

THE NARRAGANSETT ELECTRIC COMPANY
RIPUC Docket No. 22-42-NG
In Re: Issuance of Advisory Opinion to Energy Facility Siting Board
Regarding Aquidneck Island Gas Reliability Project
Witness: Porcaro

PRE-FILED DIRECT TESTIMONY

OF

JULIE M. PORCARO

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1 **I. Introduction and Qualifications**

2 **Q. Please state your name and business address.**

3 A. My name is Julie Porcaro. My business address is 280 Melrose Street, Providence,
4 Rhode Island 02907.

5
6 **Q. By whom are you employed and in what position?**

7 A. I am employed by The Narragansett Electric Company d/b/a Rhode Island Energy (the
8 “Company”) as the Director of Gas Network Operations.

9
10 **Q. What are your responsibilities as Director of Gas Network Operations?**

11 A. In my role as Director of Gas Network Operations, I lead an organization comprising
12 Liquefied Natural Gas (“LNG”) Operations, Instrumentation and Regulation (“I&R”),
13 and Gas Control.

14
15 **Q. Please describe your education, training, and experience.**

16 A. I hold a bachelor’s degree in Mechanical Engineering from Worcester Polytechnic
17 Institute. I also hold a master’s degree in Business Administration from Babson College.
18 My career in natural gas began in 2005 at KeySpan Corporation (“KeySpan”) where I
19 held several engineering roles, through which time KeySpan was purchased by National
20 Grid USA (“National Grid”). In 2011, I left National Grid to work for CHA Consulting
21 where I was a Project Manager providing natural gas engineering and management

1 consulting services. In 2013, I returned to National Grid as a project engineer, then
2 moved into an engineering role in Gas Control and subsequently became the Chief
3 Control Room Operator. On May 25, 2022, PPL Rhode Island Holdings, LLC, a wholly
4 owned indirect subsidiary of PPL Corporation, acquired 100% of the outstanding shares
5 of common stock of the Company from National Grid, at which time I began working in
6 my current position.

7
8 **Q. Have you previously testified before the Rhode Island Public Utilities Commission**
9 **(“PUC” or the “Commission”)?**

10 A. No.

11
12 **Q. Are you familiar with the Aquidneck Island Gas Reliability Project (the “Project”)?**

13 A. Yes. In my roles in Gas Control, I participated in options assessments and mobilization
14 of several operations to support Aquidneck Island prior to the 2019 loss of supply
15 incident and following the 2019 loss of supply incident.

16
17 **Q. Are you familiar with Application and Siting Report dated April 2022 (“Siting**
18 **Report”) that were submitted to the Rhode Island Energy Facility Siting Board (the**
19 **“Siting Board”)?**

20 A. Yes. I supported preparation of the Siting Report, particularly regarding the Section 2
21 that explains the need for the Project.

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II. Purpose and Structure of Testimony

Q. What is the purpose of your testimony in this proceeding?

A. In my testimony, I will provide an overview of the need for the Project and address alternatives to the Project that the Company considered.

Q. How is your testimony structured?

A. Section I is the Introduction. Section II presents the purpose and structure of my testimony. Section III presents a description of the Project. Section IV describes the alternatives to the Project. Section V is the Conclusion.

III. Description of Project

Q. Please describe the Project.

A. The project for which the Company is requesting a license from the Siting Board is the use of portable equipment for the conversion and storage of LNG at Old Mill Lane in Portsmouth to be used to backup the supply of natural gas to the Company’s Aquidneck Island natural gas distribution system (the “Distribution System”). The Project includes a number of site improvements proposed for impact mitigation and operational reasons.

Q. Why is the Project needed?

A. The Project is needed to address capacity vulnerability and constraints that pose risks to

1 the reliability of Distribution System. There are two facets to the capacity vulnerability
2 of the Distribution System. First, the Distribution System faces vulnerability from
3 unexpected upstream disruptions that could limit the flow of natural gas from the
4 interstate pipeline below levels needed to meet demand. Second, capacity vulnerability
5 occurs when Algonquin Gas Transmission, LLC (“AGT”) disrupts service to inspect and
6 maintain the upstream transmission pipeline. The Project is intended to protect the
7 Distribution System against these vulnerabilities. Finally, the Project also addresses the
8 capacity constraint that may occur during each winter season when there exists a gap
9 between the natural gas demand and the available natural gas capacity to Aquidneck
10 Island on extremely cold days.

11
12 **Q. During what time of year is the Project needed?**

13 A. Although the capacity vulnerability exists year-round, an unplanned interruption of
14 service on the transmission system is most critical during the heating season when
15 customers rely on continuous service to heat their homes and businesses, and a prolonged
16 outage creates a real risk to customers’ health, safety, and property. Therefore, the
17 Company intends to operate the Project on a recurring seasonal (winter) basis with
18 additional operation on an as-needed basis during AGT’s scheduled transmission pipeline
19 service and outages, which are planned and scheduled outside of the heating season.

20
21 **Q. Has the Distribution System always been supplied by a single transmission line**

1 **connection?**

2 A. Yes. The Distribution System is served by the G-2 lateral off the AGT G-system via
3 AGT’s single six-inch main crossing the Sakonnet River, which joins the Distribution
4 System at the Company’s gate station at Old Mill Lane.

5
6 Secondary forms of supply were provided in prior years by a propane/air facility adjacent
7 to the gate station off AGT’s system at the Old Mill Lane site. Regular usage of this
8 facility ended in the early 1990s, and the equipment was decommissioned and removed
9 from the site in 2014. Aquidneck Island also benefited from vaporization facilities
10 located on the Navy Base. That site went into service in 2002. That site has not been
11 used since 2011 and is scheduled for full abandonment and removal in 2023-24.

12

13 **Q. Does the capacity constraint present an immediate challenge to the reliability of the**
14 **Distribution System?**

15 A. Yes. Under AGT’s tariff, the calculated hourly flow limits available to the Company at
16 its Old Mill Lane gate station are either 1/24th or six percent of the Maximum Daily
17 Quantity (“MDQ”) – i.e., the maximum quantity of gas that can be delivered to the
18 Company from the pipeline in a 24-hour period. Historically, AGT had not required
19 customers, including the Company, to manage hourly takes to fall within the calculated
20 hourly flow limits so long as the Company did not exceed the MDQ available to it. That
21 meant the Company had the operational flexibility to balance its natural gas deliveries

1 across its multiple take stations on the AGT system, so long as the total remained within
2 the MDQ limits. This flexibility allowed the Company to meet the peak demand needs
3 on Aquidneck Island. On January 19, 2019, however, after AGT experienced a period of
4 high hourly demand on its G system, AGT notified the Company (and all AGT customers
5 served by AGT's G lateral) that, during peak periods, it would exercise its authority
6 under its tariff to require local distribution companies, including the Company, to limit
7 their hourly takes to calculated hourly flow limits at each take station. For Aquidneck
8 Island, the limits are 22,089 Dth/day and 1,045 Dth/hour, which are less than the
9 Company historically has planned to have available for dispatch to its customers on
10 Aquidneck Island. Therefore, the Company now makes its planning decisions to prepare
11 for the potential limitation of operational flexibility by AGT.

12
13 **Q. Is the Project sized for a supply vulnerability or peak shaving?**

14 A. The Project is sized for peak shaving to address the supply-demand gap between the
15 contractual limit of 1,045 Dth/hour and actual customer usage on the Island, which can be
16 anticipated by forecasting. The Company also stores LNG on site throughout the winter
17 period and in addition staffs the site continuously to mitigate the impact of a supply
18 vulnerability event. This is related directly to commitments the Company made
19 following the January 19, 2019 loss of supply event.

20
21 **Q. Traditionally, will the Company have advance warning of a transmission issue?**

1 A. The Company will receive indications of a transmission issue as soon as it is known;
2 however, there could be limited time to respond, sometimes hours or minutes.
3

4 **Q. Is the facility size and output fixed?**

5 A. No. The facility size and output can vary depending on the portable equipment that is
6 staged there. The size and output requested in the Siting Report are based on current
7 known equipment capabilities for vaporization rate and storage size available on the
8 market at the time of the filing.
9

10 **Q. Would a moratorium change the size of the facility?**

11 A. No. The facility is sized for the existing gap in customer demand versus available supply
12 to Aquidneck Island; therefore, a moratorium on new customer services would not
13 change the size of the facility.
14

15 **Q. At what point would a larger facility be required?**

16 A. A larger facility would be required under two general scenarios: (1) if the supply-
17 demand gap exceeds the maximum vaporization rate of the equipment on site; or (2) if
18 conditions changed on the transmission system making disruptions in service more
19 frequent or more likely to occur. Condition (1) is unlikely because the current supply-
20 demand gap is approximately 145 Dth/hr and would need to exceed 750 Dth/hr; condition
21 (2) is also unlikely.

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Q. At what point would a load reduction result in less equipment?

A. A load reduction in any amount would not result in less equipment. The need is driven by providing essential service to customers heating their homes and businesses during winter months. The Company could consider reducing equipment or rescoping the Project if there were no longer customers on the Island using natural gas for safety-critical heating service.

Q. Will there be a time when the Project is no longer needed to operate during the winter?

A. Possibly. The Company could consider reducing equipment or rescoping the Project if there were no longer customers on the Island using natural gas for safety-critical heating service.

Q. To be clear, is it the Company's position that some version of the Project will be required as long as the Distribution System is operational?

A. Yes, the Project serves as a secondary source of supply to Aquidneck Island. Without it, the Island and its customers are vulnerable to future episodes of loss of supply during critical winter months.

1 **IV. Alternatives**

2 **Q. What alternatives did the Company consider?**

3 A. The alternatives the Company considered include the proposed Project, Seasonal Portable
4 LNG Operation at a New Navy Site, Permanent LNG at a New Navy Site, LNG Barge,
5 Reinforcement of the Algonquin Transmission Line, and Non-Infrastructure Solutions.
6 All of the alternatives were more expensive than the Project, did not provide the
7 operational advantages of being located next to the take station, or would take several
8 years to implement during which time the proposed Project would be needed.

9
10 **Q. Were greenhouse gas (“GHG”) emissions factored into the analysis?**

11 A. Yes. The following alternatives were considered for the GHG analysis:
12 (1) Moratorium with Seasonal LNG Trucking (baseline scenario);
13 (2) Seasonal LNG Trucking (final proposed solution);
14 (3) Seasonal LNG Trucking with Incremental demand-side management (“DSM”);
15 (4) Moratorium with Incremental DSM, with Seasonal LNG Trucking Discontinued in
16 2030; and
17 (5) Incremental DSM, with Seasonal LNG Trucking Discontinued in 2030.

18
19 **Q. Please summarize each alternative.**

20 A. Certainly. The first alternative – Moratorium with Seasonal LNG Trucking (baseline
21 scenario) – is a moratorium on new gas connections for potential customers that would be

1 served by the Portsmouth take station and Old Mill Lane, together with continued
2 seasonal LNG trucking to, and vaporization at, the Old Mill Lane portable LNG site to
3 provide supplies to existing customers.

4
5 The second alternative – Seasonal LNG Trucking (final proposed solution) – consists of
6 seasonal LNG trucking to, and vaporization at, the Old Mill Lane portable LNG site. No
7 incremental DSM measures are included with this alternative.

8
9 The third alternative – Seasonal LNG Trucking with Incremental DSM – consists of
10 seasonal LNG trucking to, and vaporization at, the Old Mill Lane portable LNG site,
11 together with geographically targeted energy efficiency, demand response, and heat
12 electrification measures to hold customer natural gas requirements constant at 2027
13 levels.

14
15 The fourth alternative – Moratorium with Incremental DSM, with Seasonal LNG
16 Trucking Discontinued in 2030 – is an immediate moratorium on new gas connections
17 for potential customers that would be served by the Portsmouth take station and Old Mill
18 Lane, together with energy efficiency, demand response, and heat electrification
19 measures to phase out the need for Old Mill Lane by 2030.

20
21 The fifth alternative – Incremental DSM, with Seasonal LNG Trucking Discontinued in

1 2030 – consists of energy efficiency, demand response, and heat electrification measures
2 that grow over time such that the existing load served by Old Mill Lane, and the design
3 day requirements of all new customers, are offset entirely by 2030.

4

5 **Q. Could the non-infrastructure alternatives be a standalone solution?**

6 A. No. As explained in the Siting Report, all non-infrastructure options require continued
7 reliance on portable LNG at Old Mill Lane at least for the next several years.

8

9 **Q. Would solving the capacity constraint remove the need for the seasonal operation of**
10 **the facility?**

11 A. No. Even with the capacity constraint resolved, capacity vulnerability would still exist
12 and pose a risk to safe, reliable, and continuous service to customers on Aquidneck Island
13 thus jeopardizing customers’ health, safety, and property during cold periods.

14

15 **Q. Is there another alternative that would solve for capacity vulnerability?**

16 A. Yes, a pipeline solution, parallel “loop” pipe of the existing single line of the AGT G-2
17 lateral to Aquidneck Island would solve the capacity vulnerability because it would
18 provide the redundant source of supply that the Company proposes to provide through the
19 operation of the Project.

20

21 **Q. Would a “loop” pipeline solve for capacity constraint?**

1 A. No, additional facilities in the form of upstream pipeline improvements on the AGT
2 system would be required to make incremental capacity available to any location on the
3 AGT G System, including Aquidneck Island when done in conjunction with a “loop”
4 pipeline project of the G-2 lateral.

5

6 V. **Conclusion**

7 Q. **Does this complete your testimony?**

8 A. Yes, it does.