Uplift in the NYISO Markets

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PJM – Energy Market Uplift Task Force
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Defining Uplift in NY

♦ Make Whole Payments
  - *NYISO has two forms of make whole payments*
    - Bid Production Cost Guarantees (BPCG)
    - Day Ahead Margin Assurance Payments (DAMAP)

♦ Residuals
  - *Caused by:*
    - Differences in resources used to meet Load between Day Ahead and Real-Time Markets
    - Differences in the payments’ and charges’ calculation of losses
  - *Can be positive (charges to load) or negative (payments to load)*
Significance of NY Uplift
Breakdown of Uplift

♦ Make Whole Payments
  - Bid Production Cost Guarantees for Day Ahead and Real-Time Commitments
  - Day Ahead Margin Assurance Payments in Real-Time for Day Ahead Committed Resources

♦ Residuals
  - Loss Residuals in the Day Ahead Market
  - Energy, Congestion and Loss Residuals in the Real-Time Market
Make Whole Payments

- **Bid Production Cost Guarantees (BPCG)**
  - Covers resource startup and minimum load costs that are not otherwise covered by energy revenues over a day period

- **Day Ahead Margin Assurance Payments (DAMAP)**
  - Protects a resource’s Day Ahead Margin when the NYISO’s real-time instructions prevent the resource from meeting its Day Ahead schedule
Major Drivers for BPCG

- **Day Ahead**
  - *Economic Commitments for NYCA Reliability (DAM Statewide)*
  - *Commitments for Local Reliability Rules (DAM Local)*
  - *Day Ahead Reliability Units (DAM Statewide or Local)*

- **Real-Time**
  - *Economic Commitments for NYCA Reliability (RT Statewide)*
  - *Out of Merit Requests for Local Reliability Rules (RT Local)*
  - *Supplemental Resource Evaluation (RT Statewide or Local)*
  - *Activations of Demand Response Special Case Resources (RT Statewide)*
  - *Managing Local Gas Constraints (Min Oil Burn)*
Major Drivers for DAMAP

- Real-Time
  - Reduction in transmission system capability from the Day Ahead Market evaluation (DAMAP Statewide or Local)
  - Out of Merit Requests for Local Reliability Rules (DAMAP Local)
Make Whole Payments
Residuals

♦ DAM Residuals
  ▪ Consist of both energy and loss revenue collections and payments
  ▪ By design, there is a net over collection of revenues to cover losses due to the marginal loss treatment for loss settlement

♦ Balancing Residuals
  ▪ Consist of energy, loss, and congestion cost differences with regard to resources used to meet Day Ahead Load obligations in Real-Time
Major Drivers for Residuals

- Interface Derate – NYCA Security
  - A special category for this is Storm Watch
- Interface Derate – External Security
- Unscheduled Transmission Outages
- Unscheduled “Loop Flow”
# Congestion Residuals

<table>
<thead>
<tr>
<th>Category</th>
<th>Annual Shortfall (SM)</th>
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<tr>
<td></td>
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<td>West to Central</td>
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<td>External</td>
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<tr>
<td>All Other</td>
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<td>M2M Settlement</td>
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![Balancing Congestion Residuals Graph]

Uplift Cost Allocation

- **Statewide Uplift**
  - Allocated to all NYCA LSEs, Exports and Wheel-Through Transactions using a load ratio share allocation

- **Local Uplift**
  - Allocated to the LSEs within Transmission District benefitting from the Local Reliability Rule using a load ratio share allocation
Allocation for Virtuals

- **Virtual Supply Transactions**
  - Allocated a portion of the BPCG payments made to those additional resources scheduled to meet NYISO forecast load within the Day Ahead Market
  - This is a very small charge and equates to approximately $0.003/MWh

- **Virtual Load Transaction**
  - No uplift allocation
Market Features that Limit Uplift

- Fully funded Transmission Congestion Contracts (TCCs)
- Integrated reliability commitment as part of the DAM optimization window
- Five-minute pricing, scheduling and settlement
Managing Uplift

- NYISO initiatives
  - *Improved transparency*
  - *Daily review to address root causes of Real-Time Market uplift and Day Ahead forward congestion costs*
Improved Transparency

- NYISO provides detailed insights into the causes and costs of uplift via Operations Performance Metrics Monthly Report

Actions Taken

- 2005 – Implemented new integrated EMS/MMS with forward-looking real-time dispatch and shortage pricing
  - Reduction in uplift costs from the subsequent two years paid would have paid for this project
- 2008 – Initiated daily review process of market outcomes
  - This has led to continuous refinements to operating procedures and market models aimed at creating a more efficient marketplace
- 2009 – Added the ability to nominate must run units in the DAM to minimize over commitments
- 2011 – Added the capability to economically schedule interchange on a 15-minute basis
Moving Forward

- The NYISO has several initiatives underway to improve price formation at the NYISO including:
  - Graduated Transmission Shortage Pricing
  - Refinements to GT pricing
  - Comprehensive Shortage Pricing
  - Comprehensive Scarcity Pricing
The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state’s electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.

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