Alternative Methods for Determining LCRs

Zachary Stines
Associate Market Design Specialist

Installed Capacity Working Group

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Agenda

- Transmission Security
  - N-1-1 Assumptions
  - Stability of Import Limits
  - Timeline of Assumptions
  - Final Results

- Sensitivity Results
  - Multiple Changes in Generation
  - Changes in Transmission
  - Net CONE

- Next Steps

- Questions
Transmission Security Limits (TSL)
Overview of Preliminary Analysis

- Analyzed the N-1-1 thermal transfer limits for the NYCA interfaces associated with the G-J, Zone J, and Zone K Localities
- Used the final Summer 2017 Operating base case
  - Rebuilt case to conduct the N-1-1 analysis
Transmission Security Methodology

- N-1-1 analysis was conducted to determine the transmission security import limits into each Locality
- These import limits were used to determine the minimum available capacity required for each Locality
- To translate this minimum available capacity into a market requirement the methodology needs to account for capacity unavailability
- To account for capacity unavailability, the 5-year zonal EFORd was used to calculate minimum locational capacity requirements
**Example Calculation**

<table>
<thead>
<tr>
<th>Transmission Security Requirements</th>
<th>Formula</th>
<th>Zone X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Forecast (MW)</td>
<td>([A] = \text{Given})</td>
<td>12,000</td>
</tr>
<tr>
<td>Transmission Security Import Limit (MW)</td>
<td>([B] = \text{Given})</td>
<td>1,500</td>
</tr>
<tr>
<td>Transmission Security UCAP Requirement (MW)</td>
<td>([C] = [A]-[B])</td>
<td>10,500</td>
</tr>
<tr>
<td>Transmission Security UCAP Requirement (%)</td>
<td>([D] = [C]/[A])</td>
<td>87.5%</td>
</tr>
<tr>
<td>5 Year EFORd (%)</td>
<td>([E] = \text{Given})</td>
<td>8.0%</td>
</tr>
<tr>
<td>Transmission Security ICAP Requirement (MW)</td>
<td>([F] = [C]/(1-[E]))</td>
<td>11,413</td>
</tr>
<tr>
<td>Transmission Security LCR Floor (%)</td>
<td>([G] = [F]/[A])</td>
<td>95.1%</td>
</tr>
</tbody>
</table>
N-1-1 Analysis Assumptions
N-1-1 Base Case

- Updated Summer 2017 Operating base case
  - Inclusion of transmission and generation facility additions and retirements
- All system elements modeled as in service
- All generation represented
Boundary Assumptions

- The analysis calculates the N-1-1 transmission security import limits using the NYCA bulk power transmission facilities (BPTF) into each Locality
  - Zone J: Dunwoodie South interface
  - Zone K: ConEd-LIPA interface
  - G-J: UPNY-SENY interface

- The external transmission facilities are not incorporated in the analysis since
  - Facilities without UDRs cannot meet the Locality capacity requirements
  - Facilities with UDRs are treated as supply side resources
Boundary Assumptions

- The import capability from Zone K was included within the Dunwoodie South definition as a result of a contractual agreement.
- It was not included in the UPNY-SENY definition since the contractual agreement results in a net zero effect.
## UPNY-SENY

<table>
<thead>
<tr>
<th>Name</th>
<th>Line ID</th>
<th>Voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohawk (Zone E) – Hudson Valley (Zone G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coopers Corners-Middletown*</td>
<td>CCRT34</td>
<td>345</td>
</tr>
<tr>
<td>Coopers Corners-Dolson Ave*</td>
<td>CCDA42</td>
<td>345</td>
</tr>
<tr>
<td>West Woodbourne 115/69</td>
<td>T152</td>
<td>115/69</td>
</tr>
<tr>
<td>Capital (Zone F) – Hudson Valley (Zone G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athens-Pleasant Valley*</td>
<td>91</td>
<td>345</td>
</tr>
<tr>
<td>Leeds-Pleasant Valley*</td>
<td>92</td>
<td>345</td>
</tr>
<tr>
<td>*Leeds-Hurley Ave.</td>
<td>301</td>
<td>345</td>
</tr>
<tr>
<td>Hudson-Pleasant Valley*</td>
<td>12</td>
<td>115</td>
</tr>
<tr>
<td>Blue Stores E-Pleasant Valley*</td>
<td>13-987</td>
<td>115</td>
</tr>
<tr>
<td>Blue Stores W-Pleasant Valley*</td>
<td>8</td>
<td>115</td>
</tr>
<tr>
<td>*Feura Bush-North Catskill</td>
<td>2</td>
<td>115</td>
</tr>
</tbody>
</table>

* Indicates the metered end of the circuit
## Dunwoodie South

<table>
<thead>
<tr>
<th>Name</th>
<th>Line ID</th>
<th>Voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunwoodie (Zone I) – NYC (Zone J)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Dunwoodie-Mott Haven</td>
<td>71</td>
<td>345</td>
</tr>
<tr>
<td>*Dunwoodie-Mott Haven</td>
<td>72</td>
<td>345</td>
</tr>
<tr>
<td>Sprain Brook-Tremont*</td>
<td>X28</td>
<td>345</td>
</tr>
<tr>
<td>*Sprain Brook-West 49th Street</td>
<td>M51</td>
<td>345</td>
</tr>
<tr>
<td>*Sprain Brook-West 49th Street</td>
<td>M52</td>
<td>345</td>
</tr>
<tr>
<td>*Sprain Brook-Academy</td>
<td>M29</td>
<td>345</td>
</tr>
<tr>
<td>*Dunwoodie-Sherman Creek</td>
<td>99031</td>
<td>138</td>
</tr>
<tr>
<td>*Dunwoodie-Sherman Creek</td>
<td>99032</td>
<td>138</td>
</tr>
<tr>
<td>*Dunwoodie-East 179th Street</td>
<td>99153</td>
<td>138</td>
</tr>
<tr>
<td>Long Island (Zone K) – NYC (Zone J)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Lake Success-Jamaica</td>
<td>903</td>
<td>138</td>
</tr>
<tr>
<td>*Valley Stream-Jamaica</td>
<td>901L_M</td>
<td>138</td>
</tr>
</tbody>
</table>

* Indicates the metered end of the circuit
## ConEd – LIPA

<table>
<thead>
<tr>
<th>Name</th>
<th>Line ID</th>
<th>Voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dunwoodie (Zone I) – Long Island (Zone K)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Dunwoodie-Shore Road</td>
<td>Y50</td>
<td>345</td>
</tr>
<tr>
<td>*Sprain Brook-East Garden City</td>
<td>Y49</td>
<td>345</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Line ID</th>
<th>Voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NYC (Zone J) – Long Island (Zone K)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jamaica-Valley Stream*</td>
<td>901L_M</td>
<td>138</td>
</tr>
<tr>
<td>Jamaica-Lake Success*</td>
<td>903</td>
<td>138</td>
</tr>
</tbody>
</table>

* Indicates the metered end of the circuit
Load Forecast

- Summer Operating Report utilizes the Gold Book load forecast for the appropriate year.
- The Transmission Security Limit analysis will use an updated load forecast -- the subsequent year’s load forecast.
  - This will result in a base case that utilizes the same load forecast assumed in the NYSRC IRM study.
Example: 2018-2019 TSL Analysis

- **May 2017**
  - 2017 Summer Operating Report base case
    - Utilize the 2017 Gold Book load forecast (produced in April 2017)

- **Sept. 2017**
  - Perform the N-1-1 analysis to determine import capabilities into each Locality
    - Update the load forecast in the base case to be the 2018 Gold Book forecast (this is the same load forecast in NYSRC 2018-2019 IRM study)
    - Update expected generation and transmission changes consistent with NYSRC 2018-2019 IRM study

- **Jan. 2018**
  - Calculate TSLs
    - 2018 load forecast produced in December 2017
    - Import capabilities produced in October 2017
    - 5 year EF0Rd used in NYSRC 2018-2019 IRM study
  - Establish LCRs using optimization methodology
    - 2018 load forecast produced in December 2017
    - TSLs produced in January 2018
Line Rating Assumptions

- The G-J Locality and Zone K were calculated assuming Long Term Emergency (LTE) ratings
  - Consistent with NYISO Normal Operating and planning criteria

- Zone J was calculated assuming Normal line ratings
  - Based on NYSRC Local Reliability Rule (G1)
Treatment of UDRs

- UDRs are treated as supply-side resources and at a level consistent with their elections
- UDRs are not considered as part of the import capability when calculating the N-1-1 import limits
Outage and Contingency

- In the N-1-1 analysis
  - 1\textsuperscript{st}
    - Outage of the most limiting single element
  - 2\textsuperscript{nd}
    - Zone K and G-J: NPCC defined contingency
    - Zone J: Outage of the second most limiting single element\textsuperscript{1}

\textsuperscript{1} Based on NYSRC Local Reliability Rules (i.e. G1)
# Zone J

<table>
<thead>
<tr>
<th>Outage Applied</th>
<th>Thermal Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprain Brook – W. 49th St. (M51) 345 kV</td>
<td>3200 MW (1)</td>
</tr>
<tr>
<td>Sprain Brook – W. 49th St. (M52) 345 kV</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limiting Element</th>
<th>Rating</th>
<th>Limiting Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Dunwoodie – Mott Haven (71)</td>
<td>@NORM 785 MVA</td>
<td>Pre-Contingency Loading</td>
</tr>
<tr>
<td>(71) 345 kV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Zone K

<table>
<thead>
<tr>
<th>Outage Applied</th>
<th>Thermal Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprain Brook – East Garden City (Y49) 345 kV</td>
<td>350 MW (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limiting Element</th>
<th>Rating</th>
<th>Limiting Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Dunwoodie – Shore Rd. (Y50) 345 kV</td>
<td>@NORM 687 MVA(^2)</td>
<td>Pre-Contingency Loading</td>
</tr>
</tbody>
</table>

\(^2\) LIPA rating for Y50 circuit is based on 70 % loss factor and rapid oil circulation.
### G-J

<table>
<thead>
<tr>
<th>Outage Applied</th>
<th>Thermal Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athens – Pleasant Valley (91) 345 kV</td>
<td>3225 MW (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limiting Element</th>
<th>Rating</th>
<th>Limiting Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Leeds – Pleasant Valley (92) 345 kV</td>
<td>@LTE 1538 MVA</td>
<td>Leeds – Hurly Ave. (301) 345 kV</td>
</tr>
</tbody>
</table>
Stability of Transmission Security Limits
Stability with Changes in Generation

- The N-1-1 import limits used in the Transmission Security Limit (TSL) calculation are primarily impacted by changes in transmission.
- Generation does not typically have an impact on the N-1-1 import limits.
- Generation that impacts the distribution of flows on the interface facilities can have an impact on the N-1-1 import limits.
Timeline of Assumptions
Current Timeline

- **2018**
  - Feb: 2019-2020 IRM Preliminary Base Case Starts
  - April: 2018 Gold Book (GB)

- **2019**
  - July: IRM Topology Approved
  - September: 2019-2020 IRM Preliminary Base Case Approved (2019 GB Forecast)
  - December: Final 2019-2020 IRM Approved (2019 GB Forecast)
  - January: 2019-2020 LCRs Established (Updated 2019 Forecast)
  - November: 2019-2020 IRM Final Base Case Approved (2019 GB Forecast)
  - December: Updated 2019 Load Forecast
Timeline Additions

2018
- Feb
  2019-2020 IRM Preliminary Base Case Starts
- April
  2018 Gold Book (GB)
- May
  2018 Summer Operating Report (2018 GB Forecast)
- October
- December
  Updated 2019 Load Forecast

2019
- January
  Transmission Security Floors Established (Updated 2019 Forecast)
- December
  Final 2019-2020 IRM Approved (2019 GB Forecast)
- January
  2019-2020 LCRs Established (Updated 2019 Forecast)
- November
  2019-2020 IRM Final Base Case Approved (2019 GB Forecast)
- July
  IRM Topology Approved
- September
  2019-2020 IRM Preliminary Base Case Approved (2019 GB Forecast)
LCR Setting Timeline

- No alterations to the current timeline are needed to accommodate this proposed alternative methodology for determining LCRs.

- Transmission security analysis used in the alternative methodology would be conducted and reported prior to October 1st.
  - This analysis would utilize an updated base case used in the Summer Operating Report.
Final Results
## Transmission Security LCR Floors

<table>
<thead>
<tr>
<th>Transmission Security Requirements</th>
<th>G-J</th>
<th>Zone J</th>
<th>Zone K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Forecast (MW)</td>
<td>16,061</td>
<td>11,670</td>
<td>5,427</td>
</tr>
<tr>
<td>Transmission Security Import Limit (MW)</td>
<td>3,225</td>
<td>3200</td>
<td>350</td>
</tr>
<tr>
<td>Transmission Security UCAP Requirement (MW)</td>
<td>12,836</td>
<td>8,470</td>
<td>5,077</td>
</tr>
<tr>
<td>Transmission Security UCAP Requirement (%)</td>
<td>79.92%</td>
<td>72.58%</td>
<td>93.55%</td>
</tr>
<tr>
<td>5 Year EFORd (%)</td>
<td>10.50%</td>
<td>9.99%</td>
<td>10.06%</td>
</tr>
<tr>
<td>Transmission Security ICAP Requirement (MW)</td>
<td>14,342</td>
<td>9,410</td>
<td>5,645</td>
</tr>
<tr>
<td>Transmission Security LCR Floor (%)</td>
<td>89.30%</td>
<td>80.63%</td>
<td>104.01%</td>
</tr>
</tbody>
</table>
Transmission Security LCR Floors

<table>
<thead>
<tr>
<th></th>
<th>Zone J LCR</th>
<th>G-J LCR</th>
<th>Zone K LCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Security LCR Floors</td>
<td>89.30%</td>
<td>80.63%</td>
<td>104.01%</td>
</tr>
</tbody>
</table>

- These values are for the 2016-2017 capability year
Sensitivity Results
Multiple Changes in Generation

- +500 MW in Zone G & -500 MW in Zone J
- -500 MW in Zone G & +500 MW in Zone J
- +500 MW in Zone K & -500 MW in Zone J
- -500 MW in Zone K & +500 MW in Zone J
Market Simulations:

+/- 500 MW to Zone G and
+/-500 MW to Zone J
### Addition & Removal of Capacity from Zone G & Zone J

#### Zone J LCR

<table>
<thead>
<tr>
<th>Locational Capacity Requirement</th>
<th>Optimized Cost (million $)</th>
<th>TSL Cost (million $)</th>
<th>Current LCR Cost (million $)</th>
<th>Optimized Zone J LCR</th>
<th>TSL Zone J LCR (Limit @ 80.16%)</th>
<th>Current LCR Zone J LCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>-500 MW in Zone G &amp; +500 MW in Zone J</td>
<td>77.99%</td>
<td>80.16%</td>
<td>78.04%</td>
<td>78.00%</td>
<td>80.16%</td>
<td>79.22%</td>
</tr>
<tr>
<td>Base Case</td>
<td>80.16%</td>
<td>80.16%</td>
<td>81.37%</td>
<td>81.37%</td>
<td>80.16%</td>
<td>80.16%</td>
</tr>
<tr>
<td>+500 MW in Zone G &amp; -500 MW in Zone J</td>
<td>84.38%</td>
<td>80.16%</td>
<td>80.16%</td>
<td>80.16%</td>
<td>80.16%</td>
<td>78.09%</td>
</tr>
</tbody>
</table>

Cost of Procurement (million $):

- $4,360.00
- $4,380.00
- $4,400.00
- $4,420.00
- $4,440.00
- $4,460.00
- $4,480.00
- $4,500.00
- $4,520.00
Addition & Removal of Capacity from Zone G & Zone J

Zone K LCR

<table>
<thead>
<tr>
<th>Locational Capacity Requirement</th>
<th>Optimized Cost (million $)</th>
<th>TSL Cost (million $)</th>
<th>Current LCR Cost (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-500 MW in Zone G &amp; +500 MW in Zone J</td>
<td>103.25%</td>
<td>Current LCR Zone K LCR</td>
<td>105.32%</td>
</tr>
<tr>
<td>Base Case</td>
<td>103.25%</td>
<td>TSL Zone K LCR (Limit @ 102.99%)</td>
<td>105.27%</td>
</tr>
<tr>
<td>+500 MW in Zone G &amp; -500 MW in Zone J</td>
<td>103.15%</td>
<td>Optimized Zone K LCR</td>
<td>106.04%</td>
</tr>
</tbody>
</table>

Cost of Procurement (million $)

- $4,360.00
- $4,380.00
- $4,400.00
- $4,420.00
- $4,440.00
- $4,460.00
- $4,480.00
- $4,500.00

- 101.50%
- 102.00%
- 102.50%
- 103.00%
- 103.50%
- 104.00%
- 104.50%
- 105.00%
- 105.50%
- 106.00%
- 106.50%

-500 MW in Zone G & +500 MW in Zone J
Base Case
+500 MW in Zone G & -500 MW in Zone J
Addition & Removal of Capacity from Zone G & Zone J
G-J LCR

<table>
<thead>
<tr>
<th>Locational Capacity Requirement</th>
<th>Optimized Cost (million $)</th>
<th>TSL Cost (million $)</th>
<th>Current LCR Cost (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-500 MW in Zone G &amp; +500 MW in Zone J</td>
<td>90.82%</td>
<td>90.52%</td>
<td></td>
</tr>
<tr>
<td>Base Case</td>
<td>91.48%</td>
<td>91.50%</td>
<td>90.73%</td>
</tr>
<tr>
<td>+500 MW in Zone G &amp; -500 MW in Zone J</td>
<td>91.30%</td>
<td>90.71%</td>
<td>90.52%</td>
</tr>
</tbody>
</table>

Optimized G-J LCR: 90.73%
TSL G-J LCR (Limit @ 89.12%): 90.27%
Tan G-J LCR: 93.13%
Market Simulations:
+/- 500 MW to Zone K and
+/- 500 MW to Zone J
Addition & Removal of Capacity from Zone K & Zone J
Zone J LCR

-500 MW in Zone K & +500 MW in Zone J
Base Case
+500 MW in Zone K & -500 MW in Zone J

Locational Capacity Requirement

Optimized Cost (million $)
TSL Cost (million $)
Current LCR Cost (million $)

Optimized Zone J LCR
TSL Zone J LCR (Limit @ 80.16%)
Current LCR Zone J LCR

-4,520.00
$4,500.00
$4,480.00
$4,460.00
$4,440.00
$4,420.00
$4,400.00
$4,380.00
$4,360.00
$4,340.00

$4,340.00
$4,480.00
$4,520.00

86.00%
84.00%
82.00%
80.00%
78.00%
76.00%
74.00%

74.00%
76.00%
78.00%
80.00%
82.00%
84.00%
86.00%

80.16%
78.29%
79.42%
80.16%
81.37%
80.16%
80.16%
85.44%

Optimized Zone J LCR
TSL Zone J LCR (Limit @ 80.16%)
Current LCR Zone J LCR
Addition & Removal of Capacity from Zone K & Zone J
Zone K LCR

<table>
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<tr>
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<th>TSL Zone K LCR (Limit @ 102.99%)</th>
<th>Current LCR Zone K LCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>-500 MW in Zone K &amp; +500 MW in Zone J</td>
<td>104.55%</td>
<td>104.57%</td>
<td>104.64%</td>
<td>104.55%</td>
<td>104.57%</td>
<td>104.64%</td>
</tr>
<tr>
<td>Base Case</td>
<td>105.27%</td>
<td>105.27%</td>
<td>105.27%</td>
<td>105.64%</td>
<td>105.64%</td>
<td>105.64%</td>
</tr>
<tr>
<td>+500 MW in Zone K &amp; -500 MW in Zone J</td>
<td>106.50%</td>
<td>104.20%</td>
<td>104.20%</td>
<td>103.25%</td>
<td>103.25%</td>
<td>103.25%</td>
</tr>
</tbody>
</table>
Changes in Transmission
Changes in Transmission

- +1000 MW to UPNY-SENY
  - Transmission Security Limit for G-J was recalculated assuming an additional 1000 MW of import capability
### +1000 MW to UPNY-SENY

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Zone J LCR</th>
<th>Zone K LCR</th>
<th>G-J LCR</th>
<th>Cost ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current LCR Methodology</td>
<td>79.38%</td>
<td>101.94%</td>
<td>90.18%</td>
<td>$ 4,398.63</td>
</tr>
<tr>
<td>Optimized Methodology without Transmission Security Limits (TSL)</td>
<td>77.71%</td>
<td>107.44%</td>
<td>84.29%</td>
<td>$4,365.16</td>
</tr>
<tr>
<td>Optimized Methodology with Transmission Security Limits (TSL)</td>
<td>80.16%</td>
<td>103.80%</td>
<td>84.96%</td>
<td>$4,388.00</td>
</tr>
</tbody>
</table>

- G-J import limit was increased by 1000 MW in the TSL calculation resulting in a reduction in the TSL from 89.12% to 82.17%
## +1000 MW to UPNY-SENY

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Zone J LCR</th>
<th>Zone K LCR</th>
<th>G-J LCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current LCR Methodology</td>
<td>9,263 MW</td>
<td>5,532 MW</td>
<td>14,484 MW</td>
</tr>
<tr>
<td>Optimized Methodology without Transmission Security Limits (TSL)</td>
<td>9,069 MW</td>
<td>5,831 MW</td>
<td>13,538 MW</td>
</tr>
<tr>
<td>Optimized Methodology with Transmission Security Limits (TSL)</td>
<td>9,355 MW</td>
<td>5,633 MW</td>
<td>13,645 MW</td>
</tr>
</tbody>
</table>
## Change from Base Case to +1000 MW UPNY-SENY

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Δ Zone J MW</th>
<th>Δ Zone K MW</th>
<th>Δ G-J MW</th>
<th>Δ Total Locality MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current LCR Methodology</td>
<td>-232.2</td>
<td>-71.1</td>
<td>-180.5</td>
<td>-483.8</td>
</tr>
<tr>
<td>Optimized Methodology without Transmission Security Limits (TSL)</td>
<td>-38.5</td>
<td>117.7</td>
<td>-1159.1</td>
<td>-1079.9</td>
</tr>
<tr>
<td>Optimized Methodology with Transmission Security Limits (TSL)</td>
<td>0.0</td>
<td>-19.2</td>
<td>-924.8</td>
<td>-944.1</td>
</tr>
</tbody>
</table>
Changes in Net CONE
Changes in Net CONE

- +/- $25.00 to G-J Net CONE
- +/- $25.00 to Zone J Net CONE
- +/- $25.00 to Zone K Net CONE
- +/- $25.00 to NYCA Net CONE
G-J Net CONE +/- $25

<table>
<thead>
<tr>
<th>Locational Capacity Requirement</th>
<th>Zone J</th>
<th>Zone K</th>
<th>G-J</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>80.2%</td>
<td>103.0%</td>
<td>92.2%</td>
</tr>
<tr>
<td>85%</td>
<td>80.2%</td>
<td>104.2%</td>
<td>90.7%</td>
</tr>
<tr>
<td>90%</td>
<td>80.2%</td>
<td>106.0%</td>
<td>89.5%</td>
</tr>
</tbody>
</table>

Net Cost of New Entry ($/kW-yr)

- Net CONE - $25
- Base
- Net CONE + $25
- Net CONE @ Current LCR
Zone K Net CONE +/- $25

Locational Capacity Requirement

- Zone J: 80.2%
- Zone K: 104.7%, 104.2%, 103.4%
- G-J: 90.3%, 90.7%, 91.5%

Net Cost of New Entry ($/kW-Year)

- $50, $100, $150, $200, $250

Legend:
- Net CONE - $25
- Base
- Net CONE + $25
- Net CONE @ Current LCR
NYCA Net CONE +/- $25

Locational Capacity Requirement

- Zone J: 80.2%
- Zone K: 80.2%
- G-J: 80.2%

Net Cost of New Entry ($/kW-Year)

- Zone J: $104.6%
- Zone K: $104.2%
- G-J: $103.4%

Net CONE - $25
Net CONE + $25
Net CONE @ Current LCR
NYCA Net CONE @ Current LCR

Net CONE - $25
Base
Net CONE + $25
Net CONE @ Current LCR
NYCA Net CONE @ Current LCR
Next Steps
Other Next Steps

- The NYISO will consider input received during today’s ICAP Working Group meeting
- Additional comments sent to deckels@nyiso.com will be considered
Questions?
The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system

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