# 2019-2020 Capability Year

# Locational Minimum Installed Capacity Requirements (LCRs)


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# Purpose

- This presentation provides final proposed LCRs for 2019-2020 Capability Year
  - Builds on the November 30, 2018 ICAPWG presentation
  - The final LCR report is also posted with these meeting materials
- These results will be presented at the January 17, 2019 NYISO Operating Committee meeting

# Process

- **The NYISO determined LCRs consistent with the publically posted "Locational Minimum Installed Capacity Requirements Determination Process"**
  - Found on the ICAP section of the NYISO public website
  - https://www.nyiso.com/documents/20142/1408199/LCR_determination_process.pdf/62be259b-dd63-9e6e-ec6c-334f269b90ff
  - This process, to implement the tariff provisions accepted by FERC Order issued on October 5, 2018, replaces the NYISO's prior LCR determination process (which had been utilized to implement the tariff before the revisions)
- **The NYISO determined LCRs using LCR software that economically optimizes capacity requirements in the Zone J, Zone K, and the G-J Locality**

# Input assumptions

- **Installed Reserve Margin (IRM) study assumptions, adjusted for the LCR study**
  - Consists of MARS input files, referred to as the "IRM Final Base Case"
  - Adjustments for the LCR study:
    - The Selkirk generating facilities modelled as in-service
      - https://www.nyiso.com/documents/20142/1403511/Withdrawal-of-Notice-of-Intent-to-Mothball-and-Generator-Deactivation-Assessment-for-Selkirk-Cogen-P.pdf/7bd2f362-53bc-1a61-cecf-1af753c02175
    - The final 2019-2020 Capability Year peak Load forecast, updated from the October peak Load forecast (see the next slide)
      - https://www.nyiso.com/documents/20142/4085420/2019_ICAP_V8_Final.pdf/a03551f6-3a43-6bfd-d671-f1a3f9f54730
    - After the load and capacity changes above, the approved IRM value of 17.0% is re-established
- **Set LCRs using a target loss of load expectation (LOLE) recognizing the NYSRC's 17.0% IRM and the Selkirk notice (i.e., slightly lower than 0.100 days per year)**

# Input assumptions, cont'd

- LCR study load forecast

| Area | Final 2019 IRM Study Load Forecast (MW) (10/2018) | Final 2019 ICAP/LCR Load Forecast (MW) (12/2018) | Change (MW) |
|---|---|---|---|
| Zone J (NYC) | 11,585.0 | 11,606.9 | +21.9 |
| Zone K (LI) | 5,345.6 | 5,279.1 | -66.5 |
| The G-J Locality | 15,831.0 | 15,845.5 | +14.5 |
| NYCA | 32,488.2 | 32,428.5 | -59.7 |

# Input assumptions, cont'd

- Final 2019-2020 Capability Year Transmission Security Limits

| Transmission Security Limit Calculation | Formula | G-J | NYC | LI | Source |
|---|---|---|---|---|---|
| Load Forecast (MW) | [A] = Given | 15845.5 | 11606.9 | 5279.1 | [1] |
| Bulk Power Transmission Capability (MW) | [B] = Given | 3200.0 | 3200.0 | 350.0 | [2] |
| UCAP Requirement (MW) | [C] = [A]-[B] | 12645.5 | 8406.9 | 4929.1 | |
| UCAP Requirement Floor | [D] = [C]/[A] | 79.80% | 72.43% | 93.37% | |
| 5-Year derating factor | [E] = Given | 9.63% | 9.67% | 9.74% | [3] |
| ICAP Requirement (MW) | [F] = [C]/(1-[E]) | 13,993.0 | 9,306.9 | 5,461.0 | |
| Transmission Security Limit | [G] = ROUND([F]/[A],1) | **88.3%** | **80.2%** | **103.4%** | |

[1] 2019 Final ICAP Forecast (https://www.nyiso.com/documents/20142/4085420/2019_ICAP_V8_Final.pdf/a03551f6-3a43-6bfd-d671-f1a3f9f54730)

[2] 2019 Transmission Security Limit (TSL) Report (https://www.nyiso.com/documents/20142/3679493/2019-Transmission-Security-Limit-TSL-Report.pdf/ed398aee-675c-19b4-7d7d-bc26b20cae7b)

[3] New York Control Area Installed Capacity Requirement Appendices, Figure A.5 (http://nysrc.org/pdf/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20214/2019%20IRM%20Study%20Appendices%20Clean%20Final%20Draft%2011_27_18[6681].pdf)

# Input assumptions, cont'd

- Final 2019-2020 Capability Year Net CONE Curves
  - https://www.nyiso.com/documents/20142/3679493/2019-Net-CONE.pdf/66fd5afa-ea9c-792e-0213-793477adcb61

| 2019-2020 Capability Year LCRs: Net CONE Curves | | |
|---|---|---|
| Location | LCR | Net CONE |
| NYCA | 111.5 | 95.92 |
| | 114.5 | 96.98 |
| | 117.5 | 97.56 |
| | 120.5 | 98.10 |
| | 123.5 | 98.62 |
| G-J | 84.0 | 145.27 |
| | 87.0 | 145.93 |
| | 90.0 | 146.66 |
| | 93.0 | 147.90 |
| | 96.0 | 148.71 |
| Zone J | 74.5 | 169.85 |
| | 77.5 | 173.83 |
| | 80.5 | 178.34 |
| | 83.5 | 180.82 |
| | 86.5 | 182.34 |
| Zone K | 96.5 | 121.26 |
| | 99.5 | 127.06 |
| | 102.5 | 132.36 |
| | 105.5 | 136.07 |
| | 108.5 | 138.21 |

# 2019-2020 Capability Year LCRs

# 2019-2020 Capability Year LCRs

- G-J Locality 92.3%
- New York City 82.8%
- Long Island 104.1%

- The final LCR report is posted with these meeting materials
- In a prior presentation to the ICAPWG, using the 2019-2020 IRM final base case, the NYISO estimated the new LCR method (economic optimization) reduced capacity market costs by approximately $10 million at the tariff defined level of excess
  - Despite certain database updates (*e.g.*, the LCR load forecast), the prior cost savings estimate continues to be reasonable

# Discussion

- **2019-2020 Capability Year LCRs differ from 2018-2019 Capability Year LCRs, which is typical**
- **Notable changes between the 2018-2019 and 2019-2020 study inputs and methods include:**
  - The NYISO's updated method to determine LCRs
  - The updated system representation (i.e., the MARS LCR database)
    - The NYSRC IRM study report discusses these changes
  - Modeling the B and C transmission lines (PJM into NYC) as out-of-service

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# Questions?

Questions or comments can be sent to

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