New York ISO
Independent System Operator

Attachment #7.3.3
Return to Agenda

Winter 2026-2027 Assessment & Winter Preparedness

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Vice President, Operations

Executive Committee (EC)

November 13, 2026

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Agenda

- Key Observations
- Winter 2026-2027 Capacity Assessment
- Winter 2026-2027 Preparedness
- Infrastructure Updates
- Appendix A: Regional and Local Fuel Inventories & Fuel Prices
- Appendix B: Near Term Fuel and Energy Security Assessment
- Appendix C: Firm Fuel Elections for 2026-2027 capability year

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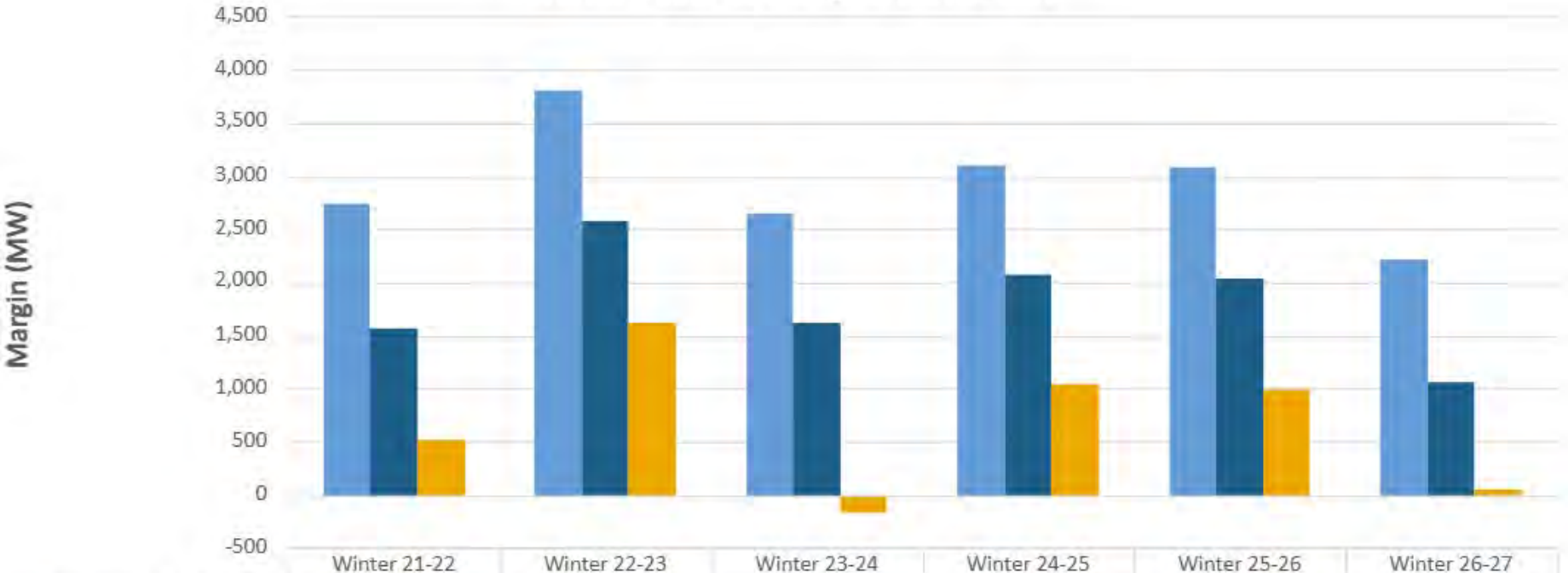
Key Observations - 2026-2027 Winter Assessment

- The NYISO anticipates sufficient winter capacity margins assuming all firm fuel generation is available under normal and extreme weather conditions
  - 2,224 MW - capacity margin for 50-50 peak forecast conditions
  - 1,067 MW - capacity margin for 90-10 peak forecast conditions
  - 57 MW - capacity margin for 99-1 peak forecast conditions
- Future reductions in winter capacity margins, disruptions in fuel supplies or other winter operational concerns may result in operational challenges during extreme cold weather events.
- Non-firm fuel generation capacity includes gas fired generation capacity without firm gas transportation contract arrangements. All other generation types are considered firm. Firm fuel and non-firm fuel references for this assessment do not relate to the implementation of "firm fuel" characteristics elections for capacity accreditation starting with 2026-2027 Capability Year (Refer Appendix C).

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Winter Capacity Margins (Firm Fuel)



	Winter 21-22	Winter 22-23	Winter 23-24	Winter 24-25	Winter 25-26	Winter 26-27
Baseline - Only Firm Fuel	2,730	3,812	2,641	3,094	3,074	2,224
90/10 - Only Firm Fuel	1,566	2,583	1,625	2,069	2,035	1,067
99/1 - Only Firm Fuel	525	1,619	-161	1,045	993	57

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2026-2027 Winter Capacity Assessment & Comparison

Line	Item	2025-2026	2026-2027		
		Baseline Forecast	Baseline Forecast	90th Percentile Forecast	99th Percentile Forecast
1a	Winter Generation Capacity[1]	40,080	40,209	40,209	40,209
1b	SCR - ICAP Values[2]	1,026	501	501	501
1c	DER Program Supply[2]	-	349	349	349
1d	Net Purchases & Sales	1,203	909	909	909
1	**Total Capacity Resources**	**42,309**	**41,968**	**41,968**	**41,968**
2	Assumed Unavailable Capacity (Gen + SCR + DER)[3]	-6,109	-6,832	-6,832	-6,832
3 = 1 + 2	**Net Capacity Resources**	**36,200**	**35,136**	**35,136**	**35,136**
4	Peak Load Forecast	24,200	24,620	25,777	26,787
5	Operating Reserve Requirement	2,620	2,620	2,620	2,620
6 = 4 + 5	**Total Capacity Requirement**	**26,820**	**27,240**	**28,397**	**29,407**
7 = 3 - 6	**Capacity Margin**	**9,380**	**7,896**	**6,739**	**5,729**

1. Reflects the 2026 Load & Capacity Data report (Gold Book) existing capacity plus projected and actual additions and deactivations during the 2026-2027 Capability Year
2. The total value of 1,026 MW from last winter's SCR program have transitioned into 501 MW in SCR and 349 MW enrollment in DER programs for 2026-2027 winter.
3. Derates: 2,000 MW for wind, 518 MW for hydro, 2,621 MW for thermal units, 1,411 MW for utility-scale or front-of-the meter (FTM) solar, 0 MW for energy storage, 233 MW for SCRs, and 49 MW for DERs.

- 2025-2026 actual winter peak load was 24,317 MW on Saturday, February 7, 2026, at hour beginning (HB) 18
- The all-time winter peak was 25,738 MW, set on Tuesday, January 7, 2014

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Winter Capacity Assessment – Firm Fuel Scenarios

Line	Item	2026-2027 Baseline Forecast	2026-2027 90th Percentile Forecast	2026-2027 99th Percentile Forecast
1a	Available Generation Capacity Resources	40,209	40,209	40,209
1b	SCR - ICAP Values	501	501	501
1c	DER Program Supply	349	349	349
1d	Net ICAP External Imports	909	909	909
1	**NYCA Resource Capability**	**41,968**	**41,968**	**41,968**
2	**Total Projected Capacity Outages**	**-6,832**	**-6,832**	**-6,832**
3 = 1 + 2	**Net Installed Capacity Resources**	**35,136**	**35,136**	**35,136**
4	**Load Forecast**	24,620	25,777	26,787
5	**Operating Reserve Requirement**	2,620	2,620	2,620
6 = 3 - 4 - 5	**Capacity Margin**	**7,896**	**6,739**	**5,729**
7a	**Subtract All Gas Only Units and Duct Burner Capabilities[1,2,3]**	**8,487**	**8,487**	**8,487**
7 = 6 - 7a	**Capacity Margin, Loss of Gas**	**-591**	**-1,748**	**-2,758**
8a	**Add Back Units with Firm Gas Contracts[4]**	**2,815**	**2,815**	**2,815**
8 = 7 + 8a	**Expected Capacity, Loss of Non-Firm Gas Case**	**2,224**	**1,067**	**57**

1. “Loss of Gas” values may change, values shown based upon preliminary results of 2026 GFER Annual Fuel and Emissions Survey
2. “Duct Burner” derates account for approximately 700 MW
3. There is approximately 700 MW of non firm gas capability in Load Zones A-E, and 4,300 MW is in Load Zones F-K
4. Values based on preliminary results of 2026 GFER Annual Fuel and Emissions Survey and operational experience.

The baseline, 90th percentile, and 99th percentile Winter NYCA Peak Day daily average temperatures are 14 °F, 6 °F, and -1 °F respectively. Based on the most recent reporting of minimum operable temperatures in the 2026 GFER Annual Survey, some firm generation could be unavailable at temperatures corresponding with high load forecasts:

- 90-10 daily average temperature: 1,450 MW, 90-10 daily minimum temperature: 2,236 MW
- 99-1 daily average temperature: 3,556 MW, 99-1 daily minimum temperature: 11,800 MW

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2026 Emergency Operating Procedures

Procedure	Effect	2026 MW Value
Emergency Demand Response Programs	Load Impact	**1**
Voltage Reductions	Load Impact	**574**
Voluntary Industrial Curtailment	Load Impact	**231**
General Public Appeals	Load Impact	**74**
Emergency Purchases	Additional Resources	**As Available**
Thirty Minute Reserves to Zero	Allow Operating Reserve to Decrease to Largest Single Contingency	**1,310**
Total Emergency Operating Procedures		**2,190**

Note: The procedures listed above are not an exhaustive list of operator actions available to avoid load shed.

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Winter 2026-2027 Operational Preparedness

- NYISO Operations is monitoring regional fuel supplies. U.S. Energy Information Administration (EIA) data indicates oil inventories both regionally and throughout the United States are below last year and historical averages.
- Seasonal and weekly fuel surveys indicate oil and dual fuel capable generation have fuel on order indicating sufficient start-of-winter oil inventories (but lower than past years' inventories). See figure in Appendix B titled "Total Weekly Oil Inventory in MWh"
- NYISO Operations has surveyed all ICAP suppliers to discuss past winter operations, preparations for the upcoming winter, including dual fuel operation, cold-weather preventative maintenance, fuel procurement arrangements, and fuel switching capabilities.
- NYISO Operations' coordination of transmission and generation maintenance outages helps mitigate the reliability impact of such outages during extreme cold weather periods.

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Winter 2026-2027 Operational Preparedness

- The NYISO has participated in various coordination efforts with NERC, state agencies (NYDPS, NYSERDA), other ISOs/RTOs, and the natural gas industry, including Interstate Natural Gas Association of America (INGAA), Natural Gas Supply Association (NGSA), Northeast Gas Association (NGA), NY gas pipelines and local distribution companies (LDCs)
- The NYISO led a review of load shedding processes/procedures and coordination of the gas-electric critical infrastructure survey with the New York Transmission Operator Working Group (TOPWG) and is defining processes to comply with changes to the EOP-011 Standard, which take effect April 1, 2027.
- Implemented rules to support Critical Electric System Infrastructure Load (CESIL) by excluding participation of CESIL in NYISO-administered demand response programs from NYISO Demand Response Programs.
- The NYISO continues to monitor and evaluate important events and ongoing industry actions in response to potential winter reliability concerns and factors such as the diverse fuel resource mix in NY, including dual fuel capability, and interconnections with neighboring control areas.

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Gas-Electric and Winter 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 multiple times in January and February 2026 and proved effective in facilitating communications between parties
- A coordinated process is in place to manage DOE Section 202(c) waiver request, notify state agencies, communicate with impacted generators, and provide broader stakeholder notification.
- An emergency communications protocol is in place for communicating electric reliability concerns to interstate pipelines and gas LDCs and obtaining OFO information during tight operating conditions
- FERC Order No. 787 – NYISO modified its Code of (ISO OATT Attachment F) to accommodate pipeline requests for reliability information
- Participation in NAESB Joint Wholesale Electric Quadrant (WEQ), Wholesale Gas Quadrant (WGQ), and Retail Markets Quadrant (RMQ) Business Practices Subcommittee meetings to effectuate improved communication and coordination protocols, particularly during critical periods of operation.

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Situational Awareness

- **Formation of Energy Security team in the Grid Transition department**
- **Control Room gas-electric support and Video boards**
  - Northeast interstate pipeline system is displayed
  - Operational Flow Orders are displayed with readily detectable visualization
  - Continuously enhancing weather displays to analyze impacts on NY generation and loads
  - Increased visibility into gas nomination, procurement, and notices via 3rd party data supplier
- **A web-based, fuel reporting platform provides weekly and ad-hoc, if needed by the NYISO during tight conditions, generator fuel survey information to the operators**
  - Communications Module functionality in place to follow-up on survey responses
- **Efforts such as Energy Assessments help identify and quantify risk further in advance of real time.**

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Other Winter Operational Challenges

- **Intra-day Gas Procurement**
  - Gas-only fired generating resources are likely to be unavailable for operation if not scheduled in the day-ahead energy market due to the difficulty in procuring intra-day gas.
- **Alternate Fuel Replenishment**
  - Generator burn rates of alternative fuels can exceed replenishment rates during extreme cold weather conditions, as witnessed during 2026 cold weather period of 1/23-2/9.
  - Weekly and Ad-hoc fuel surveys provided crucial fuel inventory information and fuel oil burn by generators, but the reported data did not provide a complete picture of fuel oil logistics with respect to fuel on order.
- **Emissions Limitations**
  - Use of alternate distillate fuels by oil or dual fuel capable generation may be further restricted by emission limits, exacerbating the need for coordination with NY state agencies and U.S. DOE.
- **Retail Gas LDC Priority**
  - Gas LDC retail gas demand has priority over electric power generation, further restricting gas-only fired generation.

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Generation Additions

Station Name	Nameplate MW
Arthur Kill Energy Storage	15
Excelsior Energy Center Solar	280
Alle Catt II Wind	339.1
Ticonderoga Solar	20
Watkins Rd Solar	20
KCE NY 10 Storage	20
Cider Solar	500
Valley Solar	20
Columbia County 1	60
Dog Corners Solar	20
Total Additions	**1,294.1**

*Includes new capacity since Winter 2025-2026 and nameplate capacity of resources currently anticipated to be in service before December 15, 2026.

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Generation Deactivations

Station Name	Nameplate MW
Coxsackie GT	-21.6
Gowanus 3-6	-20
Narrows 2-1	-22
Narrows 2-7	-22
Danskammer 1	-72
Danskammer 2	-73.5
Danskammer 3	-147.1
Danskammer 4	-239.4
Wheelabrator Hudson Falls	-14.4
Madison County LF	-1.6
Total Deactivations	**-633.6**

*Generation deactivations include capacity changes since Winter 2025-2026

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Transmission Operations

Equipment	Voltage (kV)	Status
Cross Sound Cable	150	Out of Service
Hudson – W49th St Y56	345	Out of Service
Hudson – Farragut (B3402) and PAR	345	Out of Service
Marion – Farragut (C3403) and PAR	345	Out of Service
Lime Lake Substation	345	In Service
Graham Substation	345	In Service

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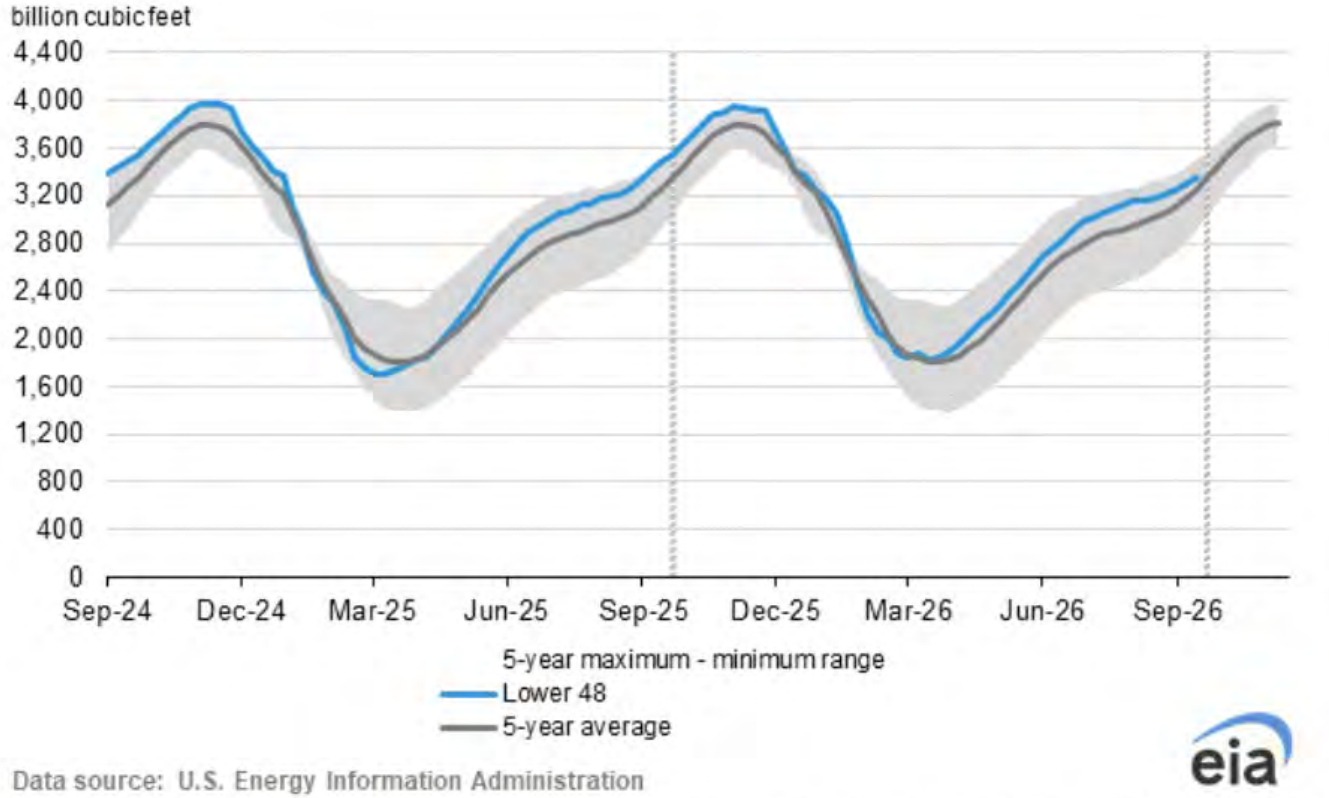
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Appendix A
Regional and Local Fuel Inventories

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Natural Gas Underground Storage Levels

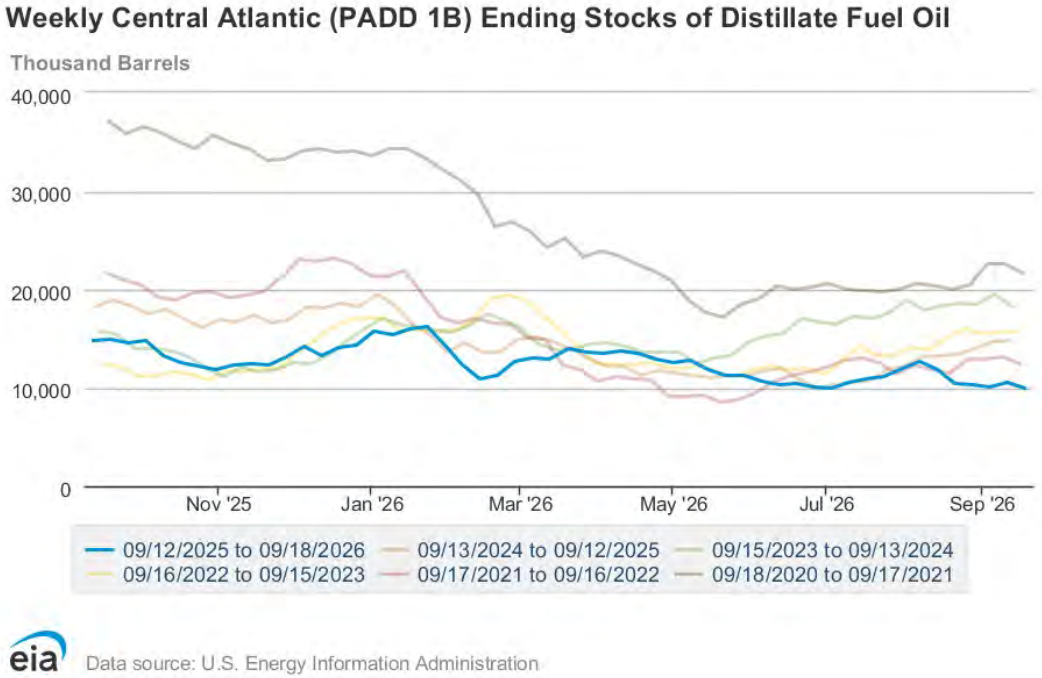


Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2021 through 2025. The dashed vertical lines indicate current and year-ago weekly periods.

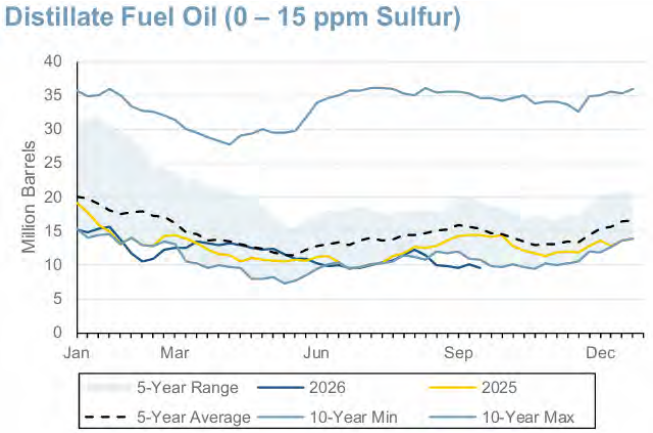
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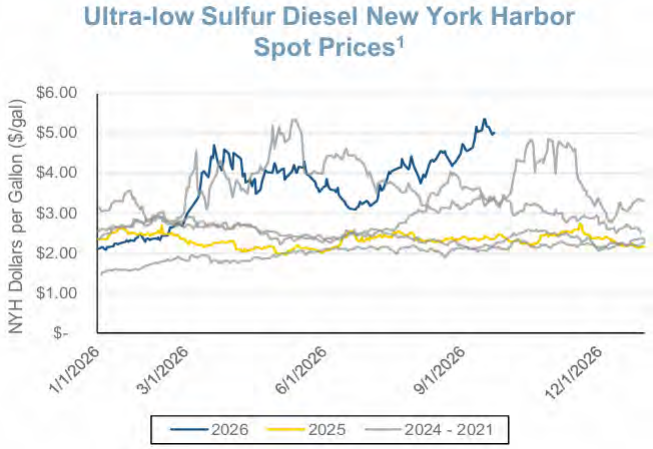
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Distillate Inventories



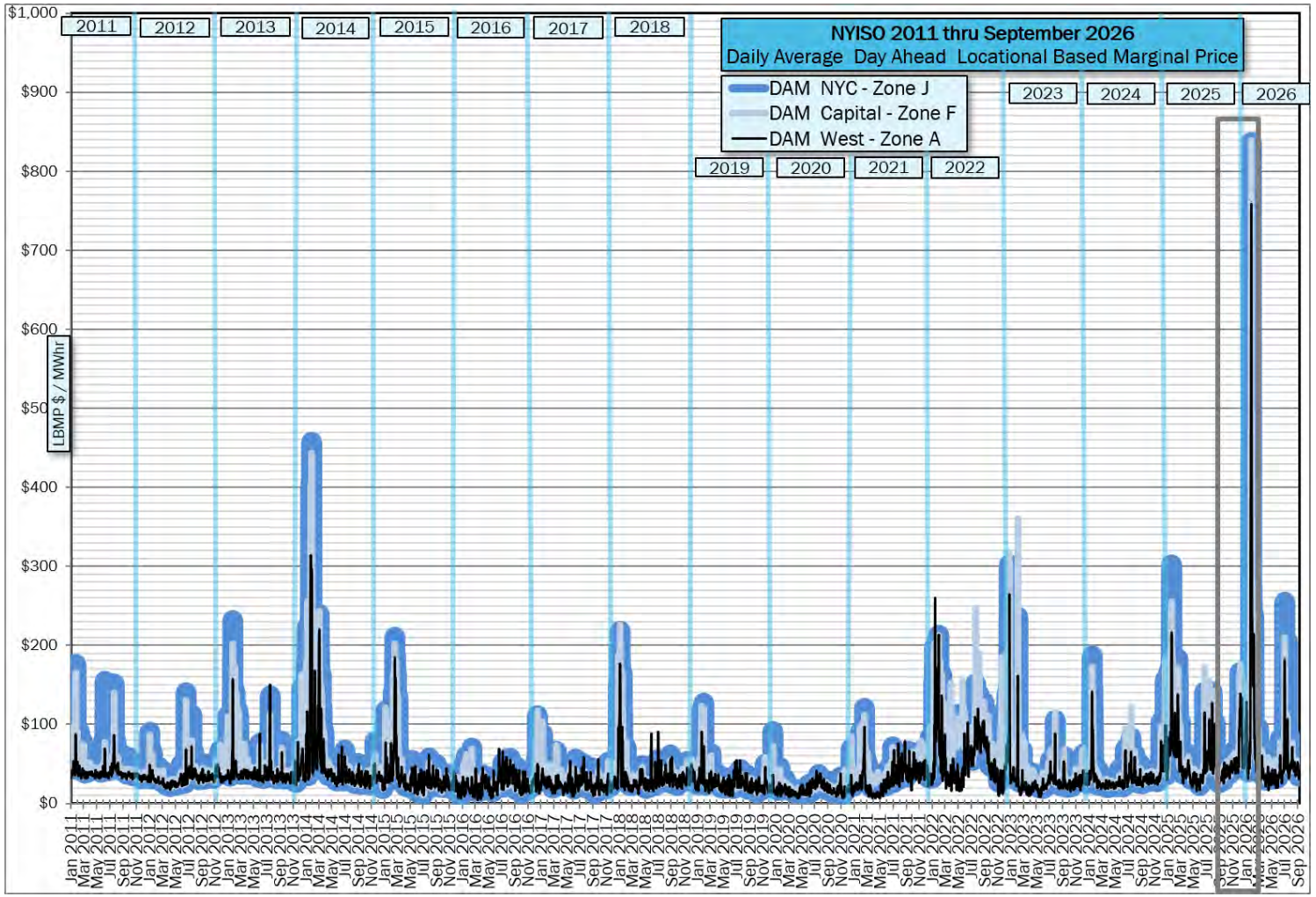
eia Data source: U.S. Energy Information Administration



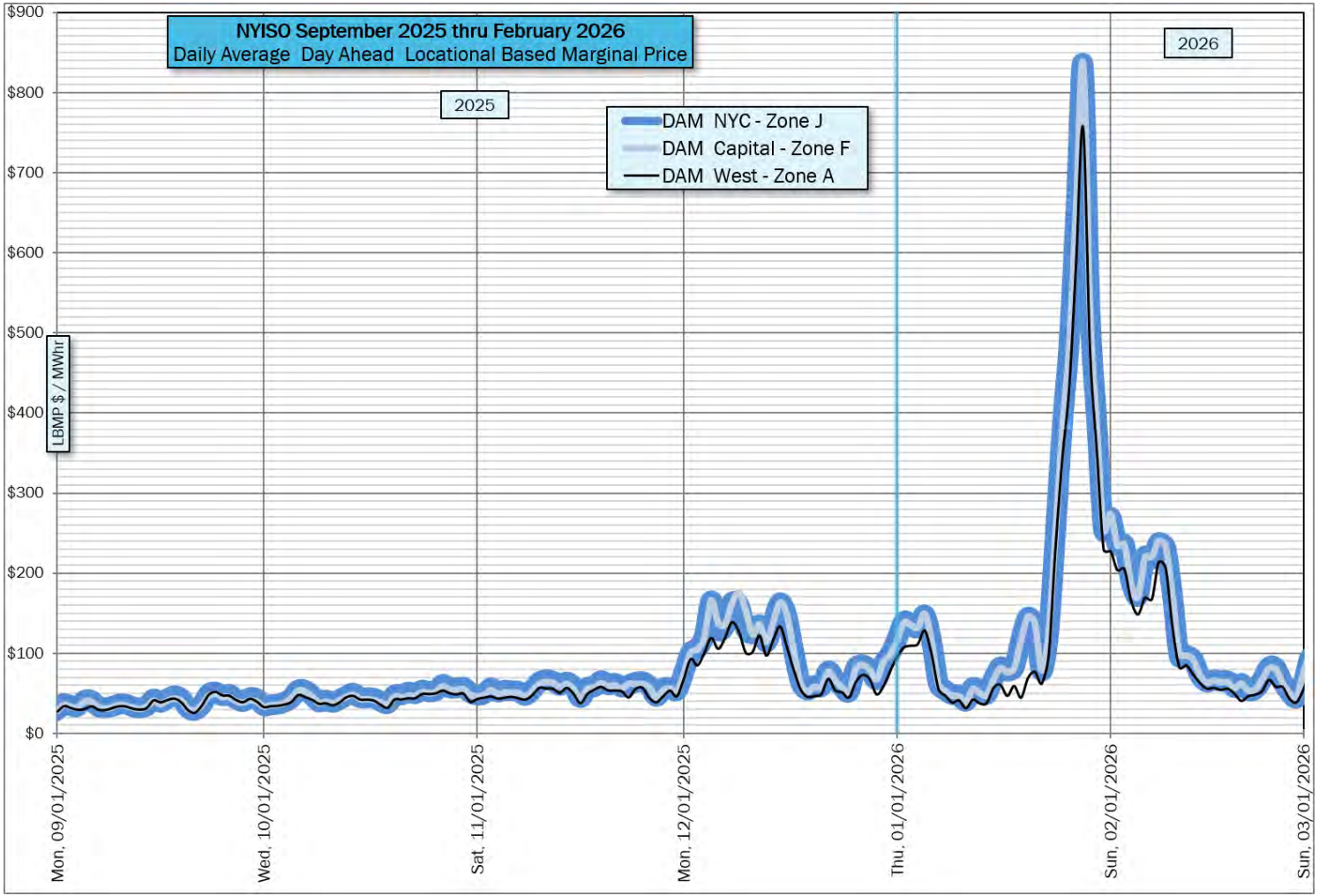


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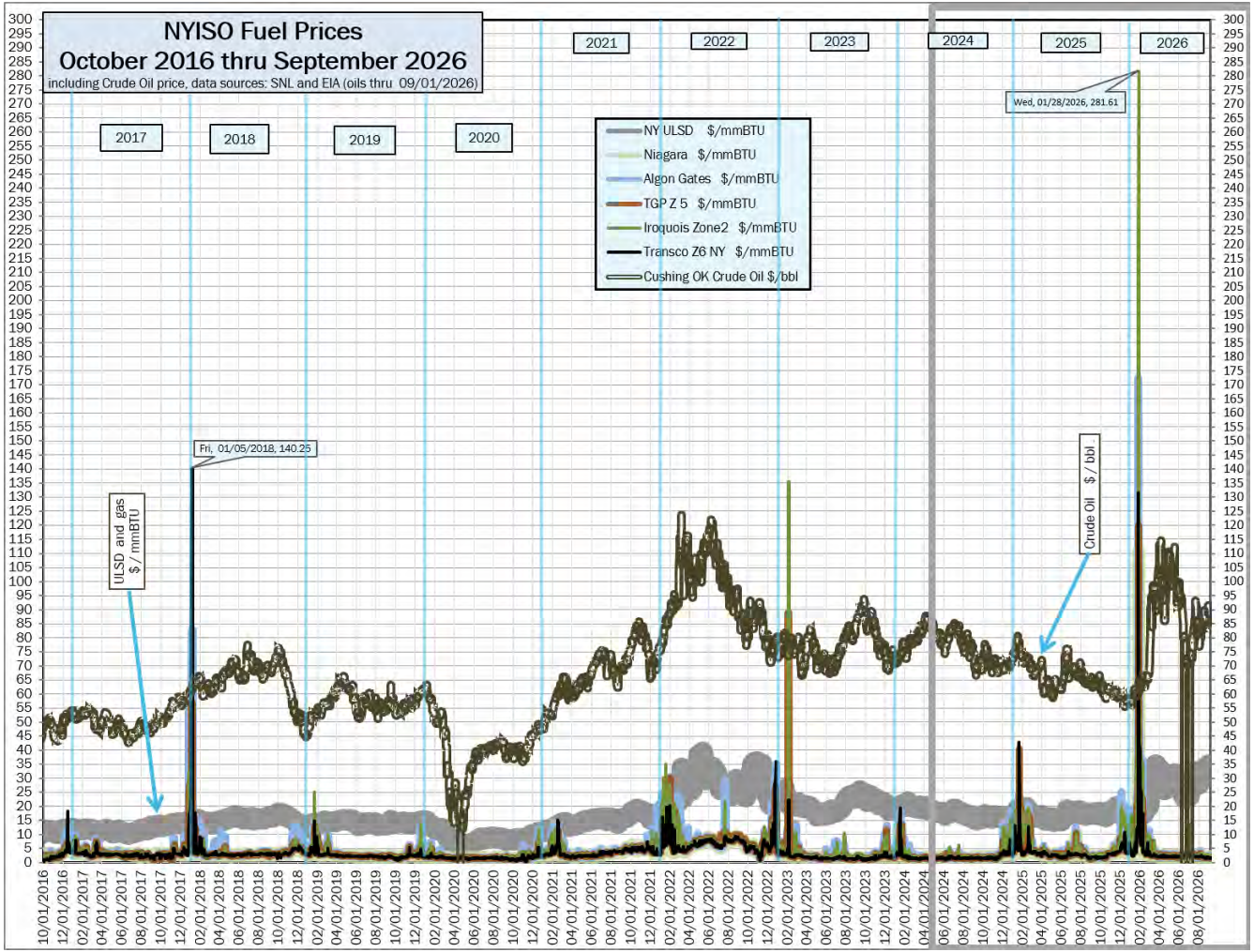
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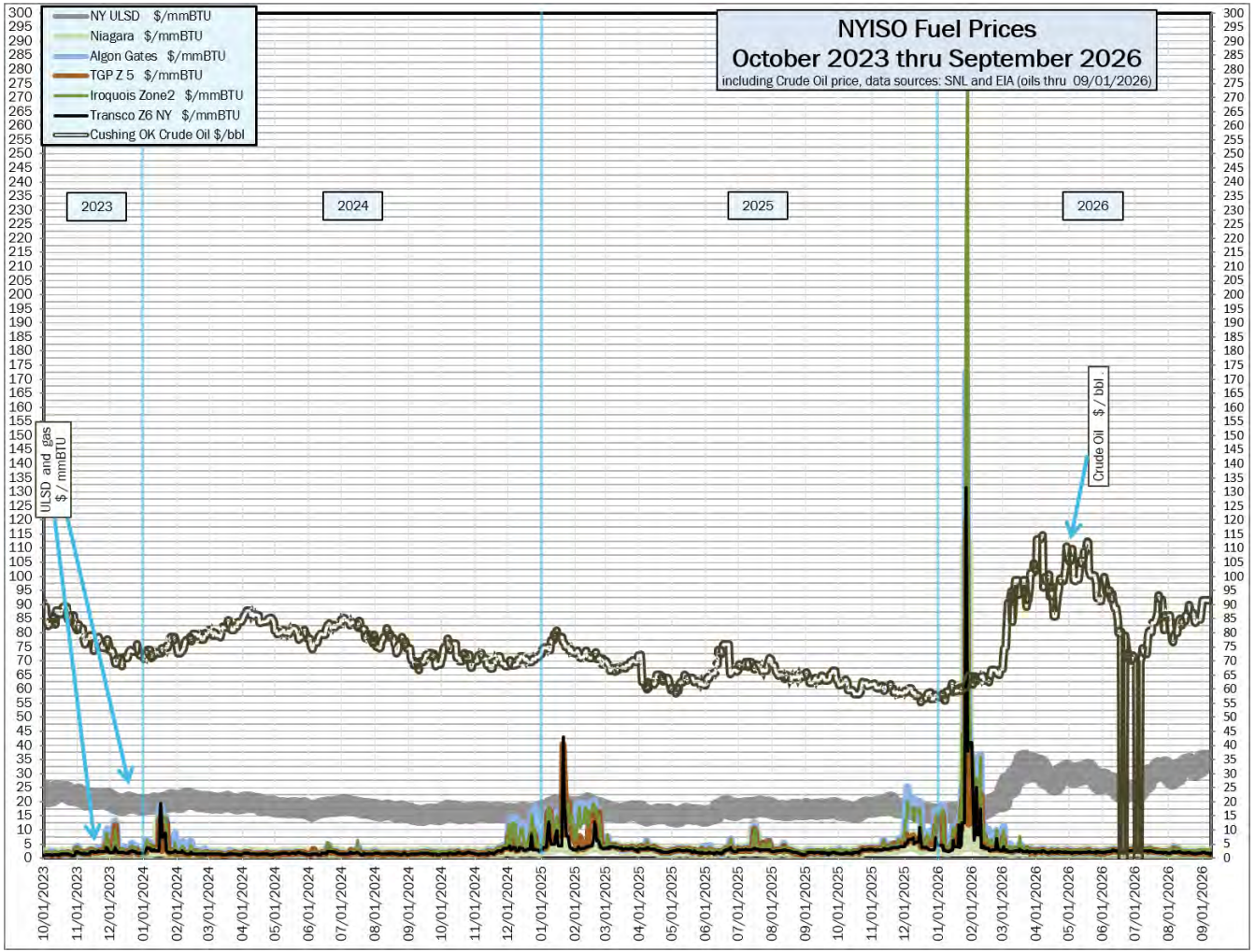
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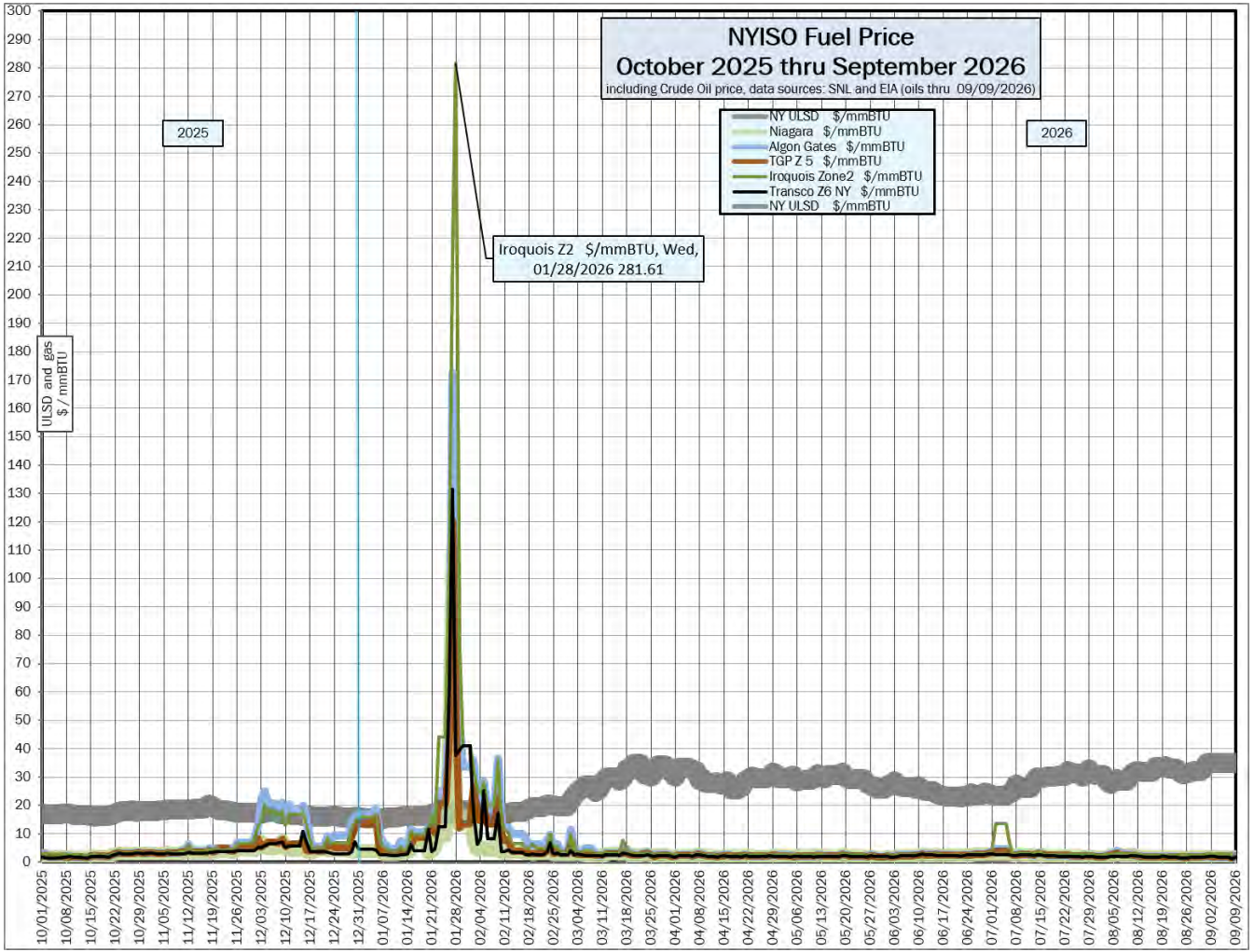
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Appendix B
Near Term Fuel and Energy Security Assessment

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Operations Energy Assessment Tool

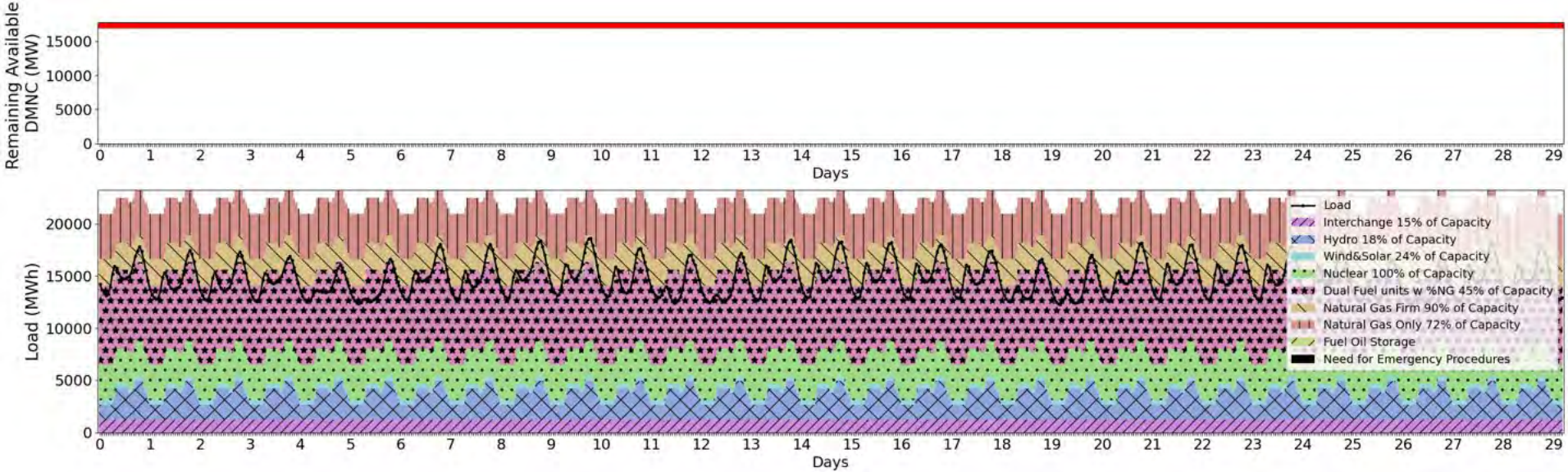
- **The NYISO's Energy Assessment tool gives provides the NYISO the ability to incorporate:**
  - Reported fuel inventory levels and scheduled replenishments
  - Monitoring of load forecast up to 30 days in the future
  - High-level commitment/dispatch assumptions to monitor expected fuel and energy shortfalls
  - Model scenarios and disruptions similar to the prior Fuel and Energy Security (FES) studies conducted by Analysis Group (AG) in 2019 and 2023.

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Energy Assessment Tool – Conditions: Forecast (Typical Spring or Fall Day)

- No/minor scheduled deliveries (1.58 million MWh)
- Low shoulder season loads (Peak hourly demand = 18,083 MW)
- Gas available for firm and gas-only units, 50% dual fuel capable MW from gas

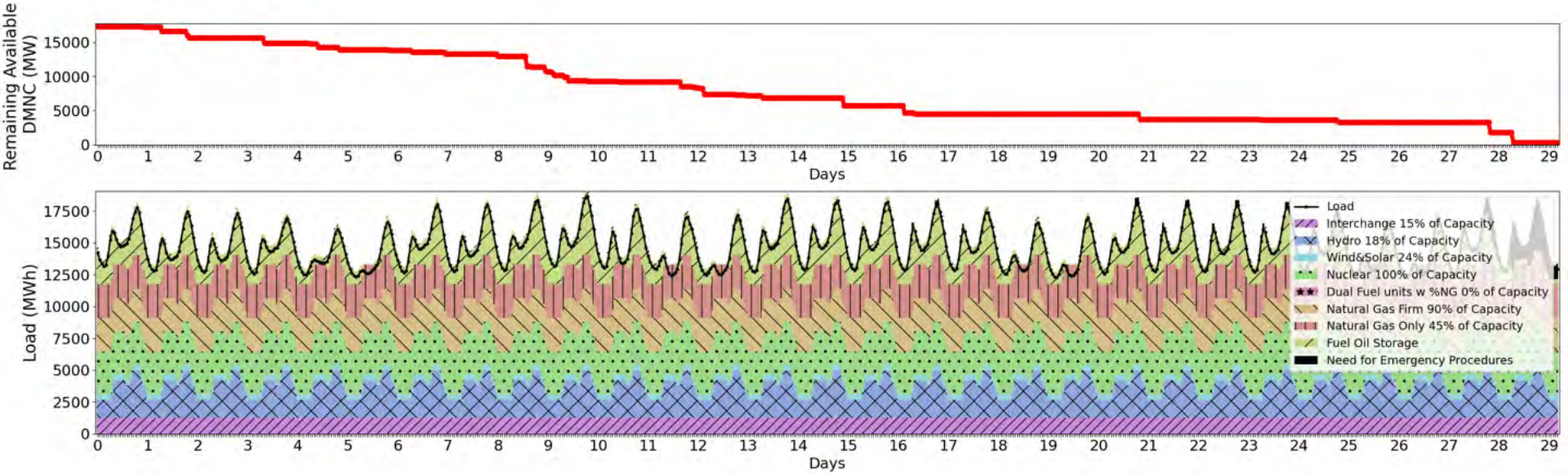


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Energy Assessment Tool – Conditions: Forecast, Limited Gas Availability

- No/minor scheduled deliveries (1.58 million MWh)
- Low shoulder season loads (Peak hourly demand = 18,083 MW)
- Limited gas-only generation (approximately 4,000 MW), no gas for dual fuel units

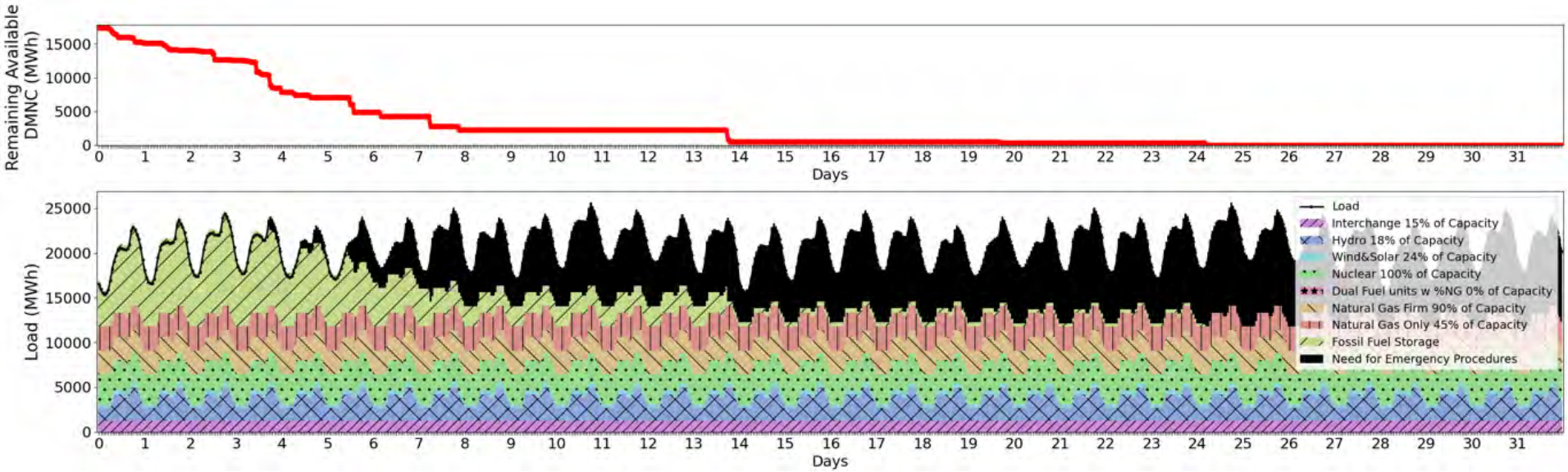


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Energy Assessment Tool – Conditions: Extreme Cold, Limited Gas Availability

- No/minor scheduled deliveries (1.58 million MWh)
- Extreme Cold Weather Load Forecast (Similar to winter 2017-2018, 25,200 MW)
- Limited gas-only generation (approximately 4,000 MW), no gas for dual fuel units

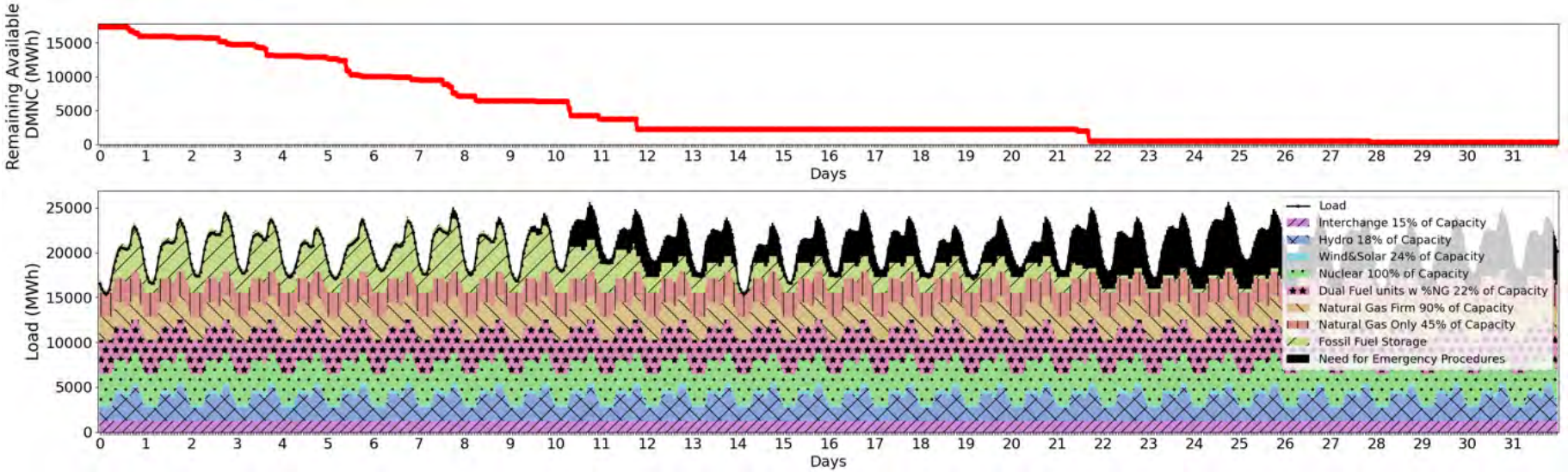


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Energy Assessment Tool – Conditions: Extreme Cold, Some Gas for Dual Fuel

- No/minor scheduled deliveries (1.58 million MWh)
- Extreme Cold Weather Load Forecast (Similar to winter 2017-2018, 25,200 MW)
- Gas available for firm and gas-only units, 25% dual fuel capable MW from gas
- Closely resembles operational experience observed during the 2025-2026 cold weather period

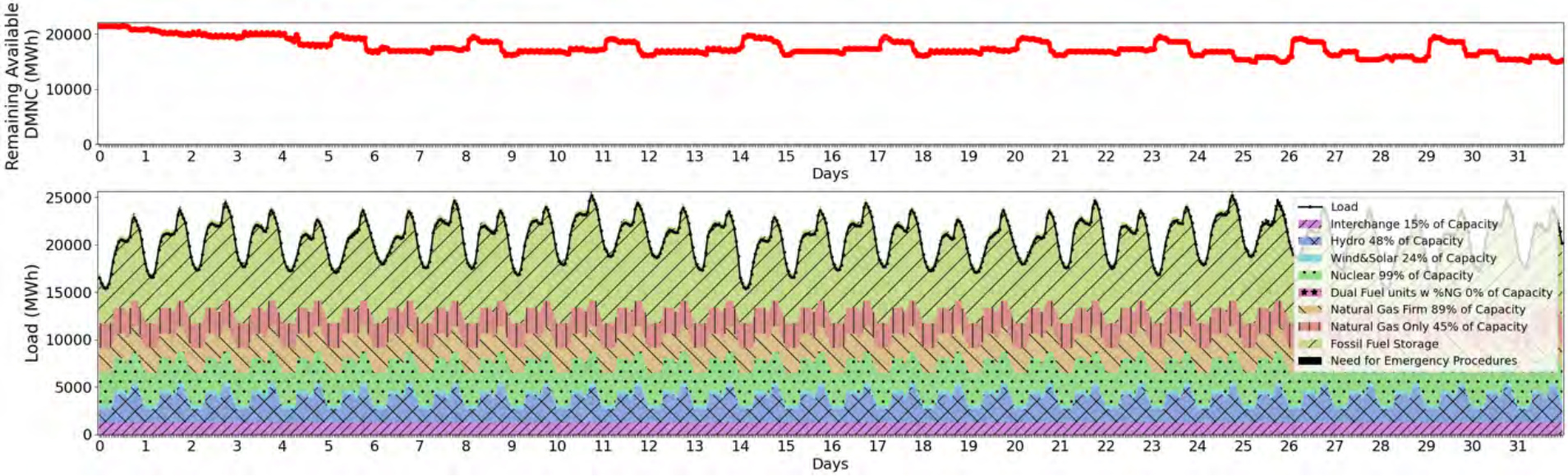


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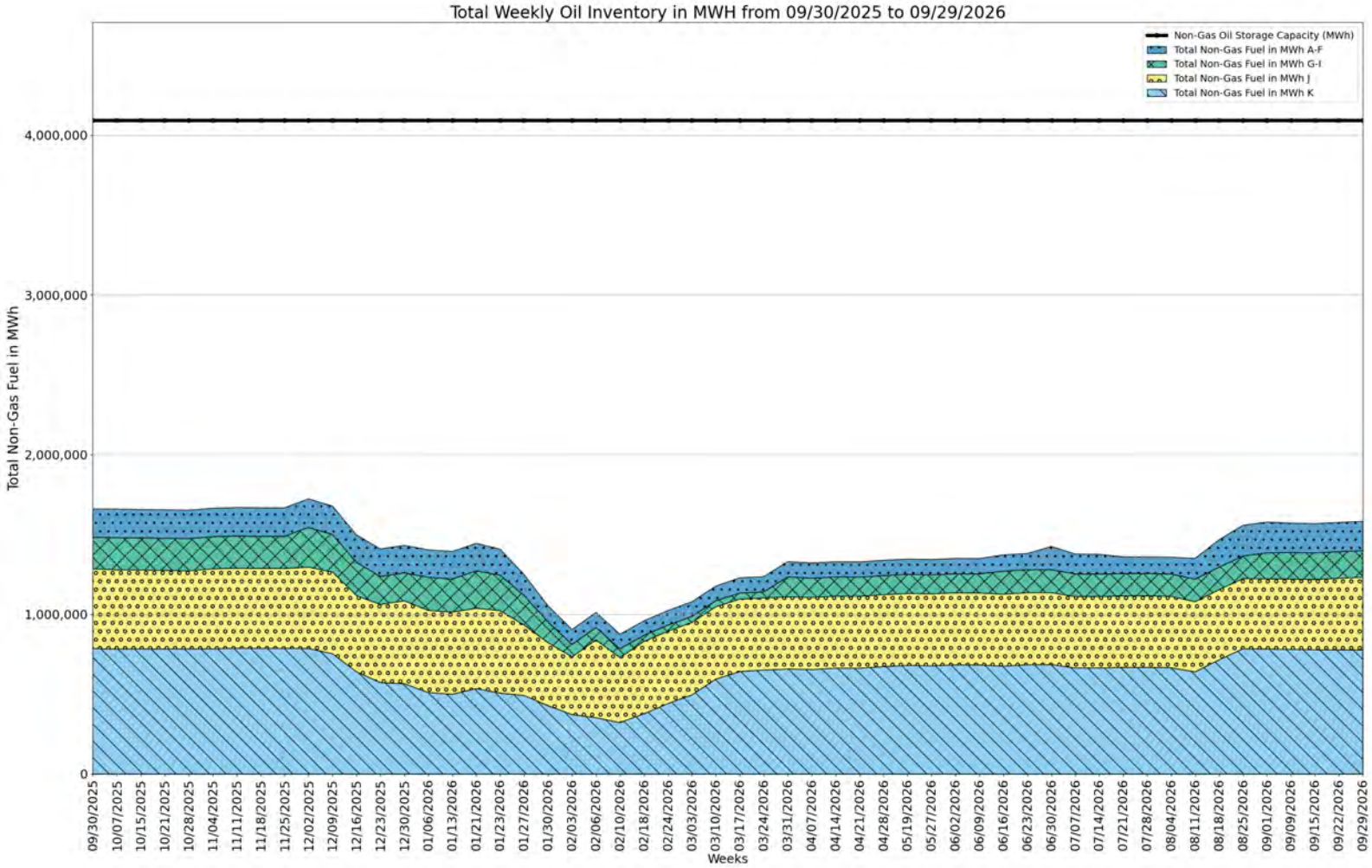
Energy Assessment Tool – Conditions: Extreme Cold, Limited Gas Availability

- Generator Fuel and Emissions Reporting (GFER) survey refill assumptions similar to AG FES models
- Extreme Cold Weather Load Forecast (Similar to winter 2017-2018, 25,200 MW)
- Limited gas-only generation (approximately 4,000 MW), no gas for dual fuel units



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Appendix C
Firm Fuel Elections for 2026-2027 Capability Year

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Firm Fuel Characteristic Election Summary for the 2026-2027 Capability Year

Capacity Zones	A: Sum of Firm Fuel Elections (MW) (2026-2027 Capability Year)	B: Sum of Natural Gas and/or Fuel Oil Resources (MW)[1] (Winter 2025-2026 DMNC/DMGC)	Percentage of Natural Gas and/or Fuel Oil MWs that are covered by Firm Fuel Elections (A/B)
ROS[2] (only Zone F)	2.8 GW	3.5 GW	80%
G-J Locality (excluding Zone J)	3.2 GW	4.8 GW	67%
NYC Locality (Zone J)	7.6 GW	9.3 GW	82%
Long Island Locality (Zone K)	4.6 GW	5.2 GW	89%
Total	18.3 GW	22.8 GW	80%

1. This is the sum of Winter 2025-2026 DMNC/DMGC MW in each Capacity Zone from ICAP Suppliers that operate by utilizing natural gas and/or fuel oil, based on the 2025 Gold Book (Table III-2A: NYISO Market Existing Generators). Resources that had retired on or before October 2025 were excluded.
2. Only Firm Fuel Characteristic Elections in Zone F are applicable in ROS because the NYSRC's IRM study for the 2026-2027 Capacity Year only modeled ICAP Suppliers in Load Zones F-K with fuel constraints.

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2026-2027 Firm Fuel Elections Stakeholder Communication

- 2026-2027 Firm Fuel Characteristic Elections Summary – 12/1/25

- Firm Fuel Characteristic Elections: MMA Overview and Monitoring – 7/28/26

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Our Mission & Vision



Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

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