Summer 2019 Capacity Assessment

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Bolton Landing, NY

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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.**
  - NERC Standard TOP-002-2.1b — Normal Operations Planning, Requirement 7: Each Balancing Authority shall plan and secure sufficient day ahead capacity to secure for the single largest contingency
  - The assessment utilizes a set of projected derates based on five-year EForD averages
- **At <u>baseline peak weather conditions:</u>**
  - +2,227 MW of capacity margin surplus, an increase of 628 MW over the baseline 2018 forecast. This is the projected capacity margin above the baseline peak load plus 2,620 MW of operating reserves.
- **At <u>extreme weather conditions:</u> (90th percentile forecast):**
  - +423 MW of capacity margin surplus, an increase of 664 MW compared to the 2018 extreme weather forecast. This is the projected capacity margin above the 90th percentile load plus 2,620 MW of operating reserves.

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2018 & 2019 Summer Capacity Assessment & Comparison

Line	Item	2018 Baseline Forecast	2018 90th Percentile Forecast	2019 Baseline Forecast	2019 90th Percentile Forecast
1a	Summer Generation Capacity[1]	39,325	39,325	39,295	39,295
1b	SCR - ICAP Values	1,219	1,219	1,309	1,309
1c	Net Purchases & Sales	1,625	1,625	1,452	1,452
1	**Total Capacity Resources**	**42,169**	**42,169**	**42,056**	**42,056**
2	Assumed Unavailable Capacity (Gen + SCR)[2]	-5,046	-5,046	-4,827	-4,827
3 = 1 + 2	**Net Capacity Resources**	**37,123**	**37,123**	**37,229**	**37,229**
4	Peak Load Forecast	32,904	34,744	32,382	34,186
5	Operating Reserve Requirement	2,620	2,620	2,620	2,620
6 = 4+5	**Total Capacity Requirement**	**35,524**	**37,364**	**35,002**	**36,806**
7 = 3 - 6	**Capacity Margin[3]**	**1,599**	**-241**	**2,227**	**423**

1. Reflects the 2019 Gold Book existing capacity plus projected additions and deactivations during the summer of 2019 as well as known forced outages
2. Derates: 1,442 MW for wind, 491 MW for Hydro, 2,433 MW for thermal units, 55 MW for other renewables and 406 MW for SCRs
3. It is expected that there may be up to 3,124 MW available under Emergency Operating Procedures.

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Southeastern New York[1]: Summer Transmission Security - Base Case

Line	Item	2019 Baseline Forecast	2019 90th Percentile Forecast
1a	Available Generation Capacity Resources[2]	14,912	14,912
1b	Net ICAP External Imports	315	315
1c	Transmission Capability from UPNY to SENY (N-1-1)	3,180	3,180
1d	Transmission Capability, Long Island to SENY	50	50
1	**Total Capability**	**18,457**	**18,457**
2	Projected Capacity Outages[3]	0	0
3 = (1-2)	**Total Capability**	**18,457**	**18,457**
4	Load Forecast in Zones G to J	15,811	16,415
5 = (3-4)	**Capacity Margin w/o SCR**	**2,646**	**2,042**
6	SCR GHIJ	606	606
7 = (5+6)	**Capacity Margin w/ SCR**	**3,252**	**2,648**

1 - Southeast Region (SENY) includes Zones G to J
2 - All generation capability less known forced outages
3 - Historically, thermal generator derates in SENY have totaled 1,213 MW

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Zone J, NYC: Summer Transmission Security - Base Case

Line	Item	2019 Baseline Forecast	2019 90th Percentile Forecast
1a	Available Generation Capacity Resources[1]	9,209	9,209
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	100	100
1	**Total Capability**	**12,724**	**12,724**
2	Projected Capacity Outages[2]	**0**	**0**
3 = (1-2)	**Total Capability**	**12,724**	**12,724**
4	Load Forecast in Zone J	11,496	11,860
5 = (3-4)	**Capacity Margin w/o SCR**	**1,228**	**864**
6	SCR J	**494**	**494**
7 = (5+6)	**Capacity Margin w/ SCR**	**1,722**	**1,358**

1 - All generation capability less known forced outages
2 - Historically, thermal generator derates in Zone J have totaled 737 MW

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2019 Emergency Operating Procedures

Procedure	Effect	2019 MW Value
Emergency Demand Response Programs	Load Impact	1
Voltage Reductions	Load Impact	568
Voluntary Industrial Curtailment	Load Impact	165
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
Total Emergency Operating Procedures		**3,124**

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

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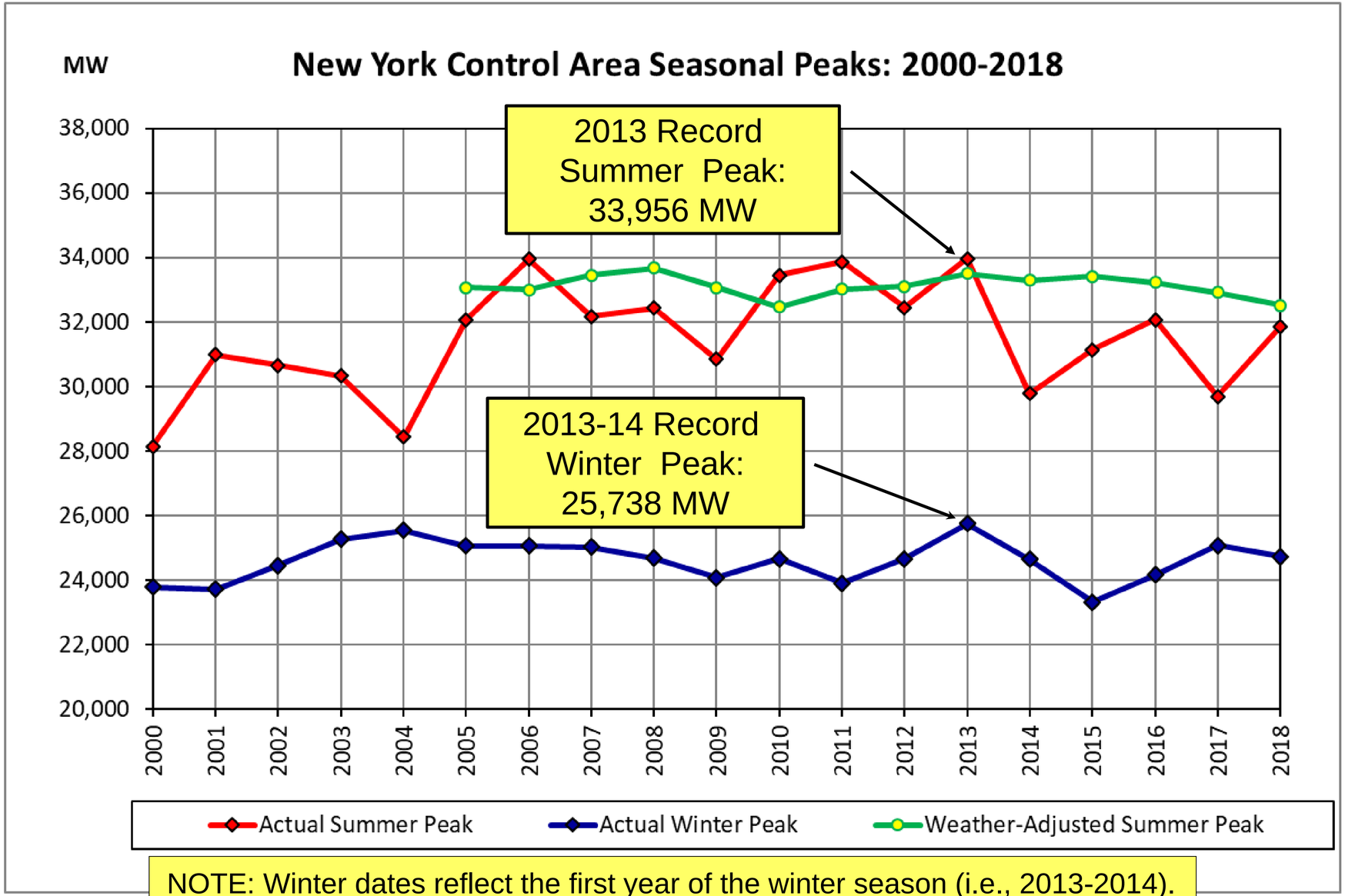

NOTE: Winter dates reflect the first year of the winter season (i.e., 2013-2014).

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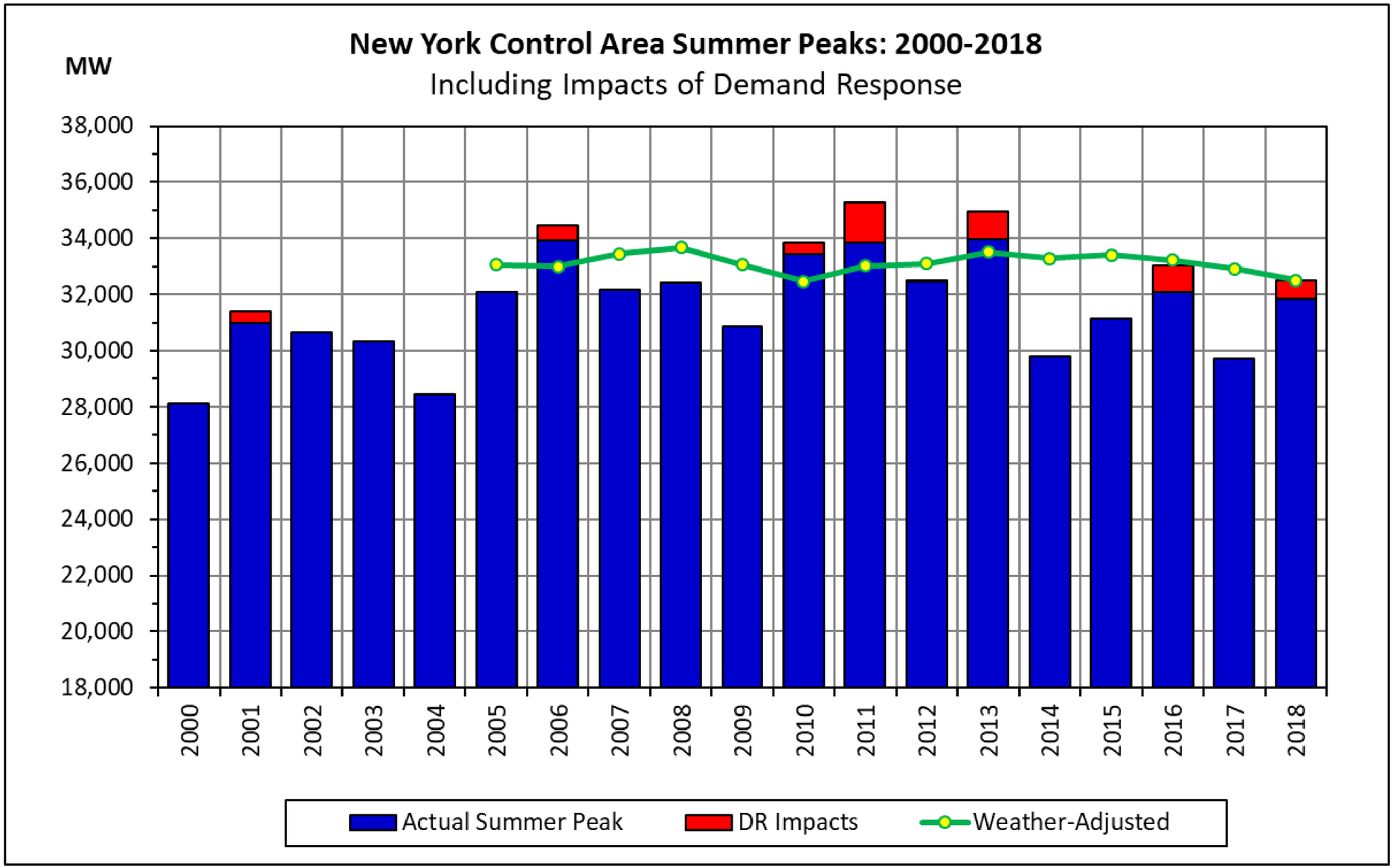

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