2020-21 Aquidneck Island Winter Reliability
Public Summary
September 21, 2020

Introduction

This plan outlines the reliability measures being taken by National Grid (the Company) on Aquidneck Island for the 2020/21 winter. The reliability measures being implemented this year include Portable LNG at Old Mill Lane (Section 1) as well as Demand Side Management Initiatives (Section 2). The plan also discusses contingencies plans the Company has in place (Section 3).

The analysis that informed this plan was performed, in part, using Synergi Gas modeling software. The Synergi network analysis models have been built using extracts from the Geographic Information System (GIS – facilities from the mapping system) and customer information systems (customer usage from billing system) and adjusted to the 2020/21 winter peak-hour forecast. To ensure the accuracy of the Synergi models, an analysis is performed every winter period to assess the current models' performance.

For context, note that information herein references Heating Degree Day (HDD). Heating degree day is a measurement designed to quantify the demand for energy needed to heat a building. HDD is derived from measurements of outside air temperature (an equivalent degrees Fahrenheit (°F) will be included in content for reference).

1.0 Portable LNG Operations

Portable LNG equipment has been set up on the Company's Old Mill Lane property in Portsmouth, Rhode Island to address the following:

- Peak-hour hour usage on Aquidneck Island above the contract maximum daily hourly quantity (MDHQ);
- Potential upstream issues, both Company and non-Company, affecting pipeline deliveries into Portsmouth.

Use of Portable LNG

The site will be made operational with trucked LNG trailers on December 1st. Security and LNG professional operators will be on-site 24 hours/day, seven days/week throughout the winter. The number of additional LNG trailer truck deliveries needed will vary based on realized temperatures and associated demand. Based on the 2020 Advance Data Analytics (ADA) gas sendout forecast for Rhode Island, the design winter breakdown for 2019-20 includes one 68 Heating Degree Day (HDD) (-3°F), one 61 HDD (4°F), one 57 HDD (8°F), two 56 HDDs (9°F), one 55 HDD (10°F), and one 54 HDD (11°F). For contingency,

analysis has included an extra day for each of these temperature occurrences. Based on these calculations, a total of 22 LNG trailer truck deliveries to Old Mill Lane would occur over the course of the winter (with a maximum of 5 truck deliveries occurring on the coldest/peak demand day).

Use of Portable LNG to Address Potential for Upstream Issues Affecting Pipeline Deliveries Into Portsmouth

The Company will also utilize Old Mill Lane LNG operations as a contingency for any upstream issue that adversely impacts pipeline deliveries to the Portsmouth Take Station. The LNG site capability provides at least 50% of the required Aquidneck Island volume for a 68 HDD (-3°F) and at least 75% of the required volume for a 45 HDD (20°F). The site capability would provide 100% of the required volume on a 30 HDD (35°F), assuming the Interruptible Customers on Aquidneck Island are curtailed.

LNG Operational and Emergency Response Plan

As detailed above, the portable LNG operations at Old Mill Lane will be used to address peak-hour hour usage on Aquidneck Island above the contract maximum daily hourly quantity (MDHQ) and as a contingency in the event of upstream issues, both Company and non-Company, affecting pipeline deliveries into Portsmouth.

The site was setup pursuant to the requirements of 49 CFR 193.2019 and the associated safety provisions described in NFPA 59A (2001) Section 2.3.4. In regard to emergency response, site specific procedures have been established for emergency site access, fire, major leak or spill, emergency evacuation plan, extinguishers and combustible gas detectors and will be kept on site. In addition, the corporate response to an LNG incident at the Portsmouth (Old Mill Lane) facility is documented in the Rhode Island Gas Emergency Response Plan.

2.0 Demand Side Initiatives

National Grid is utilizing three forms of expanded demand-side initiatives in order to reduce demand for gas during peak times and enhance the reliability of gas supply on Aquidneck Island:

1) **Community Initiative**

   The Company is partnering will all three municipalities on Aquidneck Island through the Company's "Community Initiative" marketing program. This program delivers coordinated customer outreach and marketing between Company efforts and municipal partners, with a goal of increasing residential and C&I customer participation in existing gas and electric energy efficiency programs and providing financial incentives to municipalities who achieve stretch goal targets for expanded customer participation. While these measures are not exclusively focused on peak gas demand reductions, customer implementation of weatherization and gas

equipment related measures offer the complementary benefit of reducing not only overall gas consumption, but also gas demand during peak times.

2) **Expanded Gas Demand Response Pilot**

The Company currently offers a Gas Demand Response pilot offering for all C&I customers in Rhode Island and has proposed expanding and extending this pilot in 2021 in the Company CY21 Energy Efficiency Plan filing. Under the terms of this pilot, C&I customers can receive financial incentives for curtailing gas usage during peak three or twenty-four hour periods. These reductions are typically delivered through deferring the utilization of gas for use in industrial processes, through adjusting thermostat settings during peak periods, or through temporarily switching to alternative heating sources.

3) **Interruptible Customers**

Large customers under separate contract can be interrupted during cold weather periods. They are expected to stop using gas at 40 HDD (25°F) conditions or colder. Gas Control will notify this customer to terminate their usage of natural gas, depending upon weather conditions.

3.0 Customer Curtailment (Load Shedding)

Although not anticipated, in the event that the portable LNG operations are not available at Old Mill Lane when required, or an upstream issue adversely impacts pipeline deliveries into Portsmouth beyond what the portable LNG can supply, the Company would rely on its established load shed reduction procedures. These plans outline different actions that could be taken, including: voluntary conservation; involuntary load shedding, and the post-curtailment/restoration processes.