

# Summer 2017 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.**
  - 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 baseline peak weather conditions:**
  - +386 MW of capacity margin surplus, a decline of 746 MW over the baseline 2016 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):**
  - -1,924 MW of capacity margin shortfall, a decline of 733 MW compared to the 2016 extreme weather forecast. This is the projected shortfall for the 90<sup>th</sup> percentile load plus 2,620 MW of operating reserves.

## 2016 & 2017 Summer Capacity Assessment & Comparison

| Line             | Item  | 2016                   |                               | 2017                   |                               |
|------------------|---|------------------------|-------------------------------|------------------------|-------------------------------|
|                  |   | 2016 Baseline Forecast | 2016 90th Percentile Forecast | 2017 Baseline Forecast | 2017 90th Percentile Forecast |
| 1a               | Summer Generation Capacity <sup>1</sup>               | 38,534                 | 38,534                        | 37,609                 | 37,609                        |
| 1b               | SCR - ICAP Values                                     | 1,248                  | 1,248                         | 1,191                  | 1,191                         |
| 1c               | Net Purchases & Sales                                 | 2,092                  | 2,092                         | 2,213                  | 2,213                         |
| <b>1</b>         | <b>Total Capacity Resources</b>                       | <b>41,874</b>          | <b>41,874</b>                 | <b>41,013</b>          | <b>41,013</b>                 |
| 2                | Assumed Unavailable Capacity (Gen + SCR) <sup>2</sup> | -4,762                 | -4,762                        | -4,829                 | -4,829                        |
| <b>3 = 1 + 2</b> | <b>Net Capacity Resources</b>                         | <b>37,112</b>          | <b>37,112</b>                 | <b>36,184</b>          | <b>36,184</b>                 |
| 4                | Peak Load Forecast                                    | 33,360                 | 35,683                        | 33,178                 | 35,488                        |
| 5                | Operating Reserve Requirement                         | 2,620                  | 2,620                         | 2,620                  | 2,620                         |
| <b>6 = 4+5</b>   | <b>Total Capacity Requirement</b>                     | <b>35,980</b>          | <b>38,303</b>                 | <b>35,798</b>          | <b>38,108</b>                 |
| <b>7 = 3 - 6</b> | <b>Capacity Margin<sup>3</sup></b>                    | <b>1,132</b>           | <b>-1,191</b>                 | <b>386</b>             | <b>-1,924</b>                 |

1. Reflects the 2017 Gold Book existing capacity less projected deactivations during the summer of 2017 and known forced outages
2. Derates: 1,418 MW for wind, 561 MW for Hydro, 2,444 MW for thermal units, 56 MW for other renewables and 350 MW for SCRs
3. While the assessment shows a deficiency of 1,924 MW for the 90<sup>th</sup> percentile load forecast, no involuntary load curtailment is forecast to occur because it is expected that there may be up to 3,083 MW available under Emergency Operating Procedures.

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

| Line             | Item   | 2017<br>Baseline<br>Forecast | 2017 90th<br>Percentile<br>Forecast |
|------------------|--|------------------------------|-------------------------------------|
| 1a               | Available Generation Capacity Resources <sup>2</sup> | 13,236                       | 13,236                              |
| 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                                  |
| <b>1</b>         | <b>Total Capability</b>                              | <b>16,781</b>                | <b>16,781</b>                       |
| 2                | Projected Capacity Outages                           | 0                            | 0                                   |
| <b>3 = (1-2)</b> | <b>Total Capability</b>                              | <b>16,781</b>                | <b>16,781</b>                       |
| 4                | Load Forecast in Zones G to J                        | 16,055                       | 16,991                              |
| <b>5 = (3-4)</b> | <b>Capacity Margin w/o SCR</b>                       | <b>726</b>                   | <b>-210</b>                         |
| 6                | SCR GHIJ   | 458                          | 458                                 |
| <b>7 = (5+6)</b> | <b>Capacity Margin w/ SCR</b>                        | <b>1,184</b>                 | <b>248</b>                          |

1 - Southeast Region includes Zones G to J

2 - All generation capability less known forced outages



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

| Line             | Item  | 2017<br>Baseline<br>Forecast | 2017 90th<br>Percentile<br>Forecast |
|------------------|---|------------------------------|-------------------------------------|
| 1a               | Available Generation Capacity Resources <sup>1</sup>          | 8,140                        | 8,140                               |
| 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                                | 400                          | 400                                 |
| <b>1</b>         | <b>Total Capability</b>                                       | <b>11,955</b>                | <b>11,955</b>                       |
| 2                | Projected Capacity Outages                                    | 0                            | 0                                   |
| <b>3 = (1-2)</b> | <b>Total Capability</b>                                       | <b>11,955</b>                | <b>11,955</b>                       |
| 4                | Load Forecast in Zone J                                       | 11,575                       | 12,064                              |
| <b>5 = (3-4)</b> | <b>Capacity Margin w/o SCR</b>                                | <b>380</b>                   | <b>-109</b>                         |
| 6                | SCR J   | 372                          | 372                                 |
| <b>7 = (5+6)</b> | <b>Capacity Margin w/ SCR</b>                                 | <b>752</b>                   | <b>263</b>                          |

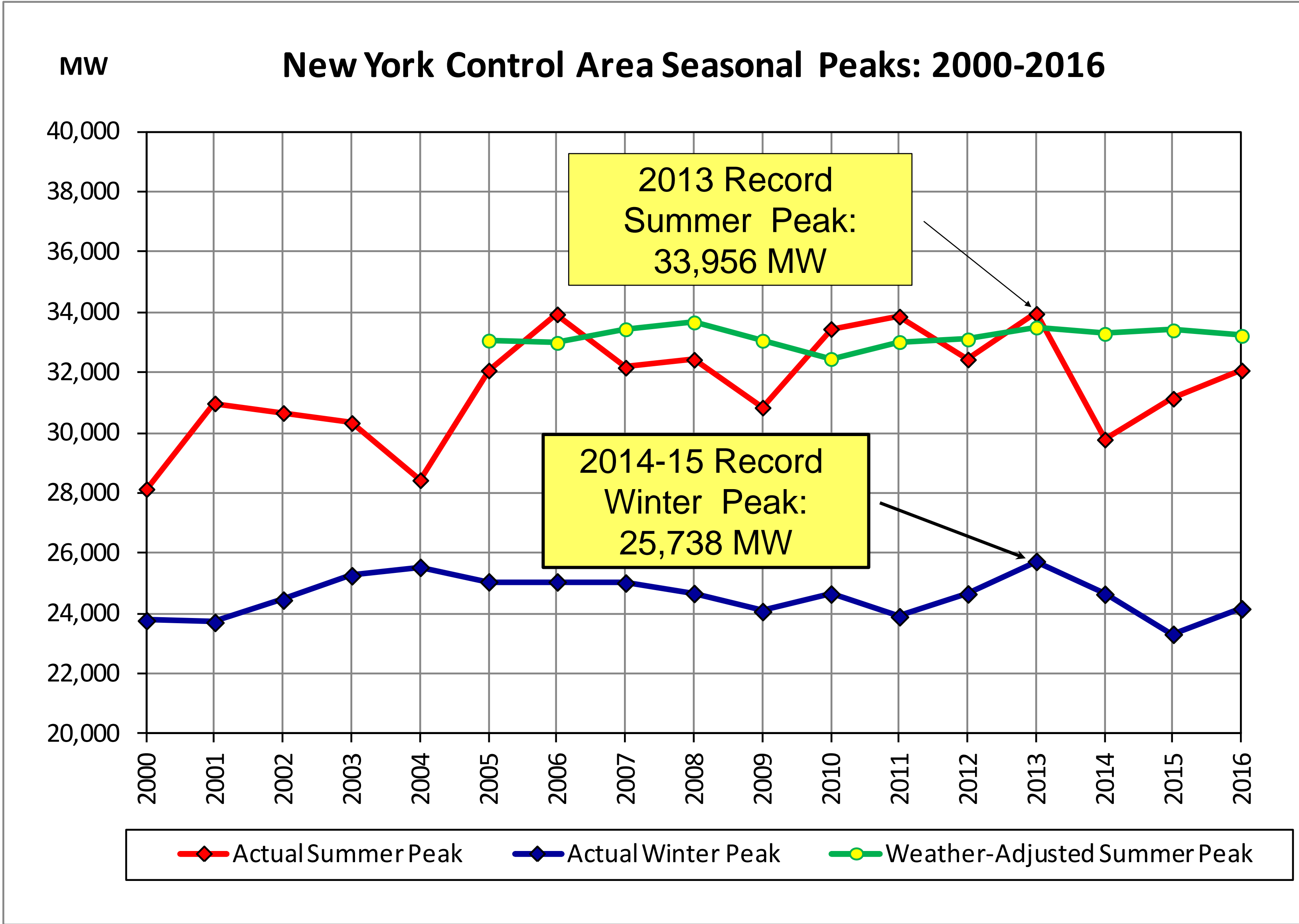
1 - All generation capability less known forced outages

## 2017 Emergency Operating Procedures

| Procedure                                   | Effect  | 2017 MW Value |
|---|---|---------------|
| Emergency Demand Response Programs          | Load Impact   | 13            |
| Voltage Reductions                          | Load Impact   | 547           |
| Voluntary Industrial Curtailment            | Load Impact   | 125           |
| General Public Appeals                      | Load Impact   | 88            |
| 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>3,083</b>  |

# NYISO Summer Preparedness

- **Review summer operating conditions with NY Transmission Owners**
  - Transmission maintenance is scheduled and coordinated during this spring time period
  - NYISO has worked with the NY utilities to understand the terms, conditions, and projected responses of the utility demand response programs.
- **Review summer operating conditions with the adjacent operating areas**
  - Adjacent operating areas are projecting ability to serve load throughout summer and heat wave conditions assuming expected performance of generation and transmission infrastructure
- **NYISO Market Mitigation & Analysis Department has completed many generation site visits to review preventative maintenance work, fuel capability, and summer operating preparedness.**
  - 26 Stations including 77 units & 13,000 MWs



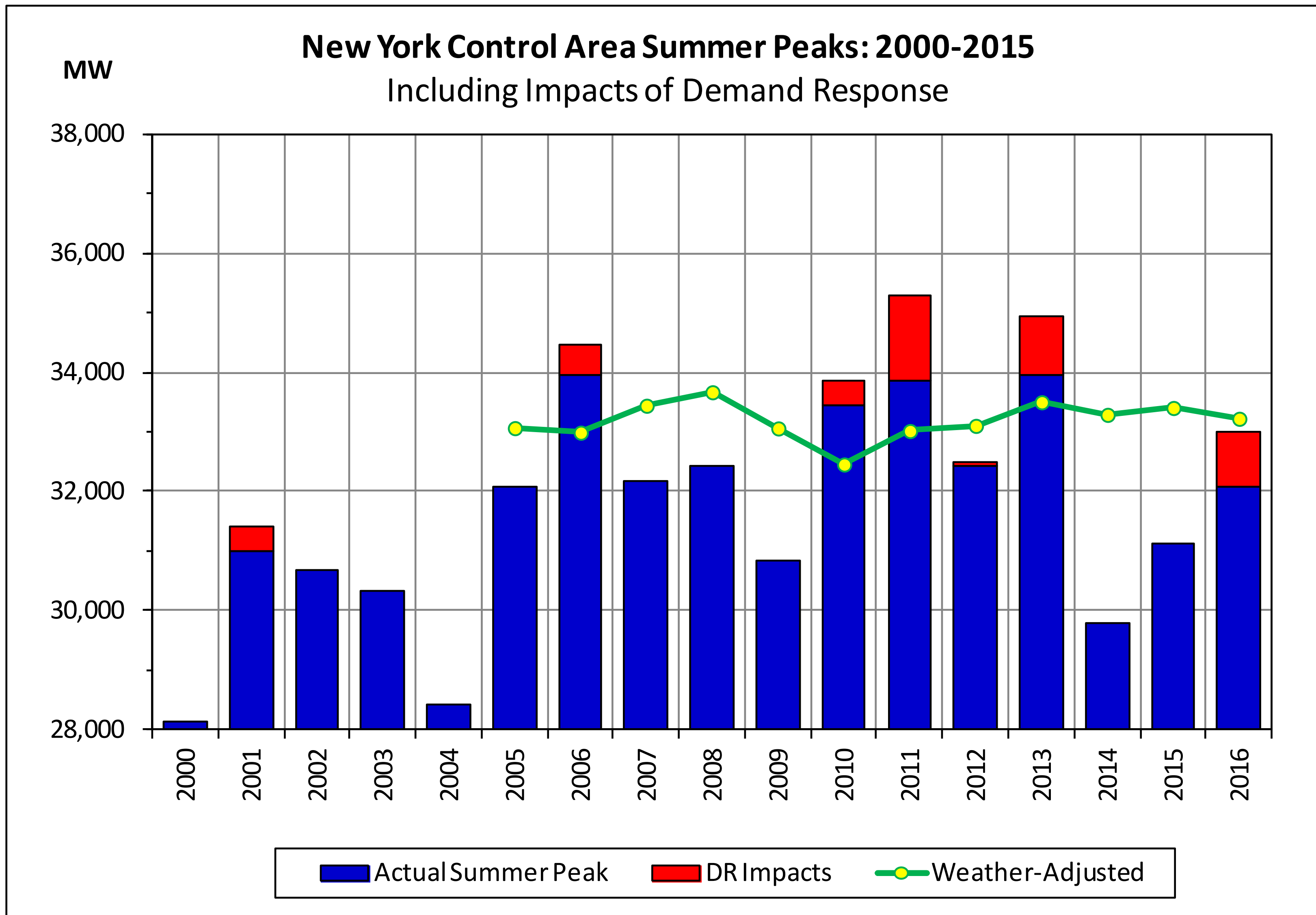
**NOTE: Winter dates reflect the first year of the winter season (i.e., 2013-2014).**



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