

# Summer 2021 Capacity Assessment

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# Highlights

- This summer capacity assessment utilizes a “deterministic approach” for approximating capacity margins and operating reserves for baseline and extreme weather conditions.
  - The assessment utilizes a set of projected derates based on five-year EForD averages
- **At baseline peak weather conditions:**
  - +1,344 MW of capacity margin surplus, a decrease of 377 MW over the baseline 2020 forecast. This is the projected capacity margin above the baseline peak load plus 2,620 MW of operating reserves.
- **At extreme weather conditions: (90<sup>th</sup> percentile forecast):**
  - -860 MW of capacity margin surplus, a decrease of 666 MW compared to the 2020 extreme weather forecast. This is the projected capacity margin below the 90<sup>th</sup> percentile load plus 2,620 MW of operating reserves.
  - This does not account for Emergency Operating Procedures which may provide up to 3,258 MW of relief.

## 2020 & 2021 Summer Capacity Assessment & Comparison

Line	Item	2020		2021	
		Baseline Forecast	90th Percentile Forecast	Baseline Forecast	90th Percentile Forecast
1a	Summer Generation Capacity <sup>1,2</sup>	38,475	38,475	37,785	37,575
1b	SCR - ICAP Values	1,282	1,282	1,195	1,195
1c	Net Purchases & Sales	1,562	1,562	2,087	2,087
<b>1</b>	<b>Total Capacity Resources</b>	<b>41,319</b>	<b>41,319</b>	<b>41,066</b>	<b>40,856</b>
2	Assumed Unavailable Capacity (Gen + SCR) <sup>3</sup>	-4,682	-4,682	-4,775	-4,775
<b>3 = 1 + 2</b>	<b>Net Capacity Resources</b>	<b>36,637</b>	<b>36,637</b>	<b>36,291</b>	<b>36,081</b>
4	Peak Load Forecast	32,296	34,211	32,327	34,321
5	Operating Reserve Requirement	2,620	2,620	2,620	2,620
<b>6 = 4+5</b>	<b>Total Capacity Requirement</b>	<b>34,916</b>	<b>36,831</b>	<b>34,947</b>	<b>36,941</b>
<b>7 = 3 - 6</b>	<b>Capacity Margin<sup>4</sup></b>	<b>1,721</b>	<b>-194</b>	<b>1,344</b>	<b>-860</b>

1. Reflects the 2021 Gold Book existing capacity plus projected additions and deactivations during the summer of 2021 as well as known forced outages
2. 90<sup>th</sup> Percentile Capacity includes an additional 210 MW of derates for thermal units operating in extreme temperatures
3. Derates: 1,672 MW for wind, 503 MW for Hydro, 2,172 MW for thermal units, 39 MW for other renewables and 373 MW for SCRs
4. It is expected that there may be up to an additional 3,258 MW available under Emergency Operating Procedures

## Southeastern New York<sup>1</sup>: Summer Transmission Security - Base Case

Line	Item	2021 Baseline Forecast	2021 90th Percentile Forecast
<b>1a</b>	<b>Available Generation Capacity Resources<sup>2,3</sup></b>	14,110	14,015
<b>1b</b>	<b>Net ICAP External Imports</b>	315	315
<b>1c</b>	<b>Transmission Capability from UPNY to SENY (N-1-1)</b>	3,180	3,180
<b>1d</b>	<b>Transmission Capability, Long Island to SENY</b>	50	50
<b>1</b>	<b>Total Capability</b>	<b>17,655</b>	<b>17,560</b>
<b>2</b>	<b>Projected Capacity Outages</b>	<b>0</b>	<b>0</b>
<b>3 = (1-2)</b>	<b>Total Capability</b>	<b>17,655</b>	<b>17,560</b>
<b>4</b>	<b>Load Forecast in Zones G to J</b>	15,365	16,106
<b>5 = (3-4)</b>	<b>Capacity Margin w/o SCR</b>	<b>2,290</b>	<b>1,455</b>
<b>6</b>	<b>SCR GHIJ</b>	<b>529</b>	<b>529</b>
<b>7 = (5+6)</b>	<b>Capacity Margin w/ SCR</b>	<b>2,819</b>	<b>1,984</b>

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

2 - All generation capability less known forced outages. Historically, thermal generator derates in SENY have totaled 1,093 MW

3 - 90<sup>th</sup> Percentile Capacity includes an additional 95 MW of derates for thermal units operating in extreme temperatures



## Zone J, NYC: Summer Transmission Security - Base Case

Line	Item	2021 Baseline Forecast	2021 90th Percentile Forecast
1a	Available Generation Capacity Resources <sup>1,2</sup>	9,268	9,198
1b	Net ICAP External Imports	315	315
1c	Transmission Capability from Sprainbrook to Dunwoodie (N-1-1)	2,800	2,800
1d	Transmission Capability, Long Island to NYC	300	300
1e	Transmission Capability, A/B/C	0	0
<b>1</b>	<b>Total Capability</b>	<b>12,683</b>	<b>12,613</b>
<b>2</b>	<b>Projected Capacity Outages</b>	<b>0</b>	<b>0</b>
<b>3 = (1-2)</b>	<b>Total Capability</b>	<b>12,683</b>	<b>12,613</b>
<b>4</b>	<b>Load Forecast in Zone J</b>	<b>11,047</b>	<b>11,505</b>
<b>5 = (3-4)</b>	<b>Capacity Margin w/o SCR</b>	<b>1,636</b>	<b>1,108</b>
<b>6</b>	<b>SCR J</b>	<b>427</b>	<b>427</b>
<b>7 = (5+6)</b>	<b>Capacity Margin w/ SCR</b>	<b>2,063</b>	<b>1,535</b>

1 - All generation capability less known forced outages. Historically, thermal generator derates in Zone J have totaled 703 MW.

2 - 90<sup>th</sup> Percentile Capacity includes an additional 70 MW of derates for thermal units operating in extreme temperatures.

## 2021 Emergency Operating Procedures

Procedure	Effect	2020 MW Value
Emergency Demand Response Programs	Load Impact	4
Voltage Reductions	Load Impact	605
Voluntary Industrial Curtailment	Load Impact	259
General Public Appeals	Load Impact	80
Emergency Purchases	Additional Resources	1,000
Thirty Minute Reserves to Zero	Allow Operating Reserve to Decrease to Largest Single Contingency	1,310
<b>Total Emergency Operating Procedures</b>		<b>3,258</b>

\*Note: The Emergency Operating Procedures above do not reflect an exhaustive list of operator actions available to avoid load shed.

# Generation Deactivations

Station Name	Nameplate MW
Indian Point 3	1012
West Babylon 4 (behind-the-meter)	52
Glenwood GT1 (behind-the-meter)	16
<b>TOTAL</b>	<b>1,080</b>

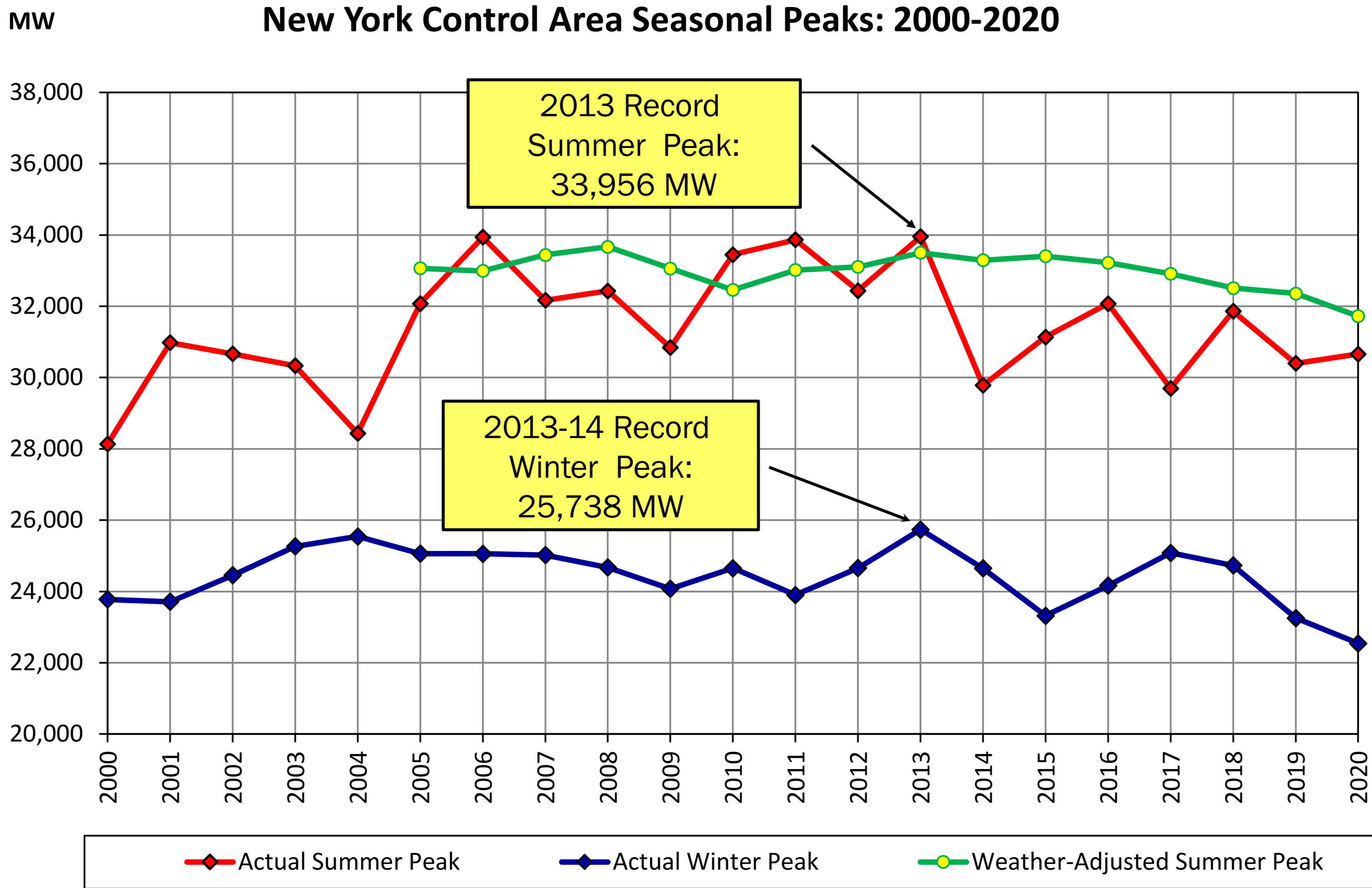
# Generation Additions

Station Name	Nameplate MW
Cassadaga Wind	126
Roaring Brook Wind	79.7
<b>Total (expected in-service by 6/1)</b>	<b>205.7</b>



# Transmission Operations

Equipment	Voltage (kV)	Status
Hudson-Farragut B3402	345	Out-of-Service
Marion-Farragut C3403	345	Out-of-Service
St. Lawrence-Moses L33 PAR	230	Out-of-Service
Warren-Falconer 171	115	Operated Normally Open
Sprain Brook/Dunwoodie Series Reactors	345	Bypassed
Marcy South Series Capacitors	345	In-Service
Moses-Adirondack MA-1 or MA-2	230	Out-of-Service for rebuild with ability to recall
Porter-Rotterdam PR-31	230	Out-of-Service for Segment A project with ability to recall

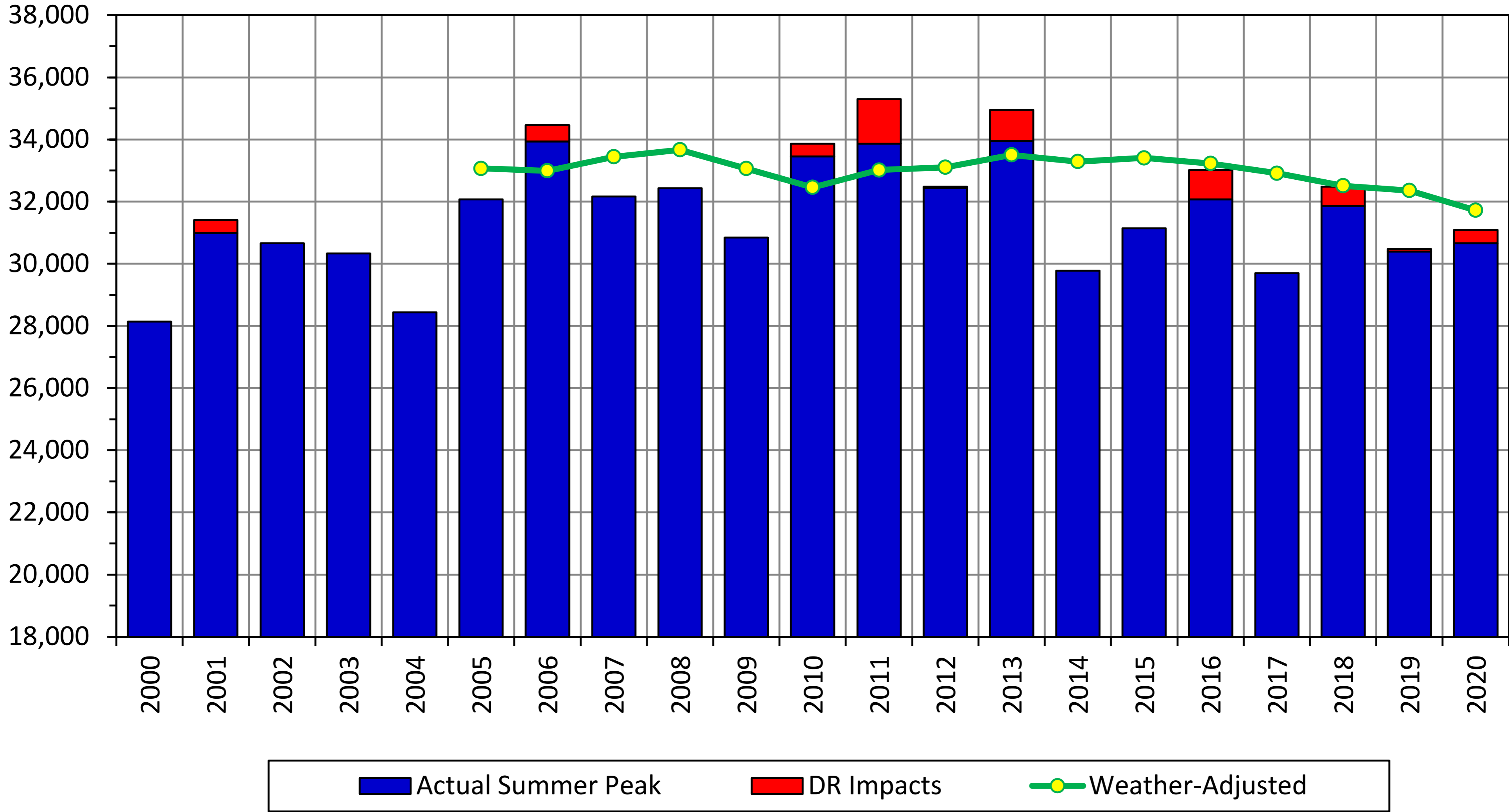


NOTE: Winter dates reflect the first year of the winter season (*i.e.*, 2013-2014).

## New York Control Area Summer Peaks: 2000-2020

Including Impacts of Demand Response

MW





# The Mission of the New York Independent System Operator is to:

- Serve the public interest and
- Provide benefit to stakeholders 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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