New York ISO
Independent System Operator

Demand Response: 2027-2028 IRM Study Preliminary Base Case Values

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Agenda

- Background
- Preliminary Special Case Resource (SCR) Values for 2027-2028 IRM Study
- Distributed Energy Resource (DER) Aggregation Enrollments
- Next Steps
- Appendix I – Description of ICS Adjustment Factors

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Background

Overview of the SCR zonal response rate methodology

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Background – Data Set Overview

- **The NYISO calculates zonal SCR response rates by hour of event based on historical SCR performance. The data set includes:**
  - All event hours, by zone, for each mandatory event from the most recent five years in which a mandatory event was initiated by the NYISO
  - The hourly response rates for each hour simulate the aggregated performance and staggered responses of individual SCRs during mandatory events and reflect the percentage of obligated SCR MW that responded during that hour across all mandatory events in the relevant zone(s)
- **The NYISO additionally calculates "translation factors" (see Appendix for further details). The data set includes:**
  - All event hours, by zone, for each mandatory event from the most recent five years in which a mandatory event was initiated by the NYISO
  - All performance test hours that occur between the first Capability Period in the above timeframe and the most recent Summer Capability Period

*The historical occurrence of mandatory events varies by zone, but the NYISO limits the consideration of such information to mandatory events since 2012

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SCR Response Rates – Duration Limit

- **The current SCR modeling approach for the installed reserve margin (IRM) study utilizes energy limited resource (ELR) functionality to model SCRs as duration limited resources with hourly response rates**
  - The duration limits reflect the expected maximum mandatory SCR event length based on historically observed activations. Activations have historically ranged from 1-7 hours
  - The duration limit of the zonal SCR resources can vary by load zone based on the maximum historical call length that has occurred in each zone since 2012

SCR Activation Duration Limit by Zone (hours)				
	A-E	F	G-J	K
Duration Limit	7	7	7	7

- **Because SCR performance is captured in the hourly response rates in the SCR modeling approach, the maximum modeled SCR capacities are calculated based solely on July zonal SCR enrollment and the zonal Average Coincident Load (ACL) to Customer Baseline Load (CBL) factors**

July Max Modeled Capacity (MW) = SCR ICAP MW * ACL to CBL Translation Factor

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2027-2028 IRM Study: Preliminary SCR Model Values

*Based on July 2025 enrollments

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Inputs for 2027-2028 IRM Preliminary Base Case (PBC)

- **Additional data inputs since 2026-2027 IRM Final Base Case (FBC)**
  - Winter 2024-2025 and Summer 2025 SCR performance test hours – total of 2 hours
  - Summer 2025 SCR event hours – total of 62 hours
- **The additional data inputs consist of**
  - All event hours, by zone, from mandatory events from Summer 2012 through Summer 2025
    - Range from 96 event hours for Load Zone A to 171 event hours for Load Zone K
    - Used in calculating the zonal response rates and ACL to CBL translation factors
  - All performance test hours from Summer 2012 through Summer 2025
    - 27 performance test hours
    - Used in calculating the ACL to CBL translation factors
- **The inclusion of the additional data inputs leads to updates to the SCR activation hourly response rate and maximum modeled capacity compared to the modeling assumptions used for the last year's FBC (see Slide 10)**

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Preliminary Response Rate by Hour of SCR Activation

Zones	Event Hour 1	Event Hour 2	Event Hour 3	Event Hour 4	Event Hour 5	Event Hour 6	Event Hour 7
A-E	82.50%	84.55%	84.83%	82.15%	77.58%	79.46%	75.89%
F	68.95%	75.10%	78.20%	78.63%	77.88%	69.13%	62.41%
G-I	60.49%	70.24%	74.20%	75.29%	75.58%	73.31%	70.39%
J	56.70%	62.05%	66.96%	71.17%	72.28%	69.33%	67.97%
K	51.08%	57.77%	62.40%	64.91%	64.59%	63.62%	59.46%

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Comparison of SCR Response Rates

For 2027-2028 IRM PBC - Preliminary Response Rates (Up to 2025 Events)

Zones	Event Hour 1	Event Hour 2	Event Hour 3	Event Hour 4	Event Hour 5	Event Hour 6	Event Hour 7
A-E	82.50%	84.55%	84.83%	82.15%	77.58%	79.46%	75.89%
F	68.95%	75.10%	78.20%	78.63%	77.88%	69.13%	62.41%
G-I	60.49%	70.24%	74.20%	75.29%	75.58%	73.31%	70.39%
J	56.70%	62.05%	66.96%	71.17%	72.28%	69.33%	67.97%
K	51.08%	57.77%	62.40%	64.91%	64.59%	63.62%	59.46%

For 2026-2027 IRM FBC - Final Response Rates (Up to 2024 Events)

Zones	Event Hour 1	Event Hour 2	Event Hour 3	Event Hour 4	Event Hour 5	Event Hour 6	Event Hour 7
A-E	82.33%	85.85%	85.54%	79.20%	75.61%	0% (No data)	0% (No data)
F	72.95%	79.54%	82.43%	83.29%	83.40%	70.40%	66.99%
G-I	61.08%	69.85%	72.12%	73.52%	74.47%	71.50%	0% (No data)
J	57.53%	62.61%	66.97%	70.70%	72.29%	66.09%	0% (No data)
K	51.20%	57.99%	63.12%	65.49%	64.82%	63.35%	52.63%

Difference in Response Rates (2027 vs 2026 IRM)

Zones	Event Hour 1	Event Hour 2	Event Hour 3	Event Hour 4	Event Hour 5	Event Hour 6	Event Hour 7
A-E	0.17%	-1.30%	-0.71%	2.95%	1.97%	79.46%	75.89%
F	-4.00%	-4.44%	-4.23%	-4.66%	-5.52%	-1.27%	-4.58%
G-I	-0.59%	0.39%	2.08%	1.77%	1.11%	1.81%	70.39%
J	-0.83%	-0.56%	-0.01%	0.47%	-0.01%	3.24%	67.97%
K	-0.12%	-0.22%	-0.72%	-0.58%	-0.23%	0.27%	6.83%

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Preliminary Max SCR Modeled Capacity (MW)

Capacity Region	SCR ICAP MW based on July 2025	ACL to CBL Factor	July Max Modeled Capacity (MW)
A-E	289.6	90.3%	261.5
F	87.8	79.1%	69.4
G-I	73.9	74.9%	55.4
J	453.0	61.2%	277.2
K	22.9	70.3%	16.1

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Comparison of Max Modeled Capacity (MW)

For 2027-2028 IRM PBC – Max SCR Modeled Capacity

Capacity Region	SCR ICAP MW based on July 2025	ACL to CBL Factor	July Max Modeled Capacity (MW)
A-E	289.6	90.3%	261.5
F	87.8	79.1%	69.4
G-I	73.9	74.9%	55.4
J	453.0	61.2%	277.2
K	22.9	70.3%	16.1

For 2026-2027 IRM FBC – Max SCR Modeled Capacity

Capacity Region	SCR ICAP MW based on July 2025	ACL to CBL Factor	July Max Modeled Capacity (MW)
A-E	260.5	91.9%	239.3
F	87.8	89.2%	78.3
G-I	73.9	83.5%	61.7
J	453.0	72.9%	330.3
K	23.1	75.1%	17.4

Difference in Max Modeled Capacity (2027 vs 2026 IRM)

Capacity Region	SCR ICAP MW based on July 2025	ACL to CBL Factor	July Max Modeled Capacity (MW)
A-E	29.1	-1.6%	22.2
F	0	-10.1%	-8.9
G-I	0	-8.6%	-6.3
J	0	-11.7%	-53.1
K	-0.2	-4.8%	-1.3

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2027-2028 IRM Study: Preliminary DER Aggregation Enrollments

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DER Aggregations

- **The NYISO recommends modeling the enrolled DERs in the 2027-2028 IRM PBC, consistent with the modeling framework identified in the Phase 1 "DER Whitepaper"**
  - Phase 1 DER Whitepaper is available at: https://www.nysrc.org/wp-content/uploads/2025/03/DER-Modeling-Whitepaper-Phase1-ICS04022025.pdf
  - For Demand Side Resource (DSR) Aggregations, the Phase 1 DER Whitepaper recommended modeling DERs as ELRs, aggregated by Load Zone and duration
    - For example, all DSR Aggregations in Load Zone A subject to the same duration limit (e.g., 4 hours) would be modeled as a single ELR with the applicable duration limit
- **The NYISO recommends applying the NYCA translation factor to DER Aggregations modeled in the 2027-2028 IRM study.**

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DER Aggregations

- The DER participation model for the NYISO markets became available on April 16, 2024 and allows certain resources to aggregate and sell energy, capacity and/or ancillary services
- The table below reflects DER Aggregations that have passed Distribution Utility review as of April 2026

Capacity Region	DER Aggregation ICAP (MW)	Technology Type
A-E	426.0	Demand Side Resource (DSR)
F	0	-
G-I	0	-
J	0.5	Demand Side Resource (DSR)
K	0	-

- The NYISO recommends including DER in the 2027-2028 IRM FBC that have been submitted for enrollment prior to the presentation of final SCR and DER value assumptions at the ICS.

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Comparison of DER Aggregation ICAP (MW)

For 2027-2028 IRM PBC – DER Aggregation ICAP Values

Capacity Region	DER Aggregation ICAP (MW)
A-E	426.0
F	0
G-I	0
J	0.5
K	0

For 2026-2027 IRM FBC – DER Aggregation ICAP Values

Capacity Region	DER Aggregation ICAP (MW)
A-E	480.5
F	0
G-I	0.1
J	0
K	0

Difference in DER Aggregation ICAP Values (2027 vs 2026 IRM)

Capacity Region	DER Aggregation ICAP (MW)
A-E	-54.5
F	0
G-I	-0.1
J	0.5
K	0

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Appendix I – Description of SCR Adjustment Factors

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SCR Baselines

- **Average Coincident Load (ACL):**
  - Capacity baseline for resources participating in the SCR program
  - Required for all resources participating in the SCR program
  - Used for capacity market participation
- **Customer Baseline Load (CBL):**
  - Energy baseline for resources participating the SCR program
  - Optional submission following a NYISO-called SCR program test or event
  - Used for energy payments

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ACL to CBL Translation Factor 2027-2028 IRM PBC vs 2026-2027 IRM FBC

Program	Zone	2027-2028 IRM PBC	2026-2027 IRM FBC	Difference
SCR	A-E	90.3%	91.9%	-1.7%
SCR	F	79.1%	89.2%	-10.1%
SCR	G-I	74.9%	83.5%	-8.7%
SCR	J	61.2%	72.9%	-11.7%
SCR	K	70.3%	75.1%	-4.9%

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SCR Adjustment Factors used in IRM Studies

- **Translation Factor (ACL to CBL)**
  - The translation factor is used to adjust performance based on the ACL baseline to a CBL equivalent
  - Translation factors have been calculated annually since the 2019-2020 IRM study
  - Calculated value from:
    - All event hours, by zone, for each mandatory event from the most recent five years in which a mandatory event was initiated by the NYISO (but not older than summer 2012)
    - All performance test hours accumulated during the above timeframe even when there were no mandatory events
    - Data set for the 2027-2028 IRM PBC includes all event hours from mandatory events and performance tests from Summer 2012 through Summer 2025
  - Only uses responses from resources reporting CBL data

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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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