market Participants transacting energy via export and/or wheel-through transactions

Transaction Customer –
Balancing Market Loss Residuals

- ## Settlement Eligibility:

- *Transaction Customers will receive a charge or payment for Balancing Market Loss Residuals ($) if all of the following conditions exist:*

  - The Transaction Customer transacted energy via exports and/or wheel-throughs
    - Hr RT Export Trans: TC (MW) > 0 or Hr RT Wheel-Thru Trans: TC (MW) > 0

  - There is a NYISO Balancing Market Loss Residual ($) for the given hour
    - Hr Total NYISO Bal Resid Loss ($) <> 0

Transaction Customer – Balancing Market Loss Residuals

- ■ **Settlement Determinants:**
  - Hr RT Export Trans: TC (MWh)
  - Hr RT Wheel-Thru Trans: TC (MWh)
  - Hr Total NYISO RT LSE Load (MWh)
  - Hr Total NYISO RT Export Trans (MWh)
  - Hr Total NYISO RT WT Trans (MWh)
  - Hr Ttl NYISO <u>Bal Loss</u> Cr to PS ($)
  - Hr Ttl NYISO <u>Bal Loss</u> Ch to LSE ($)
  - Hr Ttl NYISO <u>Bal LBMP Lss</u> Ch: TC ($)
  - Hr Ttl NYISO <u>Bal TUC Lss</u> Chg: TC ($)

Transaction Customer –
Balancing Market Loss Residuals

- ## Settlement Intermediates:
  - Hr RT TC Ld Ratio Sh: LSE, Exp, WT
  - Hr Total NYISO <u>Bal Resid Loss</u> ($)

- ## Settlement Results:
  - Hr Bal Resid Loss Stlmnt: TC ($)

Transaction Customer – Balancing Market Loss Residuals

- ## Settlement Algorithm:

Hr Bal Resid Loss Stlmnt: TC ($) =
(Hr RT TC Ld Ratio Sh: LSE, Exp, WT * Hr Total NYISO Bal Resid Loss ($)) * -1

Where:
Hr RT TC Ld Ratio Sh: LSE, Exp, WT =
{Hr RT Export Trans: TC (MWh) + Hr RT Wheel - Thru Trans: TC (MWh)} ÷
{Hr Total NYISO RT LSE Load (MWh) + Hr Total NYISO RT Export Trans (MWh) + Hr Total NYISO RT WT Trans (MWh)}

Hr Total NYISO Bal Resid Loss ($) =
Hr Ttl NYISO Bal Loss Cr to PS ($) + {Hr Ttl NYISO Bal Loss Ch to LSE ($) + Hr Ttl NYISO Bal LBMP Lss Ch: TC ($) + Hr Ttl NYISO Bal TUC Lss Chg: TC ($)}

Transaction Customer – Residual Settlements

- **Settlement Name:**

  - ✓ DAM Energy Residuals
  - ✓ DAM Loss Residuals
  - ✓ Balancing Market Energy Residuals
  - ✓ Balancing Market Loss Residuals
  - • Balancing Market Congestion Residuals

Transaction Customer – Balancing Market Congestion Residuals

- **Transaction Customer Balancing Market Congestion Residual Settlement Description:**

  - Designed to allocate (charge or payment) any cash imbalance in NYISO's Balancing Market *Congestion* settlements to the Market Participants transacting energy via export and/or wheel-through transactions

Transaction Customer –
Balancing Market Congestion Residuals

- ## Settlement Eligibility:

- *Transaction Customers will receive a charge or payment for Balancing Market Congestion Residuals ($) if all of the following conditions exist:*

    - The Transaction Customer transacted energy via exports and/or wheel-throughs
        - Hr RT Export Trans: TC (MW) > 0 or Hr RT Wheel-Thru Trans :TC (MW) > 0

    - There is a NYISO Balancing Market Congestion Residual ($) for the given hour
        - Hr Total NYISO Bal Resid Cong ($) <> 0

Transaction Customer – Balancing Market Congestion Residuals

■ **Settlement Determinants:**

- Hr RT Export Trans: TC (MWh)
- Hr RT Wheel-Thru Trans: TC (MWh)
- Hr Total NYISO RT LSE Load (MWh)
- Hr Total NYISO RT Export Trans (MWh)
- Hr Total NYISO RT WT Trans (MWh)
- Hr Ttl NYISO Bal Cong Cr to PS ($)
- Hr Ttl NYISO Bal Cong Ch to LSE ($)
- Hr Ttl NYISO Bal LBMP Cng Ch to TC ($)
- Hr Ttl NYISO Bal TUC Cng Ch to TC ($)
- Hr Ttl NYISO RT M2M Coord Ch to RTO ($)

Transaction Customer –
Balancing Market Congestion Residuals

- **Settlement Intermediates:**
  - Hr RT TC Ld Ratio Sh: LSE, Exp, WT
  - Hr Total NYISO <u>Bal Resid Cong</u> ($)

- **Settlement Results:**
  - Hr Bal Resid Cong Stlmnt: TC ($)

Transaction Customer – Balancing Market Congestion Residuals

- ## Settlement Algorithm:

Hr Bal Resid Cong Stlmnt: TC ($) =
(Hr RT TC Ld Ratio Sh: LSE, Exp, WT * Hr Total NYISO Bal Resid Cong ($)) * -1

Where:
Hr RT TC Ld Ratio Sh: LSE, Exp, WT =
{Hr RT Export Trans: TC (MWh) + Hr RT Wheel-Thru Trans: TC (MWh)} /
{Hr Total NYISO RT LSE Load (MWh) + Hr Total NYISO RT Export Trans (MWh) + Hr Total NYISO RT WT Trans (MWh)}

Hr Total NYISO Bal Resid Cong ($) =
Hr Ttl NYISO Bal Cong Cr to PS ($) + {Hr Ttl NYISO Bal Cong Ch to LSE ($) + Hr Ttl NYISO Bal LBMP CngCh: TC ($) + Hr Ttl NYISO Bal TUC CngCh to TC ($) + Hr Ttl NYISO RT M2M Coord Ch to RTO ($)}

Transaction Customer – Residual Settlements

- **Settlement Name:**

  - ✓ DAM Energy Residuals
  - ✓ DAM Loss Residuals
  - ✓ Balancing Market Energy Residuals
  - ✓ Balancing Market Loss Residuals
  - ✓ Balancing Market Congestion Residuals

Residuals

- ## Summary
  - Purpose is to allow NYISO to remain revenue neutral

  - Based on Load ratio share

  - DAM Congestion Balancing is not included for transaction customers – addressed in Transmission Congestion Contracts (TCC) Module

Transaction Customer - Residuals

Settlement Reference Material:

- **Tariff Reference**
  - OATT
    - Rate Schedule 1, Section 6.1.8
- **Accounting and Billing Manual**
    - Section 8.1.7 (Appendix M)
- **Advisory Billing File**
    - Transaction Customer Section
      - *Residual Adjustment $*
    - Hourly Bill Code: 611
    - Daily Bill Code: 813
- **DSS Corporate Report**
    - Settlement Details – Transaction Customer – Residuals