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Old Mill Lane EE/DR/HP Plan

Energy Efficiency Council

October 17, 2024



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7,100 National Grid gas customers on Aquidneck Island without heat

Providence Journal and Newport Daily News reports

Published 9:44 a.m. ET Jan. 22, 2019

Aquidneck faces challenges of capacity and vulnerability



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1 Capacity Constraint

National Grid plans for potential restrictions / reduced flexibility from the AGT pipeline under extremely cold conditions, which limits the gas capacity available at the Portsmouth take station

The Company has identified a gap between projected peak gas demand and the AGT pipeline capacity on which the Company can rely

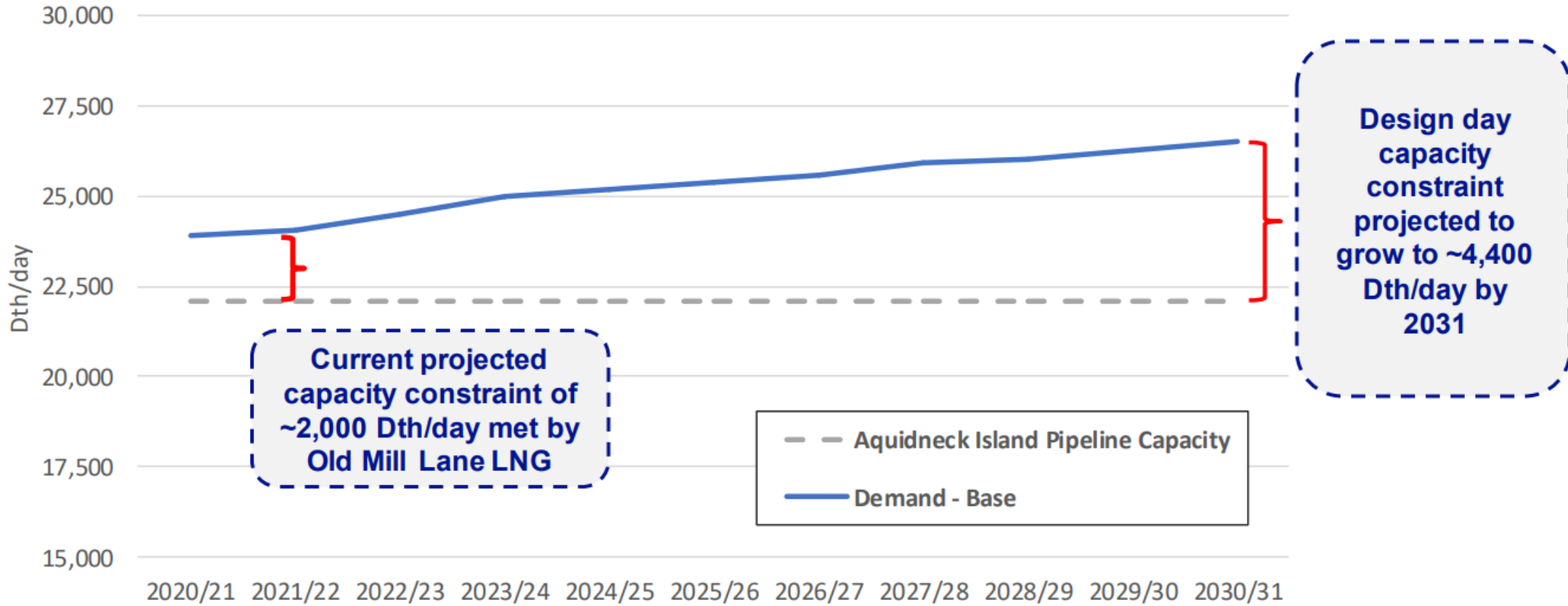
2 Capacity Vulnerability

Aquidneck Island's positioning at the "end of the pipe" on the AGT G-4 lateral makes it vulnerable to upstream disruptions on the AGT pipeline

Capacity Constraint on Aquidneck Island



Forecasted Design Day Demand vs. Pipeline Capacity Aquidneck Island (June 2021 Forecast)



Note: Aquidneck Island-specific gas demand forecast reflects planned EE, including assuming incremental EE savings from the Company's next state-wide gas EE plan.

Feedback + Evaluation Led to “Hybrid” Approach

Elements of the Hybrid Approach

- 1 Advance Non-Infrastructure Solutions***
 - New energy efficiency and demand response programs to **offset future demand growth**
- 2 Alternative LNG***
 - New LNG to replace Old Mill Lane and **solve the island’s current capacity constraint and vulnerability**
 - Potential for hydrogen blending capabilities
- 3 Old Mill Lane Enhancements**
 - Investments to **minimize local impacts** while Old Mill Lane remains in use

* Areas of ongoing work

- Continued evaluation of DSM programs to determine if they meet SRP requirements (e.g. cost effectiveness)
- Additional assessments for Alternative LNG site required

Energy Efficiency



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- Build upon the Company's existing energy efficiency programs with a more aggressive, targeted program
 - Reduce both the annual natural gas energy consumption as well as design day peak demand on Aquidneck Island
- Utilize localized, enhanced incentives and geographically targeted customer outreach and engagement approaches
 - Intensive weatherization and HVAC measures for both residential and commercial customers
- In order to achieve these levels of gas demand reduction, the EE program would have to scale to approximately **double** the annual activity on Aquidneck Island by 2027.

Demand Response



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- The initiative modeled for C&I participation in DR assumed:
 - 100% participation in the fifteenth year of the DSM solution for the two largest customers
 - ~40% participation for the next 33 largest customers
 - ~33% participation from the remaining 204 of the top C&I accounts
- Assumes 23% residential participation in the fifteenth year of the DSM solution

Heat Electrification



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- Electrifying 100% of HVAC turn over to enable the conversion of gas-heated customers to electric heat
- Using heat electrification to displace the use of delivered fuels by customers who currently rely on oil and propane for heating but might otherwise connect to the gas system over the forecast window of this study

Summary of Evaluated Non-Infrastructure Solutions

Option	Capacity Constraint	Capacity Vulnerability	EE (Dth/day)	DR (Dth/day)	EH (Dth/day)	Utility Cost
LTCR Non-Infrastructure	Solved	Solved	1,394	1,851	10,554	\$286M
2021 Non-Infrastructure	Solved	Unsolved	1,278	1,801	2,560	\$143M
2021 Non-Infrastructure with Moratorium	Solved	Unsolved	792	1,821	1,087	\$100M

For comparison, the LNG solution cost is \$30 million

Energy Facility Siting Board Findings 8/22/24

- Filing of Targeted Demand Response, Energy Efficiency, and Electric Heating Conversion Program with PUC
 - That the Company file with the PUC a DR/EE and electric heating conversion plan targeted specifically for Aquidneck Island with the objective of eventually eliminating the design-day peak hour capacity gap which has caused the gas capacity constraint on Aquidneck Island.
 - Such Plan shall include various scenarios and options targeting elimination of the capacity gap over alternative time periods.
 - For each alternative, the Company should address consistency with LCP and the Act on Climate.
 - The Plan must be submitted to the PUC for review by June 1, 2025.

Next Steps



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- Scope out process timeline to submittal 6/1/25
- Determine best path under LCP
 - Energy Efficiency
 - System Reliability Procurement
 - Demand Side Management



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