New York ISO
Independent System Operator

Transmission Security Limit Floor: Capability Year 2024-2025

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ICAPWG/MIWG

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Agenda

- Background on Transmission Security Limit (“TSL”) Floors
- TSL Floor Methodology
- TSL Floor Calculation Inputs
- Final 2024-2025 TSL Floors
- Next Steps

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Background

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Background

- TSLs are input constraints used in the LCR optimization process to ensure the LCRs are set at or above this ‘floor’
- Transmission constraints are studied by NYISO operations and then considered as bulk power transmission capabilities in the calculation process
  - The bulk power transmission capabilities are studied respecting N-1-1 conditions
- Each of Zone J, Zone K, and Zones G-J has a TSL Floor

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TSL Floor Methodology and Inputs

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TSL Floor Methodology

- **At the 9/5 ICAPWG, NYISO presented an updated TSL Floor Calculation, which included enhancements to the prior calculation to account for Off-Shore Wind and LI/NYC Net Flow**

https://www.nyiso.com/documents/20142/39768278/TSL%20Floor%20Proposal%20-%20Capability%20Year%202024-2025.pdf/14ad3356-7700-c88a-579c-b1cfe76b66ed

Transmission Security Limit Floor Calculation	Formula	G-J	NYC	LI	Notes
Load Forecast (MW)	[A] = Given	15,439	11,303	5,090	[1]
Bulk Power Transmission Limit (MW)	[B] = Studied	3,425	2,875	325	[2]
Net Flow Adjustment to Transmission Limit (MW)*	[J] = Study Assumption	325			[3]
UCAP Requirement (MW)	[C] = [A]-[B]+[J]	12,339	8,428	4,765	
Offshore Wind (MW)	[O] = Given			37.5	[4]
UCAP Requirement Floor	[D] = [C]/[A]	79.9%	74.6%	94.4%	
5-Year Derating Factor	[E] = Given	5.4%	4.5%	8.9%	[5]
Special Case Resources (MW)	[F] = Given	526.7	442.4	35.3	[6]
ICAP Requirement (MW)	[G] = ([C]+[O]/(1-[E]))+[F]	13,570	9,268	5,304	
ICAP Requirement Floor (%)	[H] = [G]/[A]	87.9%	82.0%	104.2%	

*See Bulk Power Transmission Limit Report for study assumptions and adjustment details

[1] 2024 Preliminary Forecasted Load values

[2] Based on the Transmission Security Analysis performed for the 2023-2024 LCR Study

[3] LI Bulk Power Transmission Limit Adjustment

[4] Difference in RA and TSL UCAP Valuation

[5] 5-year Market EFORd based on the generation mix in the 2024-2025 IRM PBC

[6] Modeled SCRs for 2024-2025

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TSL Floor Calculation Inputs

- **Several TSL Floor calculation inputs were reviewed for updates since the 9/5 presentation**
  - Load Forecast:
    - NYISO Demand Forecasting & Analysis presented an updated load forecast for Summer 2024
      - NYSRC Fall Forecast Update (9/28 LFTF)
        https://www.nyiso.com/documents/20142/40206684/NYSRC%20Fall%20Forecast%20Update%20Updated%202023%20Weather%20Normalization%20&%20Proposed%202024%20IRM%20Forecast.pdf/eaa2d2fd-b684-75b7-54d4-6633e8e5ee6e

Load Forecast	G - J	NYC	LI
9/5 Presentation	15,439	11,303	5,090
Fall Forecast Update	15,274	11,171	5,080

  - 5-Year Derating Factor:
    - Updated prior to the 9/5 presentation to capture the market EFORds of generators included in the 2024-2025 IRM Preliminary Base Case Study
    - No new generators were added during the IRM Final Base Case Study and therefore no updates were needed
      - New Generator Screening IRM24 FBC (10/4 ICS)
        https://www.nysrc.org/wp-content/uploads/2023/10/NewGeneratorScreening-IRM24_FBC22495.pdf

5-Year Derating Factor	G - J	NYC	LI
9/5 Presentation	5.4%	4.5%	8.9%
Final EFORds	5.4%	4.5%	8.9%

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TSL Floor Calculation Inputs

- **NYISO Operations completed the 2024 Locality Bulk Power Transmission Capability Report (full report posted for today's 10/26 ICAPWG)**
  - The Bulk Power Transmission Limits were updated from the 2023 Report locality limits to the 2024 Report locality limits

Locality	2024 Report Respected Outages	2023 Report Respected Outages	2024 Report Limit (MW)	2023 Report Limit (MW)	Delta
G – J	N-1 Outage applied (Athens – Van Wagner (91) 345 kV)	N-1 Outage applied (Athens – Pleasant Valley (91) 345 kV)	4,350	3,425	+925
Zone J	N-2 Outages applied (Dunwoodie - Mott Haven (72) 345 kV & Ravenswood 3 (980MW))	N-2 Outages applied (Dunwoodie - Mott Haven (72) 345 kV & Ravenswood 3 (980MW))	2,875* 3,855 – 980 Post-Contingency Limit – Largest Single Resource	2,875* 3,855 – 980 Post-Contingency Limit – Largest Single Resource	0
Zone K	N-1 Outage applied (Neptune HVDC (660MW))	N-1 Outage applied (Sprain Brook – East Garden City (Y49) 345 kV)	275* 940 – 660 Post-Contingency Limit – Largest Single Resource	325	-50

  - The large increase in G – J is driven primarily by significant transmission changes due to Segment B of the AC transmission project
    - Addition of the Edic-Princetown 351 & 352 345 kV circuits and Knickerbocker-Pleasant Valley Y57 345 kV circuit
    - The Dover PAR and Knickerbocker Series caps were modeled bypassed in the analysis
  - The methodology used to determine the Zone K limit was updated in this year's study to align with the Zone J approach
    - Loss of resource contingencies were considered for this year's study in both Zone J and Zone K

* Size of largest single resource is subtracted from the post-contingency limit to represent the need for making up for the loss of resource as part of the applicable contingency. This approach does not apply in other locality limits due to the configuration of the respected contingencies.

* The limits reported in this table are rounded down to the nearest 25 MW

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Final 2024-2025 TSL Floors

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Final 2024-2025 TSL Floors

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Bulk Power Transmission Limit (MW)	[B] = Studied	4,350	2,875	275	[2]
Net Flow Adjustment to Transmission Limit (MW)*	[N] = Study Assumption	275			[3]
Offshore Wind (MW)	[O] = Given			37.5	[4]
UCAP Requirement (MW)	[C] = [A]-[B]+[N]+[O]	11,199	8,296	4,843	
UCAP Requirement Floor	[D] = [C]/[A]	73.3%	74.3%	95.3%	
5-Year Derating Factor	[E] = Given	5.4%	4.5%	8.9%	[5]
Special Case Resources (MW)	[F] = Given	526.7	442.4	35.3	[6]
ICAP Requirement (MW)	[G] = ([C]/(1-[E]))+[F]	12,364	9,129	5,348	
ICAP Requirement Floor (%)	[H] = [G]/[A]	81.0%	81.7%	105.3%	

*See Bulk Power Transmission Capability Report for study assumptions and adjustment details

[1] 2024 Fall Load Forecast

[2] Based on 2024 Locality Bulk Power Transmission Capability Report

[3] LI Bulk Power Transmission Limit Adjustment

[4] Difference in Resource Adequacy and Transmission Security UCAP Valuation

[5] 5-year Market EFORd based on the generation mix in the 2024-2025 IRM FBC

[6] Modeled SCRs for 2024-2025

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Next Steps

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Next Steps

- Calculate Preliminary LCRs using the 2024-2025 IRM FBC and finalized TSL Floors
- Present Preliminary LCRs to the ICAPWG on 11/17
- Conduct the Final LCR study in December using the finalized 2024-2025 IRM FBC and NYSRC EC approved IRM

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Our Mission & Vision

Mission

Ensure power system reliability and competitive markets for New York in a clean energy future

Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

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Questions?

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