

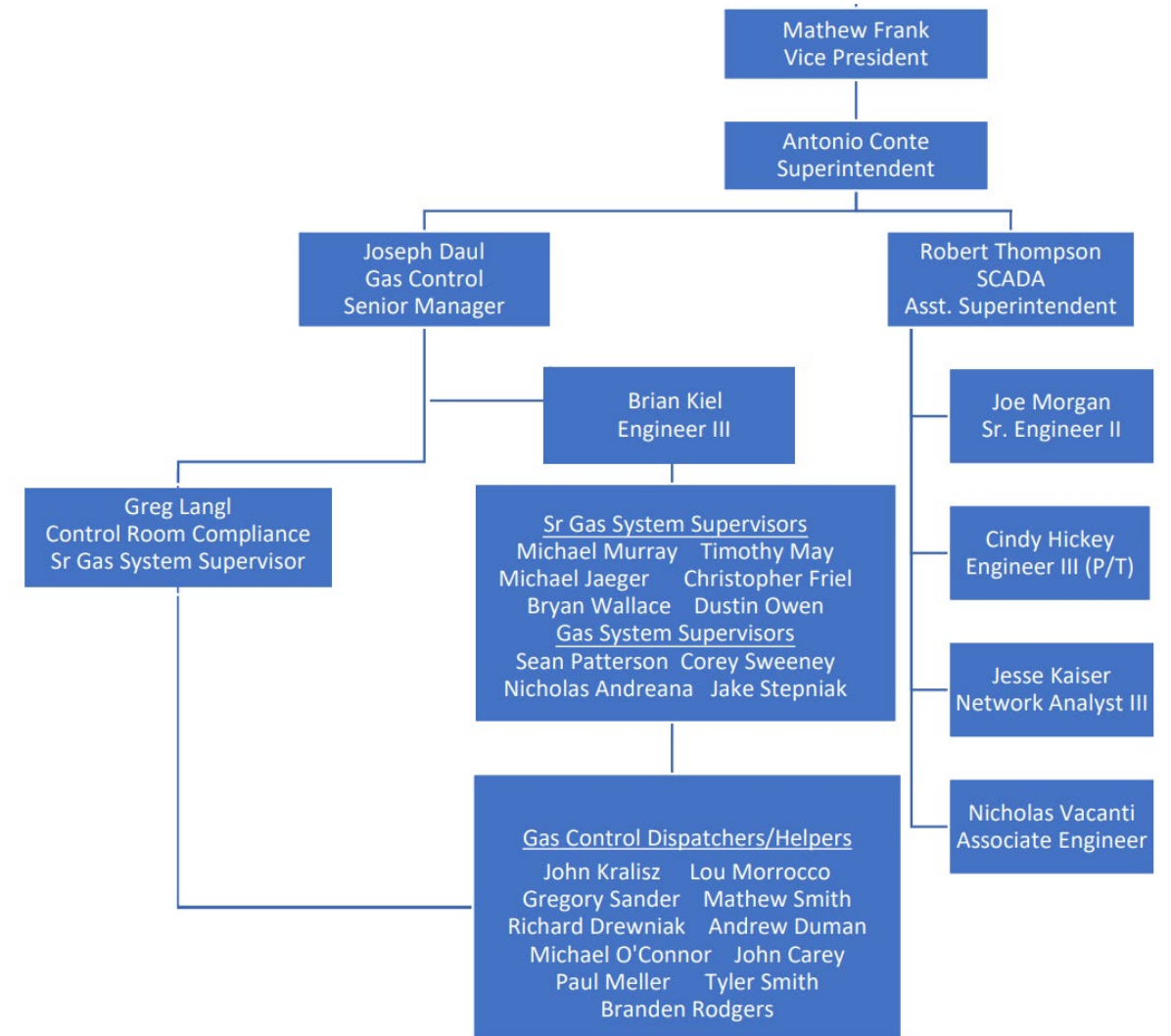


National Fuel & Empire Pipeline

Fall 2024 ECOM Presentation

Gas Control Overview & Personnel

- Primary control room in Buffalo, NY
- GCOC operates National Fuel Supply, Empire, National Fuel Midstream, and National Fuel Distribution (NY & PA) assets
- 10 System Supervisors
- 10 Gas Dispatchers



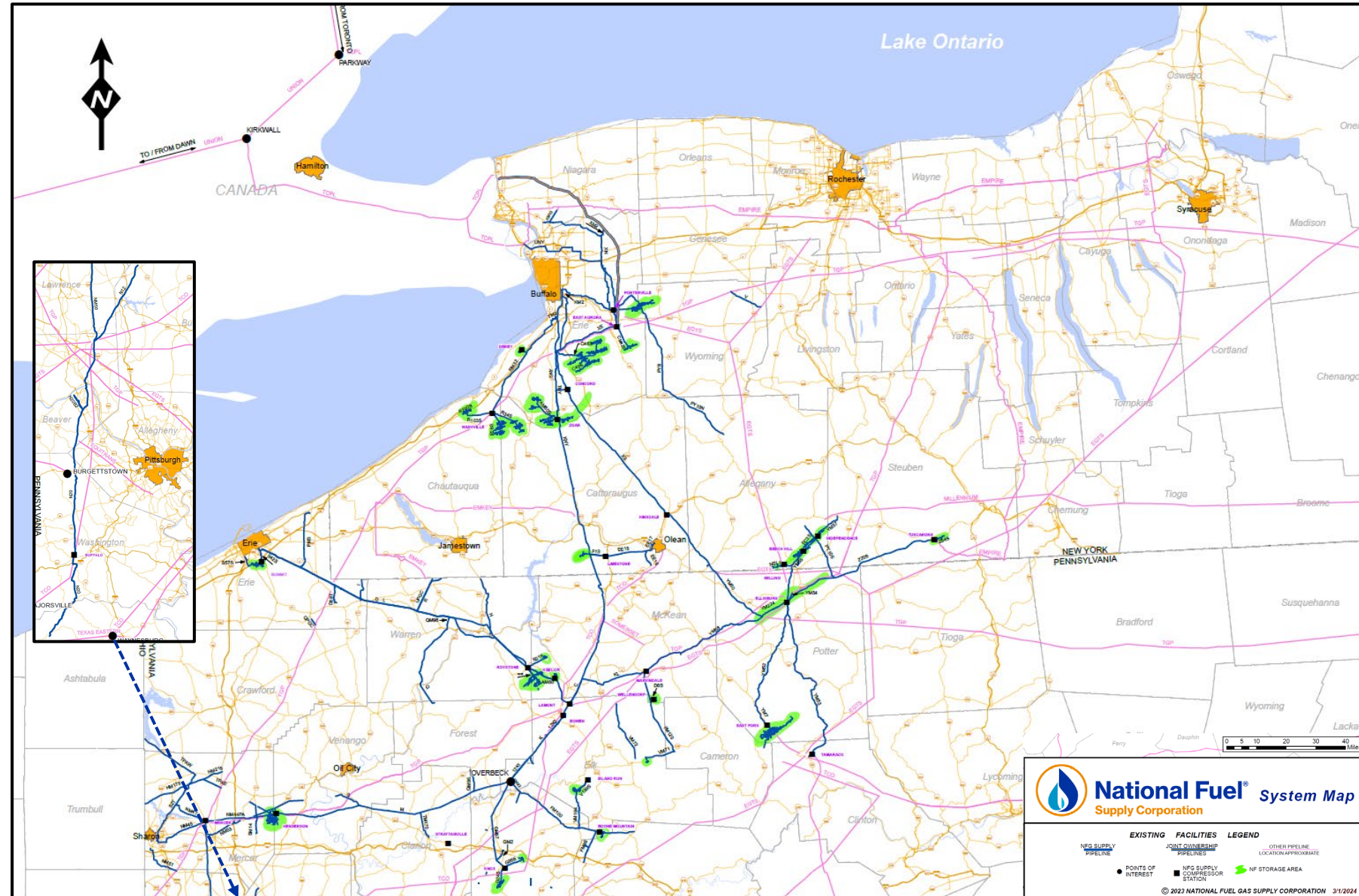
National Fuel Supply

A large, stylized flame graphic in shades of blue, positioned on the right side of the slide. The flame is composed of several overlapping, teardrop-like shapes that create a sense of movement and heat. The colors range from a light sky blue to a deeper cerulean.

System Overview - National Fuel Gas Supply Company (NFGSC)

NFGSC Operates:

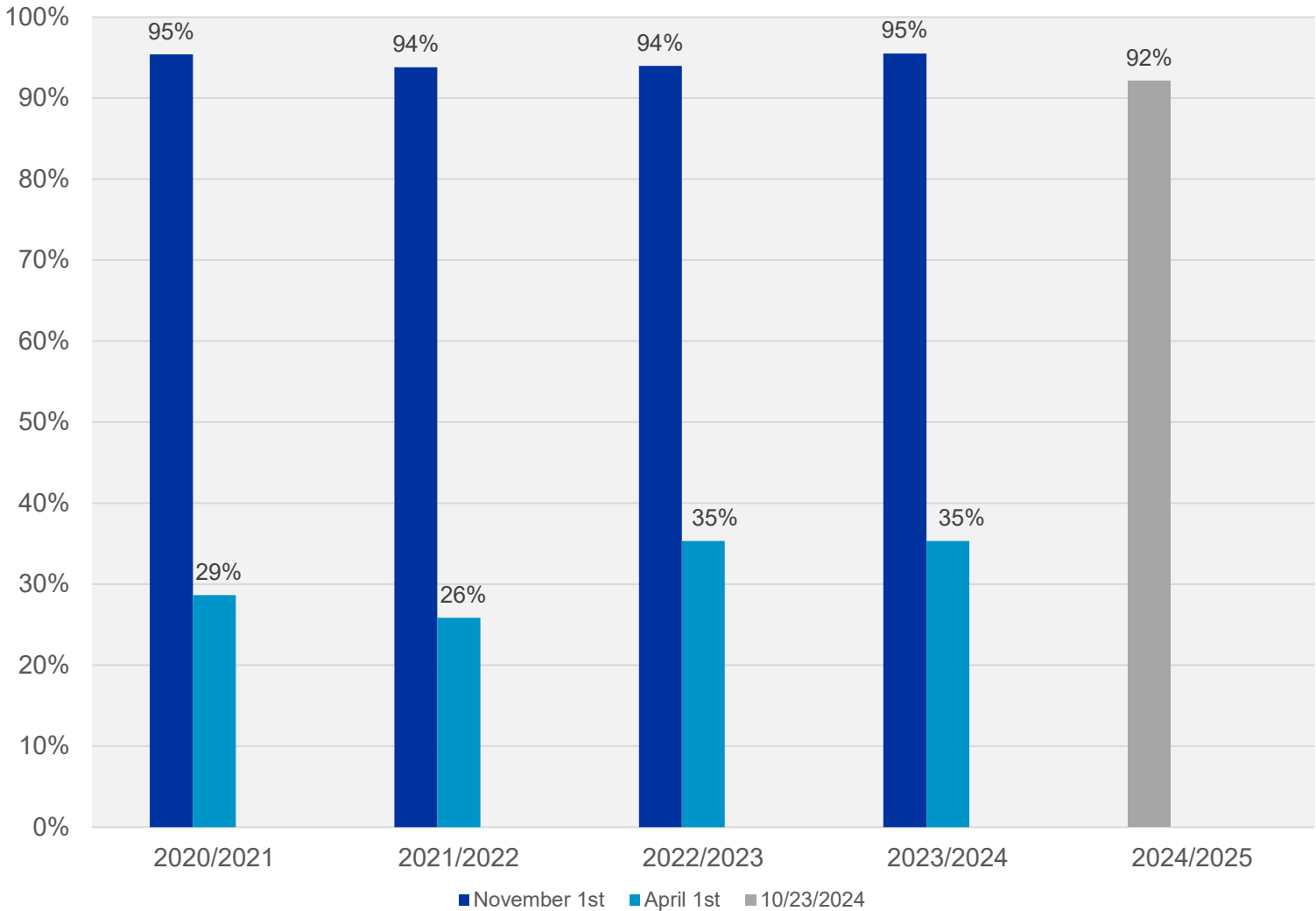
- Over 1,600 miles of transmission pipeline in Western NY & PA
- 29 active storage facilities
- 26 compressor stations



NFGSC Top Gas Storage Inventory (MMCF)

Storage Activities

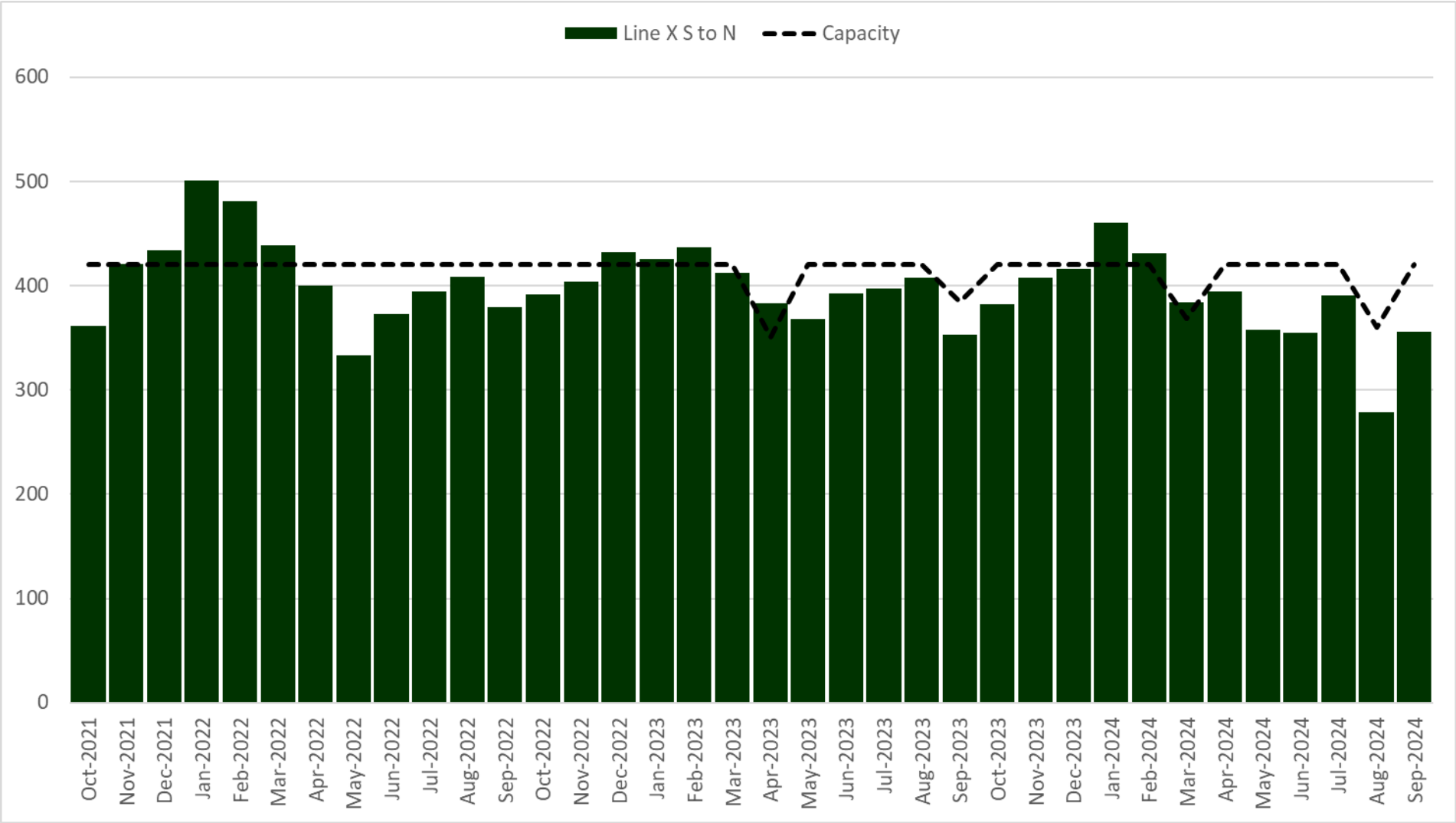
Top Gas Capacity	75.1 BCF
Starting Top Gas 4/1/24	26.5 BCF
Injected through 10/22/24	42.6 BCF
Top Gas 10/23/24	69.1 BCF



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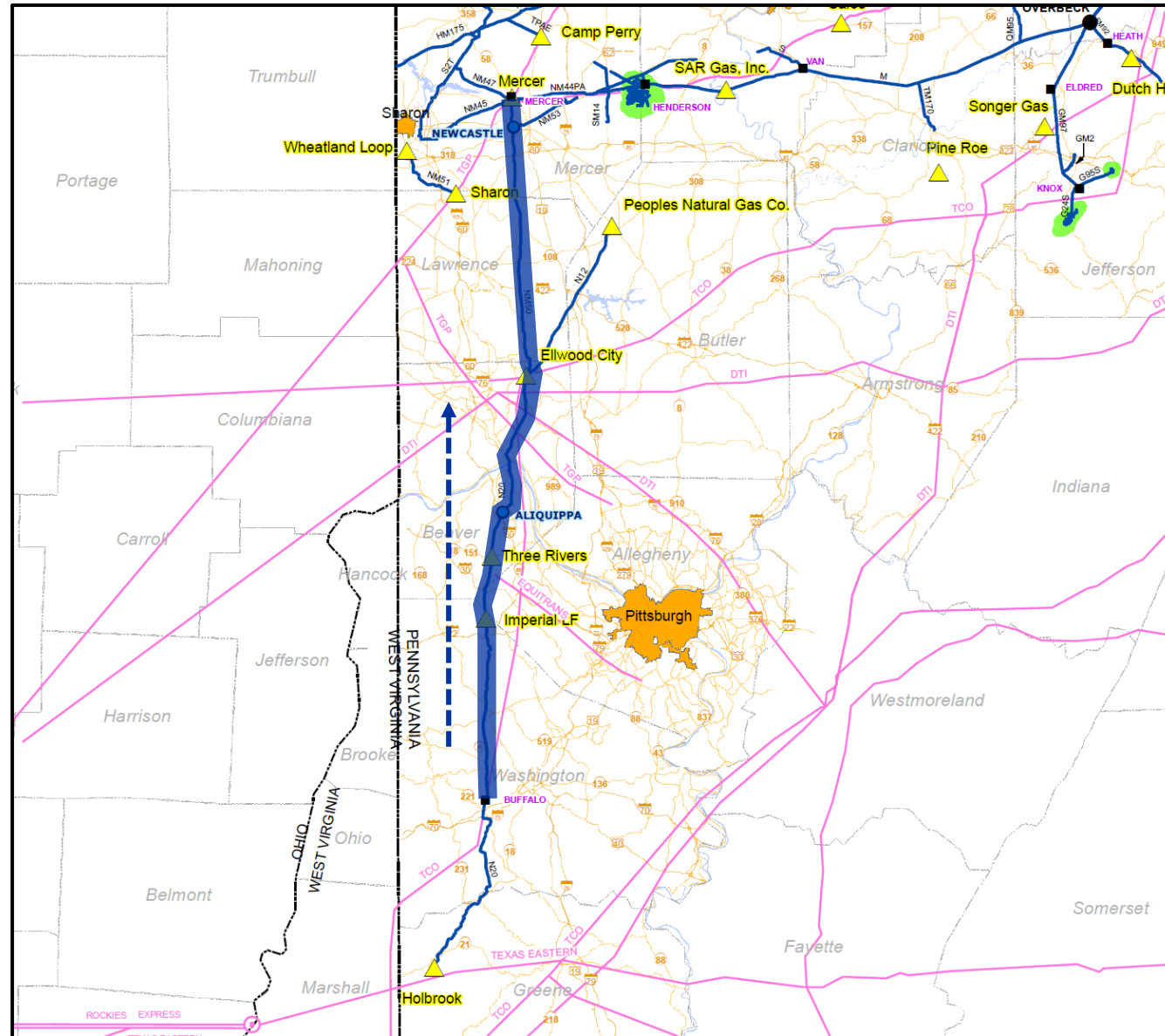


NFGSC Line X South to North

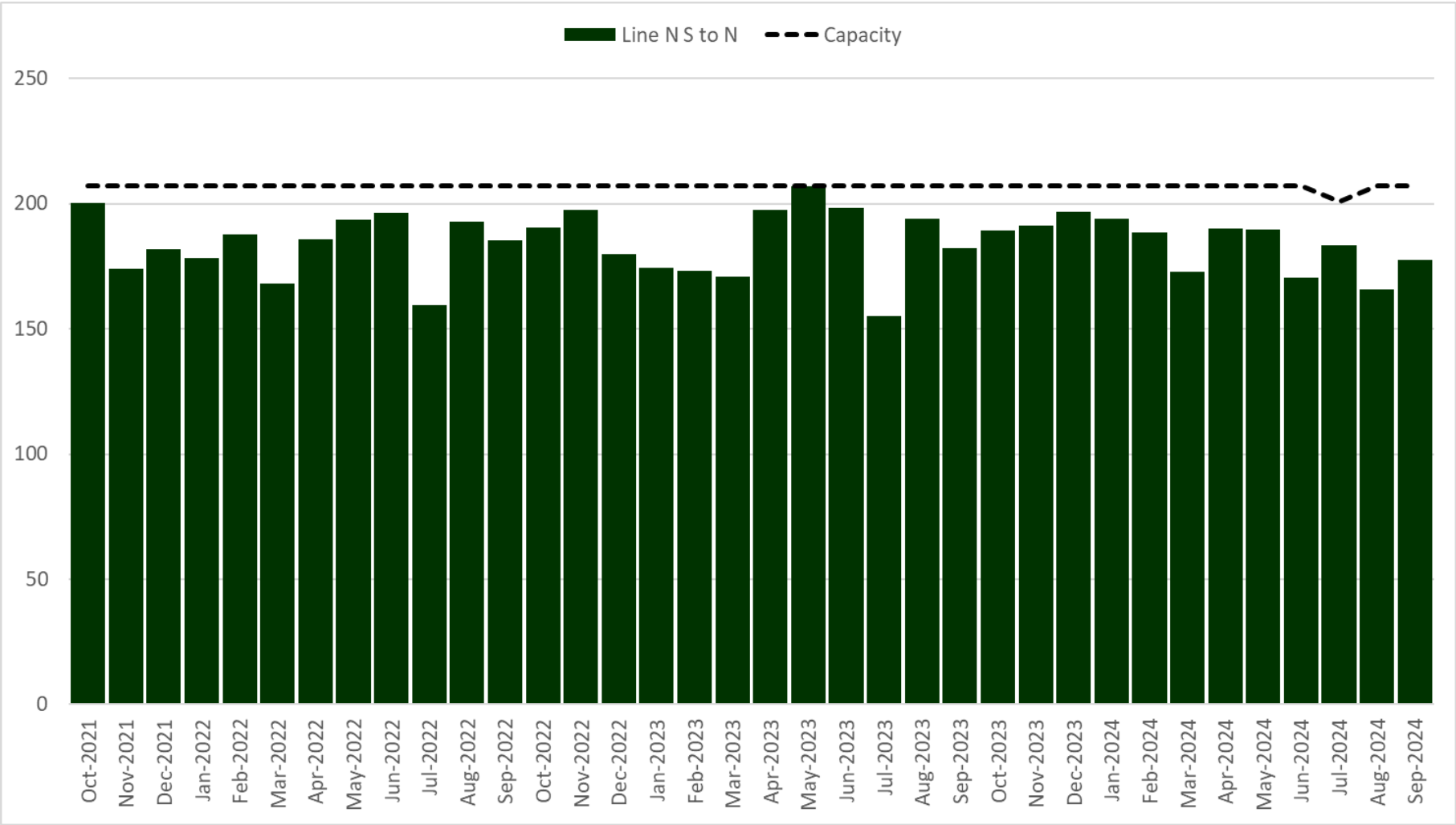


Average Daily Scheduled by Month (MDth)

Line N South to North



Line N South to North



Average Daily Scheduled by Month (MDth)

Empire Pipeline

Empire System Overview

Empire Operates:

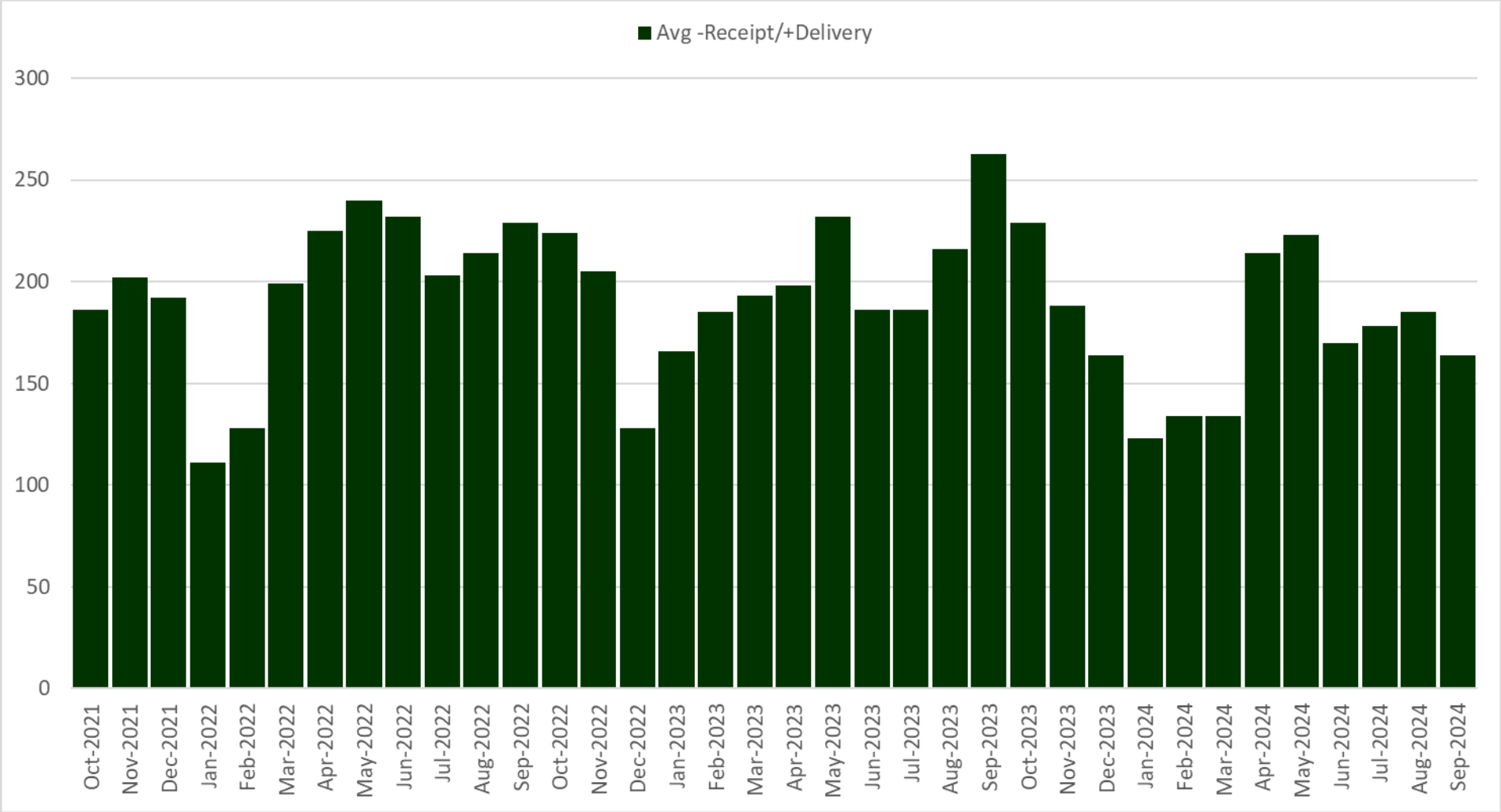
- Over 269 miles of transmission pipeline in Western & Central NY
- 3 compressor stations



Chippawa: Delivery to TC Energy




Chippawa: Delivery to TC Energy



Average Daily Scheduled by Month (MDth)

Summer Power Generation (April – October)



 - Data through 9/24/2024

2024 Construction & Maintenance





Major Construction & Maintenance Projects - Completed

Major Construction Projects	Inline Inspections
Line XE exposure remediation	N20 – Service Creek to Mercer
Line XS replacements	YM53 – Leidy to Ellisburg
Line U Replacement	KPA – Lewis Run to Maloney Farms
East Aurora Unit 2 engine upgrade	EMP12 – Mainline to Wheatfield Station
Ellisburg Station VGR installations	N12 - Robotic
Hinsdale Station VGR and DGS installation	
Colden Storage - C45 replacements	
Jackson Station M&R enhancements	
Heath Station rebuild	

Energy Transition

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Energy Transition Steering Committee

 Hydrogen Team	 Geothermal Team	 RNG Team	 CCUS Team
Potential Initiatives: <ul style="list-style-type: none"> • Complete a blending test at a Company training facility • Evaluate synthetic methane production using integrated waste heat recovery, hydrogen production and combustion exhaust at a Company-owned compressor station • Blend up to 30% hydrogen into a compressor engine at a Company-owned compressor station • Continue participation in the ARCH2 hydrogen hub 	Potential Initiatives: <ul style="list-style-type: none"> • Advance Utility Thermal Energy Network (UTEN) Pilot at Buffalo District System site • Collaborate with other utilities on UTEN advancements • Evaluate additional geothermal opportunities, both regulated and non-regulated • Participate in development of geothermal rules and regulations 	Potential Initiatives: <ul style="list-style-type: none"> • Facilitate third-party RNG interconnects onto our system • Evaluate opportunities to develop RNG projects in our service territory • Explore potential synergistic partnerships to accelerate RNG project development 	Potential Initiatives: <ul style="list-style-type: none"> • Evaluate small-scale point-source CO₂ capture demonstration project at a company-owned compressor station • Evaluate CO₂ transportation and storage components of prospective projects • Continue dialogue with state, federal and private entities on potential CCUS project opportunities
R&D Objectives: <ul style="list-style-type: none"> • Understand GHG emissions reduction potential • Test hydrogen readiness of system and appliances • Develop employee training • Review codes, standards and permitting requirements 	R&D Objectives: <ul style="list-style-type: none"> • Develop in-house expertise to capitalize on geothermal opportunities • Expand stakeholder education and outreach to improve understanding of geothermal energy systems and technologies • Understand how NYS zero emissions new construction mandates may create opportunities for geothermal energy networks • Evaluate how geothermal may be able to expand into a utility-scale model 	R&D Objectives: <ul style="list-style-type: none"> • Monitor developing RNG credit markets and potential offtake scenarios • Track evolving regulatory environment for RNG, including Low Carbon Fuel Standard (LCFS) legislation • Explore and monitor new technologies within the biogas/RNG industry 	R&D Objectives: <ul style="list-style-type: none"> • Deepen understanding of CO₂ storage costs, risks, and opportunities as a standalone service • Monitor EPA Class VI well permitting activity • Understand potential to secure 45Q tax credits and sales to CO₂ utilization markets