



# Winter 2020-21 Capacity Assessment Winter Preparedness

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# Overview

- **Winter 2020-21 Capacity Assessment**
  - Deterministic Margin Analysis
  - Capacity & Infrastructure Updates
- **Winter 2020-21 Preparedness**
  - Gas-Electric Coordination
  - Situational Awareness

# 2020-21 Winter Capacity Assessment

- For projected baseline forecast peak conditions and expected performance of the transmission system, generation, and pipeline infrastructure the NYISO expects to meet reliability criteria throughout Winter 2020-21

## NYISO Base-Case Analysis

- 9,638 MW Projected capacity margin for 50-50 peak winter conditions
- 8,309 MW Projected capacity margin for 90-10 peak winter conditions

## NYISO Natural Gas Supply Limitations Scenarios

- 3,118 MW Projected capacity margin for 90-10 peak winter conditions and retaining only units with firm gas supplies

## 2019-20 & 2020-21 Winter Capacity Assessment & Comparison

Line	Item	2019-20		2020-21	
		Baseline Forecast	90th Percentile Forecast	Baseline Forecast	90th Percentile Forecast
1a	Winter Generation Capacity <sup>1</sup>	41,815	41,815	40,943	40,943
1b	SCR - ICAP Values	853	853	839	839
1c	Net Purchases & Sales	678	678	496	496
<b>1</b>	<b>Total Capacity Resources</b>	<b>43,346</b>	<b>43,346</b>	<b>42,277</b>	<b>42,277</b>
<b>2</b>	<b>Assumed Unavailable Capacity (Gen + SCR)</b>	<b>-5,703</b>	<b>-5,703</b>	<b>-5,889</b>	<b>-5,889</b>
<b>3 = 1 + 2</b>	<b>Net Capacity Resources</b>	<b>37,643</b>	<b>37,643</b>	<b>36,388</b>	<b>36,388</b>
<b>4</b>	<b>Peak Load Forecast</b>	<b>24,123</b>	<b>25,724</b>	<b>24,130</b>	<b>25,459</b>
<b>5</b>	<b>Operating Reserve Requirement</b>	<b>2,620</b>	<b>2,620</b>	<b>2,620</b>	<b>2,620</b>
<b>6 = 4+5</b>	<b>Total Capacity Requirement</b>	<b>26,743</b>	<b>28,344</b>	<b>26,750</b>	<b>28,079</b>
<b>7 = 3 - 6</b>	<b>Capacity Margin</b>	<b>10,900</b>	<b>9,299</b>	<b>9,638</b>	<b>8,309</b>

1. Reflects the 2020 Gold Book existing capacity with projected and actual deactivations and additions during 2020-21
2. Derates: 1,263 MW for wind, 383 MW for Hydro, 2,646 MW for thermal units, 67 MW for other renewables and 277 MW for SCRs

### During last year's December 19, 2019 Winter Peak Load:

- Actual peak load was 23,253 MW. Weather-adjusted peak was 24,123 MW
- The all-time winter peak was 25,738 MW, set on January 7, 2014

### 2020-21 Winter Capacity Assessment - Loss of Gas

Line	Item	Baseline Forecast	90th Percentile Forecast
1a	Installed Capacity Resources	40,943	40,943
1b	SCR - ICAP Values	839	839
1c	Net ICAP External Imports	496	496
<b>1</b>	<b>NYCA Resource Capability</b>	<b>42,277</b>	<b>42,277</b>
2	Total Projected Capacity Outages	-5,889	-5,889
<b>3 = (1-2)</b>	<b>Net Installed Capacity Resources</b>	<b>36,388</b>	<b>36,388</b>
4	Load Forecast	24,130	25,459
5	Operating Reserve Requirement	2,620	2,620
<b>6 = (3-4-5)</b>	<b>Capacity Margin</b>	<b>9,638</b>	<b>8,309</b>
7a	Subtract All Gas Only Units	8,243	8,243
<b>7 = (6-7a)</b>	<b>Capacity Margin, Loss of Gas</b>	<b>1,395</b>	<b>66</b>
8a	Add Back Units with Firm Gas Contracts	3,052	3,052
<b>8 = (7-8a)</b>	<b>Expected Capacity, Loss of Gas Case</b>	<b>4,447</b>	<b>3,118</b>

# Capacity & Infrastructure Updates

- **Generation (Nameplate Changes Relative to Last Year)**
  - + 1,177 MW Cricket Valley Energy Center
  - + 126 MW Cassadaga Wind
  - - 1,299 MW Indian Point 2
  - - 655 MW Somerset
  - - 52 MW West Babylon 4
  - - 169 MW DMNC adjustments

# Capacity & Infrastructure Updates (Cont.)

## Transmission (Continuing Forced Outages)

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	Bypassed
Moses-Adirondack MA-1 or MA-2	230	Out-of-Service for rebuild, 48 hour recall
Newbridge Road Transformer	345	Out-of-Service, Neptune at 50% capacity through 12/31

# Winter 2020-21 Preparedness

- Seasonal generator fuel surveys indicate oil-burning units have sufficient start-of-winter oil inventories along with arrangements for replacement fuel
- The NYISO has coordinated with many generating stations (remote vs. on-site this year due to COVID-19) to discuss past winter operations and preparations for upcoming winter, including:
  - Generation testing
  - Cold-weather preventative maintenance
  - Fuel capabilities, and
  - Fuel switching capabilities
- Existing Minimum Oil Burn procedures defined by the New York State Reliability Council (NYSRC) establish fuel switching requirements at certain cold weather thresholds to secure electric reliability for NYC LDC gas pipeline contingencies
- NYISO coordination of all requests for transmission and generator outages to alleviate potential impact on power system reliability



# Winter 2020-21 Preparedness (Cont.)

- Participated in various Winter Preparation efforts with NERC, State agencies (DPS, NYSERDA), other ISOs/RTOs, and gas industry personnel (INGAA, NGSA, NGA, pipelines, and LDCs)
- 96% of the 2020 GFER Annual Survey respondents indicated Winter Preparation Procedures including Freeze Protection measures are in place for the upcoming winter
- Multiple respondents indicated Annual Operator Awareness Training would be implemented prior to this winter

# Gas-Electric Coordination

- **A communications protocol is in place with NY state agencies to improve the speed and efficiency of generator requests to state agencies for emissions waivers if needed for reliability**
  - Protocol was leveraged in January 2018 and proved effective in facilitating communications between parties
- **An emergency communication protocol is in place to communicate electric reliability concerns to pipelines and gas LDCs during tight electric operating conditions**
  - Cooperative process with interstate pipelines and LDCs for providing OFO information to the NYISO
- **FERC Order No. 787**
  - The NYISO has modified its code of conduct per the Order to accommodate pipeline requests for reliability information

# Situational Awareness

- **Control Room gas-electric support**
- **Video boards**
  - Northeast interstate pipeline system is displayed
  - Operational Flow Orders are displayed with readily detectable visualization techniques
- **A web-based, fuel survey “portal” provides generator fuel information to the operators**
  - Updated weekly by generators
  - Updated daily during cold weather conditions upon request

## Our mission, in collaboration with our 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 policymakers, stakeholders and investors in the power system



# Questions?