

Summer 2024 Capacity Assessment

Aaron Markham

Vice President, Operations

Management Committee:

May 29, 2024, NYISO

Agenda

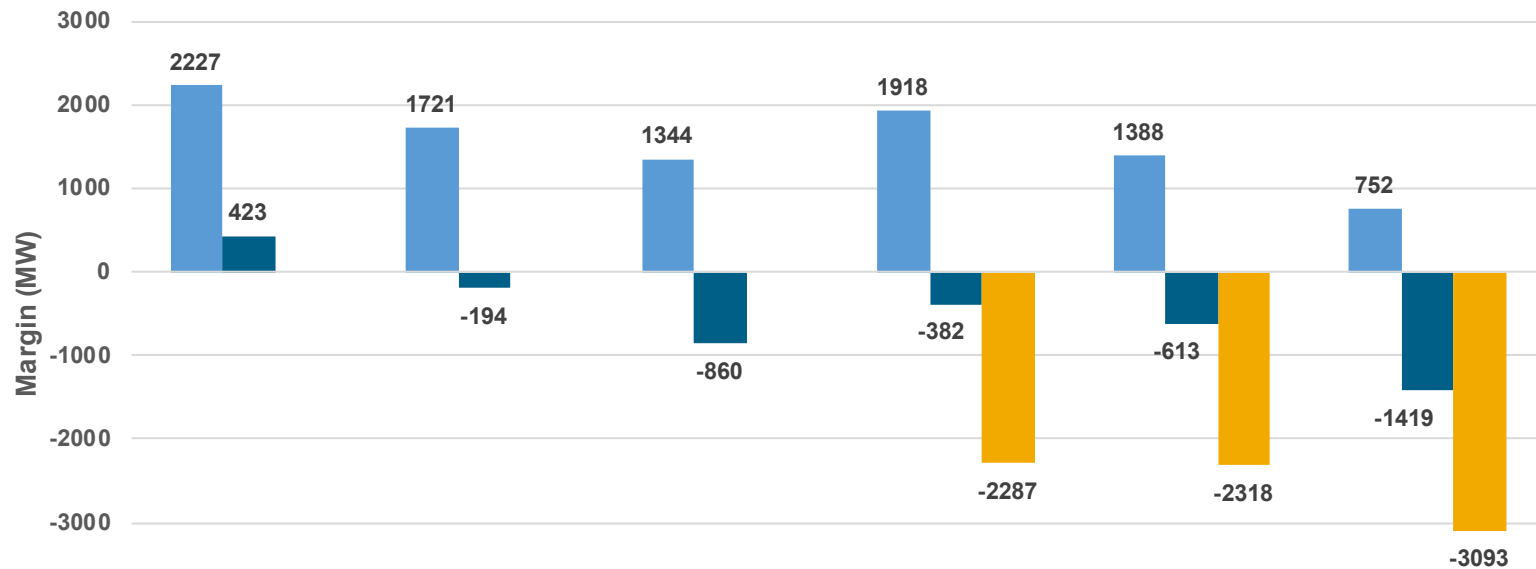
- **Key Observations**
- **Summer Capacity Assessment**
- **Summer Preparedness**
- **Infrastructure Updates**

Key Observations

- **Projected capacity margins for normal and extreme weather conditions without emergency operating actions**
 - 752 MW - capacity margin for baseline peak forecast conditions
 - -1,419 MW - capacity margin for 90-10 peak forecast conditions
 - -3,093 MW - capacity margin for 99-1 peak forecast conditions

- **Projected capacity margins for normal and extreme weather conditions with up to 3,275 MW of emergency operating actions**
 - 4,027 MW - capacity margin for baseline peak forecast conditions
 - 1,856 MW - capacity margin for 90-10 peak forecast conditions
 - 182 MW - capacity margin for 99-1 peak forecast conditions

Capacity Margins: Summer 2019 through 2024



	Summer 19	Summer 20	Summer 21	Summer 22	Summer 23	Summer 24
■ Baseline	2227	1721	1344	1918	1388	752
■ 90/10	423	-194	-860	-382	-613	-1419
■ 99/1				-2287	-2318	-3093

2023 & 2024 Summer Capacity Assessment & Comparison

Line	Item	2023	2024		
		Baseline Forecast	Baseline Forecast	90th Percentile Forecast	99th Percentile Forecast
1a	Summer Generation Capacity ¹	36,990	37,867	37,867	37,867
1b	SCR - ICAP Values	1,226	1,281	1,281	1,281
1c	Net Purchases & Sales	2,932	1,585	1,585	1,585
1	Total Capacity Resources	41,148	40,733	40,733	40,733
2	Assumed Unavailable Capacity (Gen + SCR) ^{2,3}	-5,092	-5,819	-6,230	-6,416
3 = 1 + 2	Net Capacity Resources	36,056	34,913	34,502	34,317
4	Peak Load Forecast	32,048	31,541	33,301	34,790
5	Operating Reserve Requirement	2,620	2,620	2,620	2,620
6 = 4+5	Total Capacity Requirement	34,668	34,161	35,921	37,410
7 = 3 - 6	Capacity Margin⁴	1,388	752	-1,419	-3,093

1. Reflects the 2024 Gold Book existing capacity plus projected changes during the summer of 2024, as well as known outages.
2. Derates: 2250 MW for wind, 642 MW Hydro, 2146 MW thermal units, 318 MW FTM solar, 20 MW Energy Storage, and 384 MW SCRs.
3. 90th / 99th Percentile Capacity include an additional 411 MW / 596 MW of derates for thermal units operating in extreme temperatures.
4. It is expected that there may be up to an additional 3275 MW available under Emergency Operating Procedures.

Southeastern New York¹: Summer Transmission Security - Base Case

Line	Item	2024 Baseline Forecast	2024 90th Percentile Forecast	2024 99th Percentile Forecast
1a	Available Generation Capacity Resources	13,230	13,230	13,230
1b	Net ICAP External Imports	315	315	315
1c	Transmission Capability from UPNY to SENY (N-1-1)	4,350	4,350	4,350
1d	Transmission Capability, Long Island to SENY	0	0	0
1	Total Capability	17,895	17,895	17,895
2	Assumed Unavailable Capacity (Gen.) ^{2,3}	-1,060	-1,214	-1,301
3 = (1+2)	Total Capability	16,835	16,681	16,594
4	Load Forecast in Zones G to J ⁴	15,319	15,924	16,548
5 = (3-4)	Capacity Margin w/o SCR	1,516	757	45
6	Effective SCR GHIJ ⁵	288	288	288
7 = (5+6)	Capacity Margin w/ SCR	1,804	1,044	333

1. Southeast Region (SENY) includes Zones G to J.

2. Derates: 50 MW for Hydro, 1000 MW for thermal units.

3. 90th / 99th Percentile Capacity includes an additional 154 MW / 241 MW of derates for thermal units operating in extreme temperatures.

4. Load forecasts include addition of PJM RECO load.

5. SCR Derates: 239 MW.

Zone J, NYC: Summer Transmission Security - Base Case

Line	Item	2024 Baseline Forecast	2024 90th Percentile Forecast	2024 99th Percentile Forecast
1a	Available Generation Capacity Resources	8,432	8,432	8,432
1b	Net ICAP External Imports	315	315	315
1c	Transmission Capability from Sprainbrook to Dunwoodie (N-1-1)	2,875	2,875	2,875
1d	Transmission Capability, Long Island to NYC	300	300	300
1e	Transmission Capability, A/B/C	0	0	0
1	Total Capability	11,922	11,922	11,922
2	Assumed Unavailable Capacity (Gen.)^{1,2}	-652	-762	-831
3 = (1+2)	Total Capability	11,270	11,159	11,090
4	Load Forecast in Zone J	10,922	11,285	11,736
5 = (3-4)	Capacity Margin w/o SCR	348	-126	-646
6	Effective SCR J ³	233	233	233
7 = (5+6)	Capacity Margin w/ SCR	580	107	-413

1. Derates: 652 MW for thermal units.

2. 90th / 99th Percentile Capacity includes an additional 110 MW / 179 MW of derates for thermal units operating in extreme temperatures.

3. SCR Derates: 210 MW.

Zone K, Long Island: Summer Transmission Security - Base Case

Line	Item	2024 Baseline Forecast	2024 90th Percentile Forecast	2024 99th Percentile Forecast
1a	Available Generation Capacity Resources	6,223	6,223	6,223
1b	Transmission Capability on Y49/Y50/901/903 (N-1-1)	275	275	275
1c	Transmission Capability, Neptune	660	660	660
1d	Transmission Capability, Cross Sound Cable	0	0	0
1	Total Capability	7,158	7,158	7,158
2	Assumed Unavailable Capacity (Gen.)^{1,2}	-585	-696	-743
3 = (1+2)	Total Capability	6,573	6,462	6,416
4	Load Forecast in Zone K	4,963	5,358	5,671
5 = (3-4)	Capacity Margin w/o SCR	1,610	1,104	745
6	Effective SCR K³	25	25	25
7 = (5+6)	Capacity Margin w/ SCR	1,635	1,128	769

1. Derates: 367 MW for thermal units.

2. 90th / 99th Percentile Capacity includes an additional 111 MW / 158 MW of derates for thermal units operating in extreme temperatures.

3. SCR Derates: 16 MW.

2024 Emergency Operating Procedures

Procedure	Effect	2024 MW Value
Emergency Demand Response Programs	Load Impact	13
Voltage Reductions	Load Impact	611
Voluntary Industrial Curtailment	Load Impact	267
General Public Appeals	Load Impact	74
Emergency Purchases	Additional Resources	1,000
Thirty Minute Reserves to Zero	Allow Operating Reserve to Decrease to Largest Single Contingency	1,310
Total Emergency Operating Procedures		3,275

Note: The procedures listed above are not an exhaustive list of operator actions available to avoid load shed.

Summer 2024 Operational Preparedness

- **Weekly fuel surveys indicate oil and dual fuel capability generation have sufficient start-of-summer oil inventories.**
- **ISO Operations coordination of transmission and generation maintenance outages helps mitigate the reliability impact of such outages during hot weather periods.**

Generation Additions

Station Name	Nameplate MW
South Fork Wind	96
South Fork Wind II	40
East Point Solar	50
High River Solar	90
Riverhead Expansion (Solar)	36
Clear View Solar	20
Dolan Solar	20
CS Hawthorn	20
Hills Solar	20
KCE NY 6	20
Darby Solar	20
Stillwater Solar	20
Total Additions	452

*Includes new capacity since Summer 2023 and nameplate capacity of resources expected in before July 1.

Generation Deactivations*

Station Name	Nameplate MW
South Cairo	- 22
Ravenswood 01	-19
Western NY Wind Power	- 7
Arthur Kill Cogen	-11
Total Deactivations	- 59

*Generation deactivations include capacity changes since Summer 2023

Transmission Operations

Equipment	Voltage (kV)	Status
Hudson-Farragut B3402	345	Out-of-Service
Marion-Farragut C3403	345	Out-of-Service
Sprainbrook/Dunwoodie Series Reactors	345	In-Service
Marcy South Series Capacitors	345	In-Service
Knickerbocker Series Capacitors	345	Out-of-Service
Lovett Station (new)	345	In-Service
Chases Lake-Porter 11	230	Out-of-Service with recall
Willis-Ryan WRY-2	230	Out-of-Service with recall
Ryan-Plattsburgh RYP-2	230	Out-of-Service with recall
Moses-Willis MW2	230	Out-of-Service with recall

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