



# **Summer 2016 Capacity Assessment**

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**NYISO Operating Committee Meeting**

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# Highlights

- **This summer capacity assessment utilizes a “deterministic approach” for the 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:**
  - *+ 1,132 MW of capacity margin surplus, a decrease of 525 MW over the baseline 2015 forecast. This is the margin above the baseline load plus 2,620 MW of operating reserves.*
- **At extreme weather conditions: (90<sup>th</sup> percentile forecast):**
  - *-1,191 MW of capacity margin shortfall, a decrease of 553 MW compared to the 2015 extreme weather forecast. This is the shortfall below the 90<sup>th</sup> percentile load plus 2,620 MW of operating reserves.*

## 2015 & 2016 Summer Capacity Assessment & Comparison

| Line             | Item  | 2015                   |                               | 2016                   |                               |
|------------------|---|------------------------|-------------------------------|------------------------|-------------------------------|
|                  |   | 2015 Baseline Forecast | 2015 90th Percentile Forecast | 2016 Baseline Forecast | 2016 90th Percentile Forecast |
| 1a               | Summer Generation Capability <sup>1</sup>                   | 39,039                 | 39,039                        | 38,534                 | 38,534                        |
| 1b               | SCR - ICAP Values   | 1,124                  | 1,124                         | 1,248                  | 1,248                         |
| 1c               | Net Purchases & Sales                                       | 1,987                  | 1,987                         | 2,092                  | 2,092                         |
| <b>1</b>         | <b>Total Capacity Resources</b>                             | <b>42,150</b>          | <b>42,150</b>                 | <b>41,874</b>          | <b>41,874</b>                 |
| <b>2</b>         | <b>Assumed Unavailable Capacity (Gen + SCR)<sup>2</sup></b> | <b>-4,961</b>          | <b>-4,961</b>                 | <b>-4,762</b>          | <b>-4,762</b>                 |
| <b>3 = 1 + 2</b> | <b>Net Capacity Resources</b>                               | <b>37,189</b>          | <b>37,189</b>                 | <b>37,112</b>          | <b>37,112</b>                 |
| <b>4</b>         | <b>Peak Load Forecast</b>                                   | <b>33,567</b>          | <b>35,862</b>                 | <b>33,360</b>          | <b>35,683</b>                 |
| <b>5</b>         | <b>Operating Reserve Requirement</b>                        | <b>1,965</b>           | <b>1,965</b>                  | <b>2,620</b>           | <b>2,620</b>                  |
| <b>6 = 4+5</b>   | <b>Total Capacity Requirement</b>                           | <b>35,532</b>          | <b>37,827</b>                 | <b>35,980</b>          | <b>38,303</b>                 |
| <b>7 = 3 - 6</b> | <b>Capacity Margin<sup>3</sup></b>                          | <b>1,657</b>           | <b>-638</b>                   | <b>1,132</b>           | <b>-1,191</b>                 |

1. Reflects the 2016 Gold Book existing capability less 41 MW of deactivations during the summer of 2016.
2. Derates: 1,012 MW for wind, 545 MW for Hydro, 2,710 MW for thermal units, 63 MW for other renewables, and 432 MW for SCRs.
3. While the assessment shows a deficiency of 1,191 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 3,045 MW available under Emergency Operating Procedures.

## Southeastern New York: Summer Transmission Security - Base Case

| Line               | Item  | 2016 Baseline Forecast | 2016 90th Percentile Forecast |
|--------------------|---|------------------------|-------------------------------|
| 1a                 | Available Generation Capacity Resources           | 14,091                 | 14,091                        |
| 1b                 | Net ICAP External Imports                         | 375                    | 375                           |
| 1c                 | Transmission Capability from UPNY to SENY (N-1-1) | 3,180                  | 3,180                         |
| 1d                 | Transmission Capability, Long Island to NYC       | 233                    | 179                           |
| <b>1</b>           | <b>Total Capability</b>                           | <b>17,879</b>          | <b>17,825</b>                 |
| 2                  | Projected Capacity Outages                        | 0                      | 0                             |
| <b>3 = (1-2)</b>   | <b>Total Capability</b>                           | <b>17,879</b>          | <b>17,825</b>                 |
| 4                  | Load Forecast in Zones G to J                     | 16,277                 | 17,229                        |
| <b>6 = (3-4-5)</b> | <b>Capacity Margin</b>                            | <b>1,602</b>           | <b>596</b>                    |

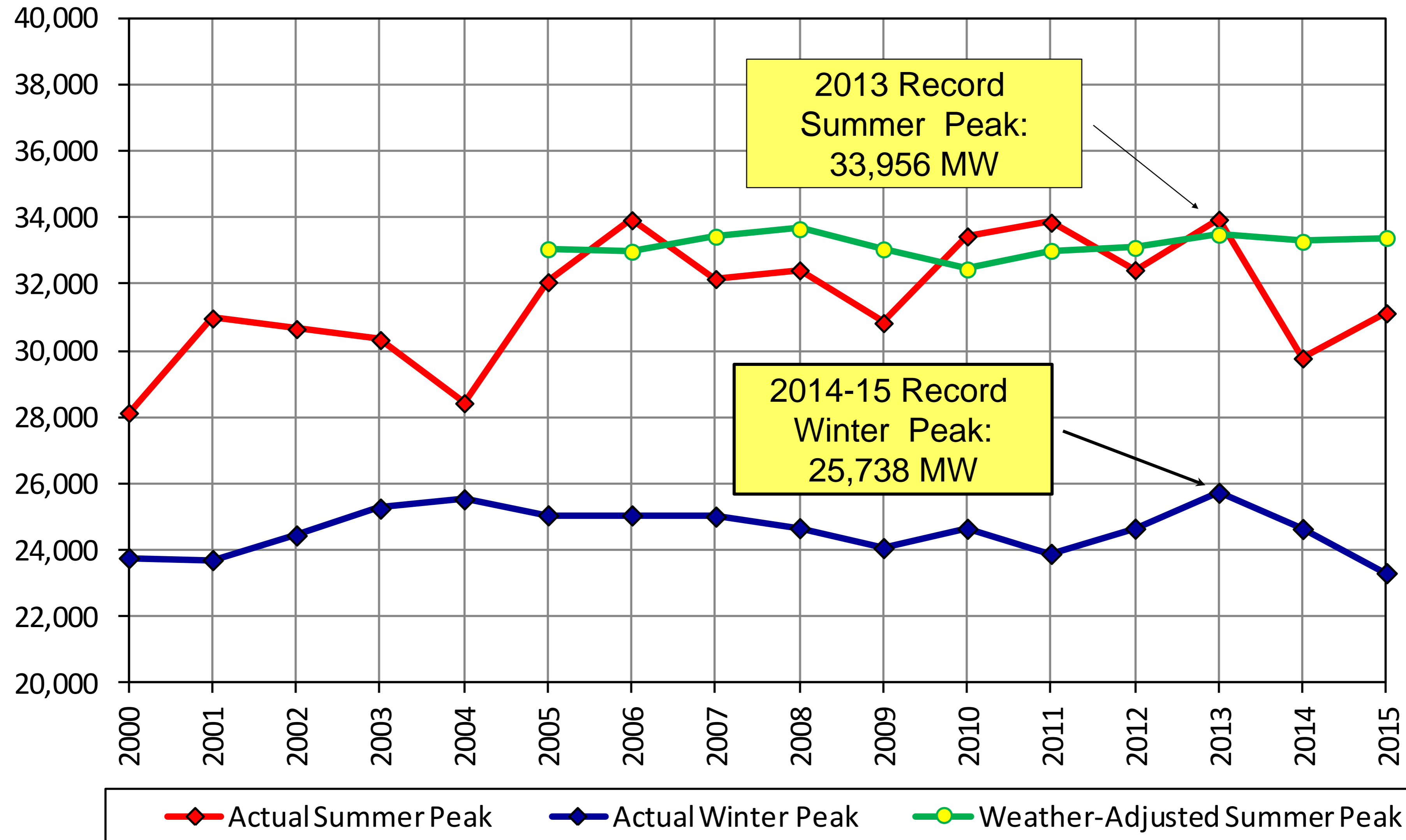
Southeast Region includes Zones G to J

# 2016 Emergency Operating Procedures

| Procedure                                   | Effect   | 2016 MW Value |
|---|--|---------------|
| Emergency Demand Response Programs          | Load Impact  | 14            |
| Voltage Reductions                          | Load Impact  | 517           |
| Voluntary Industrial Curtailment            | Load Impact  | 116           |
| General Public Appeals                      | Load Impact  | 88            |
| Emergency Purchases                         | No Load Impact   | 1,000         |
| Thirty Minute Reserves to Zero              | Allow Operating Reserve to decrease to largest Contingency | 1,310         |
| <b>Total Emergency Operating Procedures</b> |  | <b>3,045</b>  |

MW

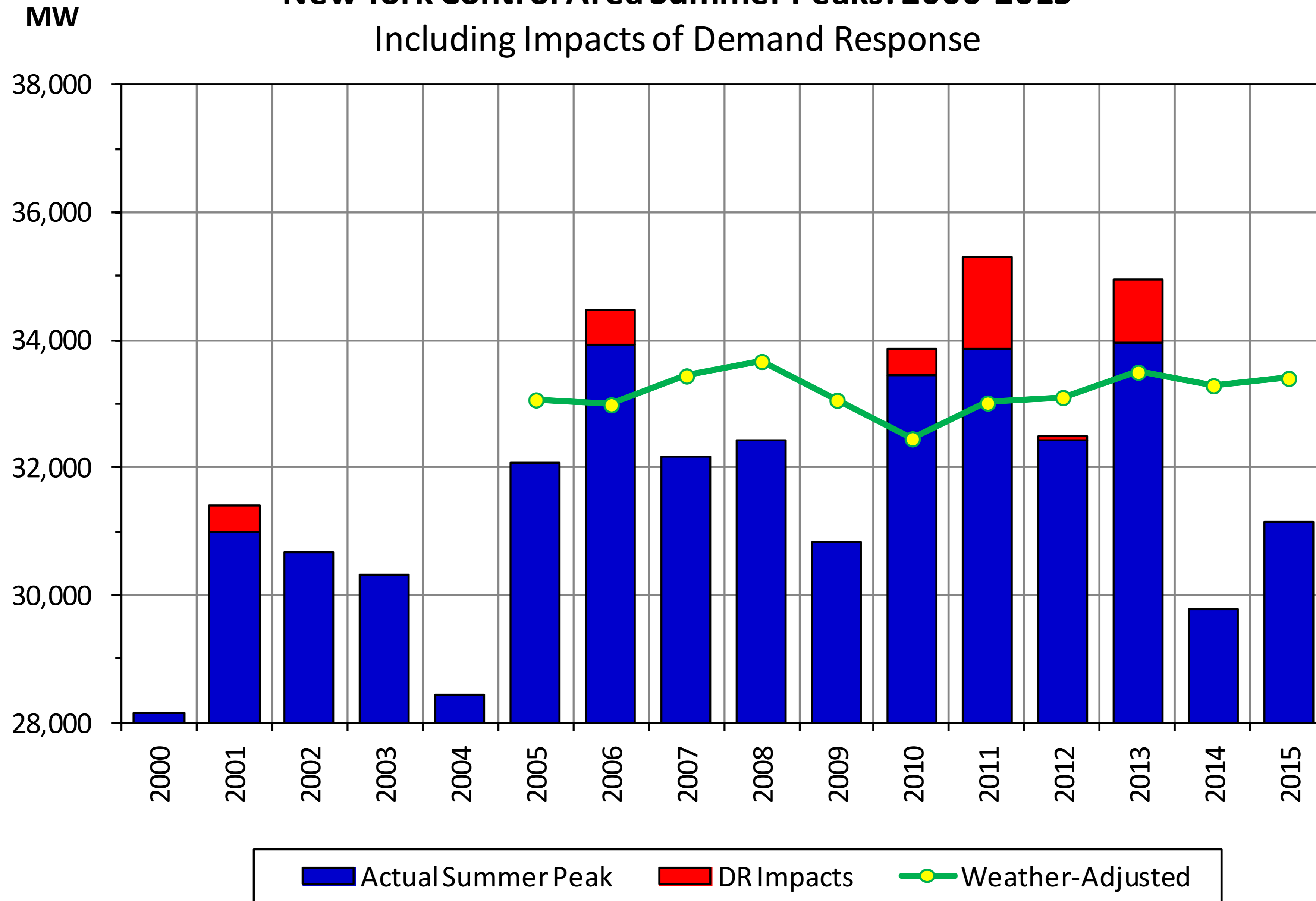
# New York Control Area Seasonal Peaks: 2000-2015



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

# New York Control Area Summer Peaks: 2000-2015

## Including Impacts of Demand Response



**The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers 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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