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April 18, 2023

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket No. 22-42-NG – Issuance of Advisory Opinion to EFSB re RIE Application to Construct an LNG Vaporization Facility on Old Mill Lane, Portsmouth, RI Prefiled Rebuttal Testimony

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company (the “Company”), I have enclosed a copy of the Pre-Filed Rebuttal Testimony of Company witnesses Julie M. Porcaro, Brian K. Kirkwood, Brett S. Feldman, Stuart A. Wilson, and Tyler Olney.

Attachment BKK-1 to Pre-Filed Rebuttal Testimony of Brian K. Kirkwood contains confidential information; and therefore, the Company has provided a redacted public version of the attachment and an unredacted confidential version subject to a motion for protective treatment.

Thank you for your attention to this matter. If you have any questions, please contact me at (401) 709-3351.

Sincerely,



George W. Watson III

Enclosures

cc: Docket 22-42-NG Service List

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate were electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.

Heidi J. Seddon

April 18, 2023

Date

**Docket No. 22-42-NG – Needs Advisory Opinion to EFSB regarding Narragansett Electric LNG Vaporization Facility at Old Mill, Portsmouth, RI
Service List update 4/6/2023**

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**STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION**

IN RE: THE ISSUANCE OF ADVISORY OPINION)
TO THE ENERGY FACILITY SITING BOARD)
REGARDING THE NARRAGANSETT ELECTRIC)
COMPANY APPLICATION TO CONSTRUCT)
AN LNG VAPORIZATION FACILITY ON)
OLD MILL LANE, PORTSMOUTH, RHODE ISLAND)

DOCKET NO. 22-42-NG

**MOTION OF THE NARRAGANSETT ELECTRIC COMPANY
FOR PROTECTIVE TREATMENT OF CONFIDENTIAL INFORMATION**

The Narragansett Electric Company (the “Company”) hereby respectfully requests that the Public Utilities Commission (“Commission”) grant protection from public disclosure of certain confidential information submitted by the Company as Attachment BKK-1 to Pre-Filed Rebuttal Testimony of Brian K. Kirkwood. The reasons for the protective treatment are set forth herein. The Company also requests that, pending entry of that finding, the Commission preliminarily grant the Company’s request for confidential treatment pursuant to 810-RICR-00-00-1.3(H)(2).

Attachment BKK-1 includes the Company’s equipment rental and contracted services costs for deployment and operation of portable LNG vaporization and injection equipment at its facility at Old Mill Lane. These costs are negotiated by the Company with its equipment lessor and service provider, and disclosure of these terms could hamper the Company’s ability to negotiate advantageous pricing in the future.

I. LEGAL STANDARD

Rhode Island’s Access to Public Records Act (“APRA”), R.I.G.L. §38-2-1 *et. seq.*, sets forth the parameters for public access to documents in the possession of state and local government agencies. Under APRA, all documents and materials submitted in connection with the transaction of official business by an agency are deemed to be a “public record,” unless the information contained in such documents and materials falls within one of the exceptions specifically identified

in R.I.G.L. §38-2-2(4). Therefore, to the extent that information provided to the Commission falls within one of the designated exceptions to APRA, the Commission has the authority under the terms of APRA to deem such information to be confidential and to protect that information from public disclosure.

In that regard, R.I. Gen. Laws § 38-2-2(4)(B) provides that the following types of records shall not be deemed public:

Trade secrets and commercial or financial information obtained from a person, firm, or corporation which is of a privileged or confidential nature.

The Rhode Island Supreme Court has held that this confidential information exemption applies where the disclosure of information would be likely either (1) to impair the government's ability to obtain necessary information in the future; or (2) to cause substantial harm to the competitive position of the person from whom the information was obtained. *Providence Journal Company v. Convention Center Authority*, 774 A.2d 40 (R.I. 2001). The first prong of the test is satisfied when information is provided to the governmental agency and that information is of a kind that would customarily not be released to the public by the person from whom it was obtained. *Providence Journal*, 774 A.2d at 47.

The Rhode Island Supreme Court has also noted that the agencies making determinations as to the disclosure of information under APRA may apply a balancing test. *See Providence Journal v. Kane*, 577 A.2d 661 (R.I. 1990). Under this balancing test, after a record has been determined to be public, the Commission may protect information from public disclosure if the benefit of such protection outweighs the public interest inherent in disclosure of information pending before regulatory agencies. *Kane*, 577 A.2d at 663 (“Any balancing of interests arises only after a record has first been determined to be a public record.”).

II. BASIS FOR CONFIDENTIALITY

The confidential information contained in Attachment BKK-1 is sensitive pricing information that the Company would not ordinarily make public, and the contracts through which such prices were set contain confidentiality provisions. The disclosure of these negotiated pricing terms could hamper the Company's ability to negotiate favorable pricing terms for similar equipment rentals and contracted services in the future. For that reason, the Company has consistently sought and obtained protective treatment of the identified costs and does not publicly disclose the information. Because the confidential information contained in Attachment BKK-1 is not of a kind that would customarily be released to the public by the Company, the first prong of the *Providence Journal* test has been satisfied. *See Providence Journal, 774 A.2d at 47.*

III. CONCLUSION

For the foregoing reasons, the Company respectfully requests that the Commission grant this motion for protective treatment of the confidential information contained in Attachment BKK-1. The Company has submitted a redacted version of Attachment BKK-1 in its submittal of pre-filed rebuttal testimony, and a confidential version subject to this motion for protective treatment.

[SIGNATURES ON NEXT PAGE]

Respectfully submitted,

**THE NARRAGANSETT ELECTRIC
COMPANY**

By its attorneys,



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Dated: April 18, 2023

CERTIFICATE OF SERVICE

I hereby certify that on April 18, 2023, I delivered a true copy of the foregoing Motion via electronic mail to the parties on the Service List for Docket No. 22-42-NG.



Heidi J. Seddon

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: Julie M. Porcaro

PRE-FILED REBUTTAL TESTIMONY

OF

JULIE M. PORCARO

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1 **I. Introduction**

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. Have you previously filed testimony or testified before the Rhode Island Public
7 Utilities Commission (“PUC” or the “Commission”) or other public utility
8 commissions?**

9 A. Yes. I have filed pre-filed direct testimony with the PUC in this docket.
10

11 **II. Purpose and Structure of Testimony**

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

13 A. In this testimony, I will provide rebuttal to several points made by intervenors, including
14 the Rhode Island Division of Public Utilities and Carriers (the “Division”) and
15 Conservation Law Foundation (“CLF”).
16

17 **Q. How is your testimony structured?**

18 A. Section I is the Introduction. Section II presents the purpose and structure of my
19 testimony. Section III presents rebuttal to Division testimony on the need for the Project¹
20 and appropriateness of the equipment. Section IV is the Conclusion.

¹ Unless otherwise defined, all capitalized terms should have the meaning ascribed to them in my pre-filed direct testimony submitted on December 9, 2022.

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III. Rebuttal to Division Testimony

Q. Is it appropriate to compare previous years’ sendouts on Aquidneck Island to how to operate the system now and in the future?

A. Yes, it is. The Division notes that peak hour sendout on Aquidneck Island has not exceeded 951 Dth/hr in the last three years.

Q. Does the 951 Dth/hr peak hour provide a complete view of indicative system demand on Aquidneck Island in the future?

A. No, it does not. Although it is true that peak hour demand did not exceed 951 Dth/hr in the last three winters, it is also important to consider the weather conditions on those days. First, the 951 Dth/hr rate that was quoted was on January 21, 2019, the date of the incident on Aquidneck Island. Thousands of customers had lost service, so it is not indicative of the actual customer demand on the island on that day and under the weather conditions at the time. Furthermore, the weather on that date was only 59 heating degree days (“HDD”). Since that time, the “peak” days in the subsequent winters were:

Winter	Date	HDD	Peak Hour Sendout on Aquidneck Island
2019-2020	January 17, 2020	47 HDD	794 Dth
2020-2021	January 29, 2021	51 HDD	887 Dth
2021-2022	January 15, 2022	54 HDD	864 Dth

2022-2023	February 3, 2023	62 HDD	1171 Dth
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It is not reasonable to expect that the Company will experience a design day and corresponding peak hour each and every winter. The purpose of the design day is to anticipate worst-case scenarios to ensure that the Company has the ability to maintain service to customers when they need it most. Each winter, the Company must assume that there could be design day conditions at some point during the winter period and must plan for how to maintain service to customers under those conditions. The Company does not modify the design day standard based on recent previous experiences, it remains at 68 HDD specifically because it is a low probability but high consequence condition if it does come about.

Q. Does the Company’s forecast and peak hour analysis provide a complete representation of a worst case scenario for gas demand under peak conditions?

A. No, it does not. There is not a perfect correlation between weather conditions (i.e., HDD) and customer demand. Under the same HDD weather conditions, there can be variability in customer demand. The Company uses forecasting tools to develop a reasonable estimate of anticipated gas usage leading up to a cold weather event, but load fluctuates and conditions change throughout a gas day. Further, the Company must base forecasting of gas usage on weather forecasts that can change, both leading up to a cold weather day and during a cold weather day. There can be significant variation in weather

1 forecasts, and subsequently gas usage forecasts. Essentially, the Company does not know
2 what the actual sendout will be until the day has already passed. The Project provides
3 back up supply to Aquidneck Island for the known gap between contracted supply and
4 expected customer demand under varying weather conditions, but also has capacity to
5 address any variability in customer demand as well.

6
7 **Q. Are pipeline conditions consistent throughout each gas day and during cold weather**
8 **events?**

9 A. No, pipeline conditions vary. The Company does not own or operate the pipeline feeding
10 Aquidneck Island and does not have insight into how it is operated. Pressures can
11 fluctuate, and it is not readily apparent if conditions that could lead to an outage are
12 imminent. All other areas of the Company's gas distribution system have a secondary
13 source of supply and alternate means of supporting customer demand under most
14 conditions. The Project provides the secondary source of supply for Aquidneck Island.

15
16 **Q. Is this the reason that the Project was utilized more than was needed to offset the**
17 **capacity constraint on gas day February 3, 2023?**

18 A. Yes, it is. In anticipation of the extensive demand swing during the latter half of the
19 February 3, 2023 gas day, the equipment at Old Mill Lane was brought online to address
20 a spike in demand and to support pipeline pressure to Aquidneck Island and prevent a
21 potential issue from arising.

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Q. Is Aquidneck Island just as vulnerable as other parts of the Company’s gas distribution system?

A. No, it is more vulnerable. All other parts of the Company’s distribution system have a secondary feed to them. There are several variations of the form of a secondary feed. First, much of the distribution system is interconnected, and gas can readily flow throughout the distribution system to feed many areas. Second, the transmission system feeding a particular area, even though it may be isolated from other parts of the Company’s distribution system, may have multiple pipes feeding it. Third, the Company may have an interconnection with another local distribution company to provide supplemental gas to an area. Finally, local on-system storage provides significant supply to the distribution system. In the case of Aquidneck Island, none of these conditions exist, and it is the only part of the Rhode Island natural gas distribution system that does not have some form of secondary feed. Through the options analysis associated with the Project, the Company evaluated options for secondary feeds in general, whether it was on the transmission system, within the distribution system, LNG barge, or portable LNG operations. The proposed Project was the least cost option with the greatest reliability benefits to our customers on Aquidneck Island.

Q. Is the impact to customers on Aquidneck Island greater if an outage were to occur there as opposed to other parts of the distribution system?

1 A. Yes, it is. Gas outages require isolation and restoration, which is a lengthy process that
2 increases in time to complete based on the number of affected customers. When gas
3 service is lost, as occurred in 2019, the entire affected system must be shut down, all
4 customers isolated, the affected gas system must be re-gassed, and then finally all
5 customers must be re-visited at each individual location to re-gas each customer service.
6 Gas system outages are not a common occurrence like electric outages, and the outage
7 and restoration process are not at all similar. Aquidneck Island is the largest isolated
8 system on the Rhode Island system, with more than 12,000 customers. The next largest
9 is Westerly with approximately 4,300 customers, and this system has a secondary feed.
10 Tiverton has approximately 800 customers and Burrillville has only 63 customers, both
11 systems have redundant connections to the transmission system. Outages on these
12 systems would inherently be much smaller scale and more manageable for restoration.

13
14 **Q. The Division states that it is not reasonable to account for the possibility of pipeline**
15 **failures, as if it were to occur the entire region would experience outages and there**
16 **is no way to address a condition of that magnitude. Do you agree with this**
17 **statement?**

18 A. Yes, I do; however, this is not the issue the Company attempts to address with the
19 Project. Yes, it is true that a major pipeline failure could cause extensive outages
20 throughout the region, and it is not reasonable to identify a backup means of addressing
21 that possibility. The Company is attempting to address a particular vulnerability specific

1 to Aquidneck Island, as it is uniquely situated at the extremity of the Algonquin G
2 System, on a single, undersized pipeline, with no secondary means of supply to any
3 customer on the island. If there were to be an issue on the pipeline, it may not impact the
4 entire pipeline, but it will impact Aquidneck Island first. The purpose of the Project is to
5 address the gap between available supply and current customer demand and also to
6 provide a secondary source that, in many cases, may avoid customer outages. In extreme
7 cases, even if the Project cannot fully address a pipeline vulnerability, it could provide
8 time for the Company to respond and minimize the impact to customers.

9
10 **Q. Does demand response or electrification provide a complete solution for the need on**
11 **Aquidneck Island?**

12 A. No, it does not. Reducing demand on Aquidneck Island helps to reduce the gap between
13 available supply and current customer demand on Aquidneck Island, but it provides no
14 form of secondary supply to any remaining gas customers.

15
16 **Q. Is the cost of accelerated electrification justifiable as compared to the Project?**

17 A. No, it is not. One such example is Oxbow Farms, where there is a need to remediate the
18 metering and piping to the facility. The Company estimates that retrofitting the complex
19 to remove gas usage and electrify would be approximately \$8 million. This would
20 effectively remove the facility from the gas system and eliminate its gas demand, which
21 is approximately 6 Dth/hr under design day peak hour conditions and accounts for

1 approximately 132 customers. In comparison, the current capacity shortfall on
2 Aquidneck Island is approximately 145 Dth/hr. Addressing this shortfall would require
3 the conversion of more than 3,000 natural gas customers. The proposed Project is more
4 cost efficient and provides greater reliability to the entire gas system on Aquidneck
5 Island, not just the customers that are converted to electric.

6

7 **IV. Conclusion**

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

9 **A.** Yes, it does.

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: Brian K. Kirkwood

PRE-FILED REBUTTAL TESTIMONY

OF

BRIAN K. KIRKWOOD

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1 **I. Introduction**

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

3 A. My name is Brian K. Kirkwood. 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 Manager of liquefied natural gas (“LNG”).

9
10 **Q. Have you previously filed testimony or testified before the Rhode Island Public**
11 **Utilities Commission (“PUC” or the “Commission”) or other public utility**
12 **commissions?**

13 A. Yes. I have filed pre-filed direct testimony with the PUC in this docket.

14
15 **Q. Are you familiar with the Aquidneck Island Gas Reliability Project (the “Project”)?**

16 A. Yes. The Project involves the use of portable equipment on property owned by the
17 Company at Old Mill Lane in Portsmouth for the vaporization and storage of liquified
18 natural gas (“LNG”) to provide back-up supply of natural gas to the Company’s gas
19 distribution system on Aquidneck Island.

20
21 **Q. What is your role specific to the Project?**

1 A, I am the Manager of LNG operations for Rhode Island Energy and support the Project
2 with the overall operation of the site. I oversee the mobilization, setup, operation,
3 breakdown, and demobilization of the site.

4
5 **Q. Are you familiar with the Application and Siting Report dated April 2022 (“Siting
6 Report”) that were submitted to the Siting Board?**

7 A. Yes. I supported preparation of the “Siting Report”, particularly regarding the Section 3
8 which describes the “Project”.

9

10 **II. Purpose and Structure of Testimony**

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

12 A. This rebuttal testimony provides additional details regarding the Project’s operation in
13 response to the pre-filed direct testimony submitted by Bruce R. Oliver and Paul Roberti
14 on behalf of the Rhode Island Division of Public Utilities and Carriers (the “Division”)
15 and the pre-filed direct testimony submitted by Jeffrey Loiter on behalf of the Town of
16 Middletown.

17

18 **Q. How is your testimony structured?**

19 A. Section I is the introduction. Section II presents the purpose and structure of my
20 testimony. Section III covers additional operational details for the portable LNG
21 operation at Old Mill Lane in Portsmouth, Rhode Island. Section IV is the Conclusion.

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III. Additional Operational Details for the Project

Q. Assuming the equipment is not on site, how long would it take to mobilize the Project under the following scenarios?

- a. During the offseason with contracted equipment and personnel for pipeline maintenance.**
- b. During the winter heating season with contracted equipment and personnel for peak shaving purposes.**
- c. During the offseason for pipeline maintenance with the Company equipment and personnel.**
- d. During the winter heating season with the Company equipment and personnel for peak shaving purposes.**

A. a. In the offseason it would likely take two (2) to four (4) weeks to mobilize rented equipment and arrange for contractor personnel. This mobilization timeframe assumes the availability of equipment and personnel in addition to a fully executed contract. Outside the current contracted winter operation season, our contractor has made commitments with other customers. Equipment is transported from all parts of the United States and Mexico that add to the mobilization time frame. Once all equipment is onsite at the Project, setup of the necessary storage and vaporization equipment requires approximately one week. During this one week period, glycol transportation needs to be arranged for one of the 650 thousand standard cubic feet per hour (MSCFH) glycol

1 vaporizers as a vaporizer of that size cannot be transported full of glycol.¹ Additional
2 work that would be performed during this period includes odorization system setup,
3 sandbag berm installation, electrical cable installation, emergency generator setup, office
4 trailer setup, and restroom facility setup. After all equipment is setup, it takes
5 approximately two days to cooldown the equipment and fill the equipment with LNG.
6 Equipment cooldown and LNG filling can be completed in less time but would require
7 LNG delivery trucks and the operation to continue throughout the night. If this occurred
8 on the weekend it would be difficult to arrange for LNG delivery trailers, especially after
9 normal business hours.

10
11 b. Mobilization during the winter heating season with contracted equipment and
12 personnel for peak shaving purposes could occur in seven to ten days, but a contract
13 would need to be executed to secure the availability of the equipment in a local storage
14 yard. The contractor would still require leasing fees to retain the equipment locally and
15 prevent it from being used by another customer. If the equipment was stored in Rhode
16 Island, it would take approximately seven to ten days to arrange for contracted personnel,
17 mobilization of the equipment onsite, and the setup of the equipment for operation. This
18 is assuming there are no delays with transportation services to move the portable
19 equipment (LNG storage units, vaporizer, and related mobile equipment), electrical

¹ Unlike the 650 MSCFH vaporizer, the 500 MSCFH vaporizer can be transported with glycol in the unit. Generally, glycol vaporizers over 500 MSCFH require the glycol to be removed for transit to meet weight regulations.

1 services to setup power cabling, and the additional required contracted services for the
2 glycol transfer. It is not practical to accurately forecast the weather and customer
3 demand with enough notice to mobilize the site for peak shaving purposes. To peak
4 shave, the equipment would be required to be mobilized onsite, fully setup, and tested.
5 Depending on the peak shaving forecast, LNG deliveries would likely occur over two
6 days to accommodate cooldown but could be completed in less time if LNG delivery
7 trailers were available throughout the night and operations continued after normal
8 business hours. To reduce setup time, the delivery of equipment and setup of the
9 equipment could extend outside of normal business hours to prepare the site in short
10 order. Delays can be expected due to poor weather, weekends, and or holidays. This
11 scenario is not capable of providing reliability services to the single feed pipeline.

12
13 c. If the Company owned the proposed LNG portable equipment the response time to
14 have the equipment mobilized and available for use would be approximately one week.
15 The critical step in mobilization under this scenario would be to secure a contractor to
16 move and deliver the glycol needed for the portable vaporizers. The vaporizers that the
17 Company proposes to purchase are of higher capacity (750 MSCFH) than the current
18 contracted equipment (500 and 650 MSCFH) and cannot be transported with glycol in the
19 units. Historically, it takes at least three to four days to reserve availability with a glycol
20 transportation company. Glycol is reused and taken from the stored vaporizers and
21 transported in separate trailers. Once the vaporizer is delivered in the final position

1 glycol is transferred back from the transport trailer. The tanker trailers used must be
2 cleaned prior to the glycol transfer to prevent contamination. As with the contracted
3 operation, additional items that are required include the odorization system setup,
4 sandbag berm installation, electrical cable installation, emergency generator setup, office
5 trailer setup, and restroom facility setup. After all equipment is setup, it will take
6 approximately two days to cooldown the equipment and fill with LNG. As with the
7 previous scenarios this period can be reduced if the operation and delivery trailers
8 extended outside normal business hours. Using Rhode Island Energy employees to
9 operate the equipment would ensure availability of the required staffing. Under the
10 current arrangement of using contracted services there is no certainty that contracted
11 personnel will be available unless a contract is in place to reserve labor availability.

12
13 d. Mobilization during the winter heating season with Company owned equipment and
14 Company personnel for peak shaving purposes would entail the same response times and
15 risks as detailed with respect to scenario c. The required time to mobilize would still be
16 too long to accurately forecast the weather and customer demand for peak shaving
17 purposes. To peak shave effectively, the equipment would need to be mobilized onsite,
18 fully setup, and tested. To ensure reliability under this scenario, LNG would need to be
19 stored onsite with personnel immediately available to operate the LNG vaporization and
20 injection equipment.

21

1 **Q. Are you familiar with Mr. Montigny’s statement that the purchase of LNG**
2 **vaporization equipment “guarantees” that the Company will have equipment**
3 **available immediately when needed?**

4 A. Yes.

6 **Q. As the person in charge of securing rental contracts and purchasing new equipment,**
7 **would you explain what was meant by “guarantee” and available “immediately”?**

8 A. Yes. There is reduced response time for the Company to mobilize and prepare the Old
9 Mill Lane LNG Facility when using Company owned portable equipment over contracted
10 equipment. In the unforeseen need to operate portable LNG equipment at Old Mill Lane
11 (outside the winter operating season), it is advantageous to have owned equipment to
12 ensure that the particular equipment needed for the operation is available. While there
13 are other contractors and equipment lessors with portable LNG equipment, the Project
14 requires equipment with high vaporization rates, advanced storage trailers with
15 vaporization pumps, transfer pumps to reduce tank venting, and equipment redundancy.
16 Without a contract, the Company has no control over how the current contracted
17 equipment is used when it is not at Old Mill Lane or where it is relocated once the winter
18 seasonal operation has concluded. It would be cost prohibitive to continue to lease the
19 equipment for the full year and to store it locally to reduce transit time to the Old Mill
20 Lane Facility. Once the site is demobilized, the equipment is taken off site and brought
21 to different parts of the country. This can present a challenge for the next winter as on

1 more than once instance, the equipment arriving onsite for the winter operating season at
2 Old Mill Lane was delayed due to transportation logistical issues. There is also risk of
3 equipment damage in transit and equipment requiring repair before it can be used. Mr.
4 Oliver's and Mr. Roberti's testimony (Page 29 lines 18-20) misunderstands the difference
5 between having equipment immediately available for deployment, which would be
6 guaranteed with Company ownership of the equipment, and immediate deployment of
7 equipment in the case of an unforeseen supply emergency.

8 Aside from entering into a year-round rental agreement and reserving labor year-
9 round, purchasing the required portable LNG equipment is the only way to guarantee that
10 the required equipment is available immediately for a supply emergency. Company
11 owned equipment will guarantee that the required equipment is readily available.
12 However, even with Company owned equipment and Company personnel operating that
13 equipment, the equipment must be mobilized, fully setup, tested, and fully loaded with
14 LNG before it can be placed into service.

15 I agree with Mr. Oliver's and Mr. Roberti's testimony (Page 29, line 20 & Page
16 30, line 1-2) that equipment must be in an already heated and operational state to provide
17 an immediate response to issues with the Aquidneck Island single feed natural gas
18 pipeline. The Company has determined that the risk of a gas supply delivered via the
19 single feed pipeline during the winter heating season is too great for the Company's
20 customers, and at this time the Company is utilizing portable LNG operations to reliably
21 provide service to its customers. To provide as much vaporized gas as possible, it is

1 imperative to have LNG continuously stored onsite. This serves two purposes. The first
2 is that the equipment can be kept in a cooled state such that it is capable of receiving
3 additional LNG without a multiple hour cooldown period. Second, onsite storage of
4 LNG ensures that LNG is available for vaporization while additional LNG deliveries are
5 scheduled. Depending on the availability of LNG delivery trailers, drivers, other
6 contractual commitments it can take over twenty-four hours to schedule short notice LNG
7 deliveries, and this period can be longer if the need occurs on a weekend, holiday, or
8 during inclement weather.

9
10 **Q. Can you provide a detailed analysis of the financial justification for purchasing**
11 **equipment, including a summary of the estimated rental costs and how those**
12 **changed, if at all, over the past few years?**

13 A. The Company has experienced rental costs that have increased over 60 percent when
14 compared with the previous rental contract rates. In addition, equipment with higher
15 vaporizations rates is not readily available and the Company is subject to demand pricing
16 for the required equipment that is needed to serve our customers. The Company
17 performed a cost analysis to assess the viability of purchasing similar equipment and
18 operating with Company employees, instead of contracted employees. The Company's
19 cost recoupment analysis is attached Attachment BKK-1 and includes the most recent
20 known figures. The analysis concluded that it would take approximately six (6) years to
21 recover the initial cost of purchasing the equipment through the avoidance of rental costs.

1 This calculation includes the purchase price and operating costs. Additionally, the
2 purchased equipment will offer the following benefits for customers over the current
3 contracted equipment: higher vaporization rates (two 750 MSCFH vaporizers), storage
4 units will have increased reliability with each unit having a vaporization pump and unit
5 transfer pump, and the same number of storage vessels will hold more LNG to reduce the
6 number of delivery trucks that would be needed during design conditions.

7
8 **Q. What are the other implications of replacing contracted services, including**
9 **equipment rental and operating personnel, with purchased equipment and new**
10 **hires?**

11 A. The purchase of portable LNG equipment and operating with Company personnel will
12 not only save money for customers but increase the service to best meet customer
13 demand. The equipment that the Company is proposing to purchase is quieter, more
14 efficient, and has multiple levels of redundancy for increased reliability that is unmatched
15 with any equipment available from our contactor, and is cost effective when compared to
16 rental. The equipment also has a higher output at 750 MSCFH but will feature the design
17 features of the current 500 MSCFH rental unit, variable speed blower and additional
18 insulation, which increase efficiency, reduce operational noise, and reduce the cycling
19 required to maintain bath temperatures. The Company approached the current contractor
20 about rental options and the 650 MSCFH unit that has been at the site for the last four
21 years is the only option. It is important to note that in addition to being twelve years old,

1 this unit was originally designed to operate in support of remote mining facilities so its
2 design does not incorporate features to maximize efficiency or reduce overall noise.

3
4 **Q. What is the Company’s approach to venting boil-off gas into the atmosphere?**

5 A. The Company minimizes venting to the extent reasonably possible in the operation of the
6 portable facility. LNG plants have boil-off gas (“BOG”) compressors to inject BOG into
7 the distribution system and avoid venting to the atmosphere. Some aspects of the
8 portable operation do require venting to atmosphere, but the BOG recovery manifold is
9 utilized whenever possible. The BOG manifold injects into the 55 psig natural gas
10 distribution system and so, without a compressor, that is the minimum operating pressure
11 for the manifold. The minimum operating pressure of the BOG recovery manifold is
12 nearly the maximum pressure of the delivery LNG trailers. Since the delivery trailers
13 have a pressure that is lower than the minimum operating pressure of the manifold,
14 venting to atmosphere is necessary during storage queen initial cooldown as the pressure
15 differential between the receiving unit and delivery unit must be maintained.

16
17 **Q. Will the Project provide any additional features to avoid the release of BOG to the**
18 **atmosphere?**

19 A. The equipment that the Company proposes to purchase will offer greater flexibility with
20 the operation to reduce venting to atmosphere. All storage equipment will utilize transfer
21 pumps to draw suction from the delivery trailer and pump to storage equipment with a

1 higher tank pressure, eliminating the need for differential pressure flow. Contracted
2 equipment to date, has offered some storage units with transfer pumps, but the equipment
3 is not always compatible with on-site equipment, making is difficult to always use the
4 transfer pumps when they are available. The purchased equipment would have
5 standardized piping and manifold configurations thereby offering more flexibility to use
6 transfer pumps. When setup in the long-term configuration, the revised layout means that
7 fewer hoses will be required for the BOG operations, site vaporization, and the use of
8 LNG transfer pumps.

9
10 **IV. Conclusion**

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

12 **A.** Yes, it does.

REDACTED

OML LNG

Equipment cost: [REDACTED] - (2) 750 MSCFH Vaporizers & (6) Smart Storage Queens, including 15% Contingency

Contracted Operation					Company Owned Equipment & Company Staffing					
Year	Contractor Service	Cost	RIE Cost	Cost	Running Cost	RIE Cost	Cost	Running Cost	Breakeven	Comments
1	Seasonal Service Operation	[REDACTED]	Labor & Security	-340,000	[REDACTED]	Labor & Security	-572,000	[REDACTED]	[REDACTED]	Breakeven cost, is intial equipment cost, less the cost of the contracted operation and cost to operate purchased equipment
	Out of season service Operation	0	O&M	-80,000		O&M	-80,000			
	Annual Cost	[REDACTED]	Annual Cost	-420,000		Annual Cost	-652,000			
2	Seasonal Service Operation	[REDACTED]	Labor & Security	-340,000	[REDACTED]	Labor & Security	-572,000	[REDACTED]	[REDACTED]	
	Out of season service Operation	0	O&M	-80,000		O&M	-80,000			
	Annual Cost	[REDACTED]	Annual Cost	-420,000		Annual Cost	-652,000			
3	Seasonal Service Operation	[REDACTED]	Labor & Security	-340,000	[REDACTED]	Labor & Security	-572,000	[REDACTED]	[REDACTED]	Contract cost increase [REDACTED]
	Out of season service Operation	0	O&M	-80,000		O&M	-80,000			
	Annual Cost	[REDACTED]	Annual Cost	-420,000		Annual Cost	-652,000			
4	Seasonal Service Operation	[REDACTED]	Labor & Security	-340,000	[REDACTED]	Labor & Security	-572,000	[REDACTED]	[REDACTED]	
	Out of season service Operation	0	O&M	-80,000		O&M	-80,000			
	Annual Cost	[REDACTED]	Annual Cost	-420,000		Annual Cost	-652,000			
5	Seasonal Service Operation	[REDACTED]	Labor & Security	-340,000	[REDACTED]	Labor & Security	-572,000	[REDACTED]	[REDACTED]	
	Out of season service Operation	0	O&M	-80,000		O&M	-80,000			
	Annual Cost	[REDACTED]	Annual Cost	-420,000		Annual Cost	-652,000			
6	Seasonal Service Operation	[REDACTED]	Labor & Security	-340,000	[REDACTED]	Labor & Security	-572,000	[REDACTED]	[REDACTED]	Breakeven year for purchasing equipment and staffing entirely with RIE Staff.
	Out of season service Operation	0	O&M	-80,000		O&M	-80,000			
	Annual Cost	[REDACTED]	Annual Cost	-420,000		Annual Cost	-652,000			

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: Brett S. Feldman

PRE-FILED REBUTTAL TESTIMONY

OF

BRETT S. FELDMAN

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1 **I. Introduction**

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

3 A. My name is Brett Feldman. 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 (the “Company”) as Manager,
8 Customer Energy Management, Rhode Island.

9
10 **Q. What are your responsibilities as a Manager at Rhode Island Energy?**

11 A. As a Manager, I oversee strategy, policy, planning, and evaluation for all energy
12 efficiency programs. My team is responsible for developing annual and three-year plans,
13 providing quarterly and annual reports, and evaluating program performance. I represent
14 the company on the Rhode Island Energy Efficiency and Resource Management Council
15 (“EERMC”).

16
17 **Q. Please describe your education, training, and experience.**

18 A. I received a Bachelor of Arts in Economics from University of Michigan and a Masters in
19 Business Administration from Boston University. I started working at Rhode Island
20 Energy in March 2022 (formerly National Grid) in my current role. Prior to joining the
21 Company, I worked at Guidehouse (formerly Navigant), performing market research and

1 consulting on global energy efficiency and demand response program strategy,
2 evaluation, and policy engagements; Constellation Energy, managing demand side
3 resource portfolios in wholesale markets including ISO-NE, NYISO, and PJM;
4 Eversource Energy, managing commercial and industrial energy efficiency and demand
5 response program implementation; Nexant, consulting on utility energy efficiency and
6 demand response program design and evaluation; and ICF, providing economic and
7 marketing support to US EPA’s EnergyStar program.

8
9 **Q. Have you previously filed testimony or testified before the Rhode Island Public**
10 **Utilities Commission (“PUC” or the “Commission”) or other public utility**
11 **commissions?**

12 A. Yes, I submitted pre-filed testimony and testified before the PUC in Docket 22-33-EE.

13
14 **Q. Are you familiar with the Aquidneck Island Gas Reliability Project (the “Project”)?**

15 A. Yes. The Project involves the use of portable equipment on property owned by the
16 Company at Old Mill Lane in Portsmouth for the vaporization and storage of liquefied
17 natural gas (“LNG”) to provide back-up supply of natural gas to the Company’s gas
18 distribution system on Aquidneck Island.

19

1 **Q. What is your role specific to the Project?**

2 A, I am involved in responding to questions on the energy efficiency components of the
3 Non-Infrastructure Solution portion of the Project analysis.

4

5 **Q. Are you familiar with the Application and Siting Report dated April 2022 (“Siting
6 Report”) that were submitted to the Siting Board?**

7 A. Yes.

8

9 **II. Purpose and Structure of Testimony**

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

11 A. In my testimony, I will provide responses to issues and questions on the energy efficiency
12 components raised by the Rhode Island Division of Public Utilities (the “Division”) and
13 Conservation Law Foundation.

14

15 **Q. How is your testimony structured?**

16 A. Section I is the Introduction. Section II presents the purpose and structure of my
17 testimony. Section III presents responses to issues and questions on the energy efficiency
18 components raised by the Division and Conservation Law Foundation. Section IV is the
19 Conclusion.

20

1 **III. Responses to Issues Raised Regarding Energy Efficiency Alternatives Considered**

2 **Q. Referring to page 7 of the pre-filed direct testimony of Bruce Oliver and Paul**
3 **Roberti, the Division suggests that the proposed Project is comparatively expensive**
4 **when measured against potential demand side measures to reduce natural gas**
5 **demand on Aquidneck Island citing a benefit cost ratio (“BCR”) of 2.97 for the**
6 **programs contained in the Company’s 2023 Annual Energy Efficiency Plan (the**
7 **“EE Plan”). Do you agree with the Division’s assessment?**

8 A. No. The overall 2.97 BCR of the programs contained in the EE Plan is not representative
9 of the likely opportunities on Aquidneck Island. The Large Commercial and Industrial
10 (“Large C&I”) energy efficiency programs have the highest BCRs, and those
11 opportunities are limited on Aquidneck Island. The more likely program opportunities on
12 Aquidneck Island are Residential and Small Business. The BCRs of these programs is
13 lower than the BCRs associated with Large C&I measures. Therefore, the Company
14 would be unlikely to achieve an overall BCR of 2.97 for energy efficiency investments
15 specific to Aquidneck Island.

16
17 **Q. At pages 33 to 34 of their testimony, Messrs. Oliver and Roberti indicate that the**
18 **Company’s analysis of alternatives to the Project did not include consideration of**
19 **targeted electrification and energy efficiency programs on Aquidneck Island. Is this**
20 **correct?**

1 A. No, Messrs. Oliver and Roberti are mistaken. The targeted energy efficiency component
2 of the Aquidneck Island Non-Infrastructure Alternatives is presented in section 4.7 of the
3 Siting Report. The analysis of this potential alternative was based on the Maximum
4 Achievable Potential from the 2021 Energy Efficiency Market Potential Study performed
5 by Dunsky. The potential achievable savings level in that study was based upon
6 providing 100 percent incentives to customers for energy efficiency projects. This level
7 of incentivization would lower the cost-effectiveness of the Company's present energy
8 efficiency program portfolio which does not offer 100 percent incentives to every
9 customer for every measure. The assumptions underlying the Dunsky study also
10 presuppose substantial growth in customer adoption of energy efficiency measures
11 beyond a level that the Company has observed in its administration of energy efficiency
12 programs. Consequently, the number of Aquidneck Island customers who agree to
13 participate in energy efficiency programs, and/or the impact of these programs on those
14 who do participate, may not meet estimated required reduction in natural gas demand.
15 This creates risk of not achieving the full projected potential in the face of continuing
16 reliability risks due to gas supply vulnerability and constraints. In light of these
17 uncertainties and the overall cost associated with the implementation of the non-
18 infrastructure alternatives presented in Section 4.7 of the Siting Report, the Company
19 determined this approach was not the best alternative at this time.

20

1 **Q. You indicated that you participated in Docket No. 22-33-EE regarding the**
2 **Company’s 2023 Annual Energy Efficiency Plan. In the context of that docket did**
3 **the Division or any other intervenor recommend targeting of energy efficiency**
4 **measures to Aquidneck Island or any other geographically discrete area of the**
5 **State?**

6 A. No.

7

8 **Q. Do you have any other observations regarding the suggestion to target energy**
9 **efficiency incentives to Aquidneck Island at a level that exceeds the incentives**
10 **offered to Rhode Island customers generally?**

11 A. Yes. The decision to offer significantly enhanced energy efficiency incentives to a
12 discrete geographic area in the state involves a significant public policy question since it
13 would likely result in energy efficiency funds, contractor resources and equipment being
14 distributed inequitably throughout the state.

15 Heat electrification via air source or ground source heat pumps faces challenges,
16 starting with the cost for electrification of gas-heated customers in Rhode Island– both
17 upfront cost and ongoing operating costs. Other obstacles include a relatively immature
18 installer base and capacity to install and a longer sales cycle for installations. The
19 mitigation of these barriers would typically involve a longer-term market transformation
20 strategy, one that will be difficult to maintain in support of a relatively geographically
21 narrow opportunity limited to Aquidneck Island.

1 As a general matter, the Company’s goal is to have a full portfolio of energy
2 efficiency programs with a BCR greater than 1.0 while offering cost-effective programs
3 to all of our customer segments throughout the state. Within the Company’s current
4 energy efficiency program portfolio, some programs have higher BCRs than others.
5 Maintaining a high BCR requires the Company to balance programs with lower BCRs
6 against higher BCR programs such offerings to Large C&I customers.

7
8 **Q. At pages 25-26, the testimony of Earnest White submitted on behalf of the**
9 **Conservation Law Foundation criticizes the Company’s position on the targeting of**
10 **energy efficiency resources to Aquidneck Island as presenting a “zero-sum game”**
11 **where measures implemented on Aquidneck Island reduce the ability to implement**
12 **measures in other parts of Rhode Island. Is that an accurate assessment of the**
13 **Company’s position?**

14 **A.** Not entirely. However, the Company and other stakeholders in the energy efficiency
15 planning process do have to realistically consider cost and resource constraints. The
16 Company could propose to increase the overall level of energy efficiency spending to
17 address issues that are particular to Aquidneck Island, but that would be subject to the
18 Commission’s approval in its consideration of the Company’s energy efficiency plan.
19 The Company generally attempts to right-size program budgets to levels that are believed
20 to be technically feasible and meet the market demand, without assessing customers a
21 higher than necessary system benefit charge. So, for example, in the context of

1 consideration of the Company’s 2023 Annual Energy Efficiency Plan in Docket No. 22-
2 33-EE, the Division recommended a reduction of the Company’s proposed budget due to
3 concerns that the Company would not be able to achieve the spending targets associated
4 with certain programs. The Division did not question whether the proposed programs
5 were meritorious or the Company’s assessment of program BCRs. Rather, the Division’s
6 concern was that the Company would be assessing customers a system benefit charge for
7 measures that it would not actually be able to implement within the year. The Company
8 believes that the Division’s desire to limit system benefit charges to the cost of measures
9 that will realistically be deployed within a given year is reasonable.

10 There are limited resources within the Rhode Island energy efficiency market in
11 terms of workforce and equipment supply, so there is a necessary ramp-up time to focus
12 resources in a particular area, and there are trade-offs to diverting resources from other
13 areas. It is not necessarily zero-sum, but there can be some loss of time and overall
14 program efficiency.

15
16 **Q. Do you have any other observations regarding intervenors’ testimony concerning**
17 **the targeting of energy efficiency measures to Aquidneck Island as an alternative to**
18 **the Project?**

19 A. Yes. At pages 40, *et seq.* of their testimony Messrs. Oliver and Roberti state, “First,
20 based on the extreme weather conditions experienced on February 3, 2023, we recognize
21 that there is currently a need for LNG vaporization on Aquidneck Island to supplement

1 TNEC’s contracted pipeline gas deliveries under extreme winter weather conditions.”

2 They go on to state that targeted energy efficiency spending on Aquidneck Island offers
3 the, “potential for avoiding a \$15 million investment [for the Project] and \$1.5 million in
4 annual operating costs [and that] the Company’s offerings for Aquidneck Island
5 customers can be enhanced relative to those for other parts of its system without eroding
6 the cost-effectiveness of such offerings.”

7 The Division’s assessment is not sound. Based upon the Division’s admission
8 that the Project is needed at this time, the investment necessary to construct the Project
9 would occur with or without targeted energy efficiency measures on Aquidneck Island.
10 Since the investment necessary to meet the admitted need for LNG vaporization would
11 have to occur regardless of targeted energy efficiency measures, the avoidance of Project
12 costs could not logically be considered a benefit of such measures. Therefore, the BCR
13 of Aquidneck Island specific energy efficiency measures would not be enhanced through
14 the avoidance of the costs of LNG vaporization investments.

15
16 **Q. Do you believe that Messrs. Oliver and Roberti’s suggestion of an Aquidneck Island**
17 **specific interruptible service rate class would present a viable alternative to the**
18 **Project?**

19 A. No. Messrs. Oliver and Roberti’s observations regarding demand response overlook
20 actual program structures that allow customers to override event calls and continue to
21 utilize gas at ‘normal’ levels. So, for example, during the extreme cold event of February

1 3-4, 2023, RI Energy enacted its Gas Demand Response demonstration program in which
2 one of the two Aquidneck Island voluntary customers was unable to curtail gas usage due
3 to a backup equipment issue and no reduction in gas demand from that customer was
4 realized. It is worthy to note for the Company's mandatory curtailment program all
5 customers curtailed as called upon for the February event. Theoretically, the Company
6 could alter its interruptible service programs to permit physical interruption of a
7 customer's gas service, but it is reasonable to assume that this would deter customer
8 participation due to the risks posed if a customer's backup heating source were
9 inoperable during an event call.

10 Additionally, meeting customer enrollment requirements will be critical to the
11 success of such a program. The number of customers who agree to receive interruptible
12 service can fluctuate or fail to meet projections. Therefore, there is a risk of not
13 achieving the full projected need on peak days and the reliability risks posed by capacity
14 vulnerability and constraint on Aquidneck Island would not be resolved.

15
16 **IV. Conclusion**

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

18 **A.** Yes, it does.

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: Stuart A. Wilson

PRE-FILED REBUTTAL TESTIMONY

OF

STUART A. WILSON

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Appendix A.....15

1 **I. Introduction**

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

3 A. My name is Stuart A. Wilson. I am the Director of Energy Planning, Analysis, and
4 Forecasting for LG&E and KU Services Company, which provides services to The
5 Narragansett Electric Company (the “Company”) in Rhode Island and to Louisville Gas
6 and Electric Company (“LG&E”) and Kentucky Utilities Company (“KU”) in Kentucky.
7 My business address is 220 West Main Street, Louisville, Kentucky 40202.

8
9 **Q. What are your responsibilities as Director of Energy Planning, Analysis,
10 Forecasting at LG&E and KU Services?**

11 A. For the Company, I am responsible for forecasting natural gas demand. For LG&E and
12 KU, I am responsible for gas and electric sales forecasting, generation planning, and
13 economic analysis.

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

16 A. I graduated from the University of Louisville with a master’s degree in Electrical
17 Engineering. I also have a Master of Business Administration from Indiana University. I
18 have worked for LG&E and KU Services Company for 25 years. Prior to my current
19 position, I served as Manager Sales Analysis & Forecasting and Manager Generation
20 Planning. I became a CFA Charterholder in 2003. A complete statement of my
21 education and work experience is attached to this testimony as Appendix A.

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15

Q. Have you previously filed testimony with, or testified before, the Rhode Island Public Utilities Commission (“PUC” or the “Commission”) or other public utility commissions?

A. I have not previously filed testimony with, or testified before, the PUC. I have recently provided expert testimony before the Kentucky Public Service Commission in Case Nos. 2022-00402,¹ 2021-00393,² and 2020-00060.³

II. Purpose of Testimony

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

A. The purpose of my testimony is to rebut some of the assertions made by the Rhode Island Division of Public Utilities and Carriers (the “Division”) concerning design day conditions, the Company’s forecast of sendout, and the impact of recent enacted legislation on the forecast.

¹ *Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan*, Case No. 2022-00402, Direct Testimony of Stuart A. Wilson (Jan. 6, 2023).

² *Electronic 2021 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company*, Case No. 2021-00393, July 12, 2022 H.V.T. at 17:43:05-18:10:32 and July 13, 2022 H.V.T. at 08:12:49-12:05:40 (Ky. PSC Oct. 7, 2022).

³ *See, e.g., Electronic Application of Kentucky Utilities Company for Approval of Its 2020 Compliance Plan for Recovery by Environmental Surcharge*, Case No. 2020-00060, Direct Testimony of Stuart A. Wilson (Mar. 31, 2020); *Electronic Application of Louisville Gas and Electric Company for Approval of Its 2020 Compliance Plan for Recovery by Environmental Surcharge*, Case No. 2020-00060, Direct Testimony of Stuart A. Wilson (Mar. 31, 2020).

1 **Q. How is your testimony structured?**

2 A. Section I is the introduction. Section II presents the purpose and structure of my
3 testimony. Section III discusses the design day and sendout on the February 3, 2023 gas
4 day. Section IV addresses criticisms of the gas demand forecast. Section V is the
5 conclusion.

6
7 **Q. What is your understanding of the impact of the gas forecast on the need for the
8 LNG facility?**

9 A. As noted in the Aquidneck Island Gas Reliability Project Siting Report dated April 2022
10 and in previous testimony from other witnesses on behalf of the Company, the need for
11 the Old Mill Lane liquefied natural gas (“LNG”) facility is immediate and does not
12 depend on the gas forecast. The need for this facility exists today, but based upon my
13 understanding, the facility is mobile and scalable so it can adapt to changes in future
14 demands.

15
16 **III. Sendout on February 3-4, 2023 was Not Indicative of Sendout on a Design Day**

17 **Q. Are you familiar with the testimony submitted on behalf of the Division that asserts
18 that peak sendout on the February 3-4 gas day is indicative of peak hour sendout on
19 a design day?**

20 A. Yes.

21

1 **Q. Do you agree with that assertion?**

2 A. No. The design day forecast is dependent on several variables including temperatures
3 leading up to the peak hour as well as temperatures on prior days. This is why the
4 forecast of daily sendout includes as variables the current and previous two days'
5 weather. The temperature during the peak hour on the morning of February 4 was -9
6 degrees Fahrenheit, but the maximum temperature earlier in the gas day was 20 degrees
7 Fahrenheit. The average temperature on the February 3-4 gas day was 3 degrees
8 Fahrenheit, 6 degrees warmer than the average temperature on the Company's design day
9 (-3 degrees Fahrenheit). Had temperatures earlier in the gas day been cold enough to
10 produce an average temperature of -3 degrees Fahrenheit, peak sendout on the morning of
11 February 4 would have been higher. Similarly, the average temperature over the two gas
12 days prior to the February 3-4 gas day was 28 degrees. In the design scenario, the
13 average temperature on the two gas days prior to the design day is 17 degrees. Had the
14 weather on the days before February 3 been colder, peak sendout on the morning of
15 February 4 would have been higher as buildings would have retained less heat from the
16 prior days. Not only was the average temperature on the February 3 gas day above
17 design conditions, but the average temperature on the days prior was also above design
18 conditions.

19

1 **Q. Are there any other factors that caused sendout on the morning of February 4 to be**
2 **lower than it otherwise would have been?**

3 A. Yes. February 4 was a Saturday. This caused sendout to be lower than it would have
4 been had the same temperatures occurred on a weekday when more businesses were
5 open. In addition to weather, sendout is forecasted as a function of a weekday/weekend
6 variable. The model coefficient for this variable indicates that sendout on Friday through
7 Sunday is lower than sendout on Monday through Thursday.

8
9 **Q. Has the Commission had an opportunity to review the Company's methodology for**
10 **forecasting sendout?**

11 A. Yes. The Company's methodology has been utilized in various proceedings including
12 numerous Long-Range Plan and Gas Cost Recovery dockets. That methodology also was
13 used for this proceeding.

14
15 **Q. Based on the experience of February 3-4, the Division concludes that only 20 percent**
16 **of the available LNG vaporization capacity would be needed under design day**
17 **weather conditions. Do you agree?**

18 A. No. As discussed above, the Company did not experience a design day weather event
19 and thus did not experience design day demand, which is used to forecast design hour
20 demand. As such, any conclusions regarding the February 3-4 event should be viewed
21 from that context.

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IV. Any Changes to Historically Increasing Trends in Sendout Will Occur Gradually

Q. Do you agree with the Division’s assertion that a forecast of declining population on Aquidneck Island should result in a growth rate for Aquidneck Island that is less than the total system average growth rate?

A. No. There is currently no meaningful correlation between the change in population on Aquidneck Island and the change in number of customers. Based on historical sendout trends, the use of the same growth rate for Aquidneck Island and the total system is reasonable. Regardless of whether the growth rate for Aquidneck Island should be different, the Aquidneck Island sendout forecast should not be declining. According to the 2022 report referenced by the Division,⁴ the population in Middletown and Portsmouth declined by 1.27 percent from 2010 to 2019. Despite this decline, average meter counts increased over this period. Specifically, from 2011⁵ to 2019, average meter counts on Aquidneck Island increased approximately 15 percent. Thus, a declining population has historically not been associated with declining number of customers. Furthermore, as indicated by the table below, these increases are due in large part to conversions from heating fuel to natural gas and demonstrate customer preferences for gas heating. If this trend continues, the potential for growing gas demand on Aquidneck

⁴ “Aquidneck Island Gas Reliability Project,” Energy Facility Siting Board Report, April 2022, page 84, Table 6-2, Population Projections, 2010 – 2040.
⁵ A change in billing systems prevents the use of 2010 data.

1 Island remains high as Newport County has a significant number of buildings that still
2 rely on fuel oil for heat.⁶

3 **Aquidneck Island (Source: U.S. Census Bureau⁷)**

Heating Fuel Source	2010	2020	Change
Utility Gas	34.7%	41.2%	6.4%
Bottled, tank, or LP gas	2.5%	3.7%	1.2%
Electricity	10.7%	15.0%	4.3%
Fuel oil, kerosene, etc.	51.0%	38.3%	-12.8%
Other	0.1%	0.0%	-0.1%

4
5 **Q. The Division cites declining usage from 2018 to 2022 for 5 large customers. Do you**
6 **think this implies that total usage on Aquidneck Island is also declining?**

7 A. No. The Division did not consider differences in weather in its analysis. Even for large
8 customers, natural gas usage is impacted by weather and the number of heating degree
9 days (“HDD”) in the 2021/2022 planning year was 5.4 percent lower than the number of
10 HDD in the 2017/2018 planning year.⁸ Usage comparisons must consider differences in
11 weather. The Division’s implication is incorrect.

12
13 **Q. Conservation Law Foundation (“CLF”) notes that (a) the general trend in demand**
14 **for natural gas at the Portsmouth Gate has been declining since the peak of nearly**
15 **1,400 Dth/hr in 2017 and (b) demand at the Portsmouth Gate has not exceeded 1,000**
16 **Dth/hr since 2018. Do you think this indicates a declining trend in demand?**

⁶ See slide 14 at the following link: https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-02/Technical%20Conf_Status%20of%20NG%20Dist%20System_RIE%20FINAL.pdf.

⁷ U.S. Census Bureau American Community Survey 5 Year Estimates Detailed Tables

⁸ “Planning Year” refers to April 1 – March 31.

1 A. No. Again, usage comparisons must consider differences in weather, and as I also noted
2 earlier, peak hour demands vary based on the day of the week. The table below lists for
3 the last six heating seasons the number of HDD on the peak day and the day of the week
4 on which the peak day occurred. The CLF's statements referenced demands from the
5 2017/2018 heating season through the 2021/2022 heating season. After the 2018/2019
6 heating season, peak day weather in the next three heating seasons (i.e., through the
7 2021/2022 heating season) was milder, and the peak days in the 2020/2021, 2021/2022,
8 and 2022/2023 heating seasons occurred on the weekend. This explains why peak
9 demand was lower in those heating seasons. Furthermore, the CLF's assertion that peak
10 demand has not exceeded 1,000 Dth/hr is incorrect as a peak demand of 1,171 Dth was
11 experienced on February 3, 2023. This data does not indicate a declining trend in
12 demand.

13 **Heating Season Peaks**

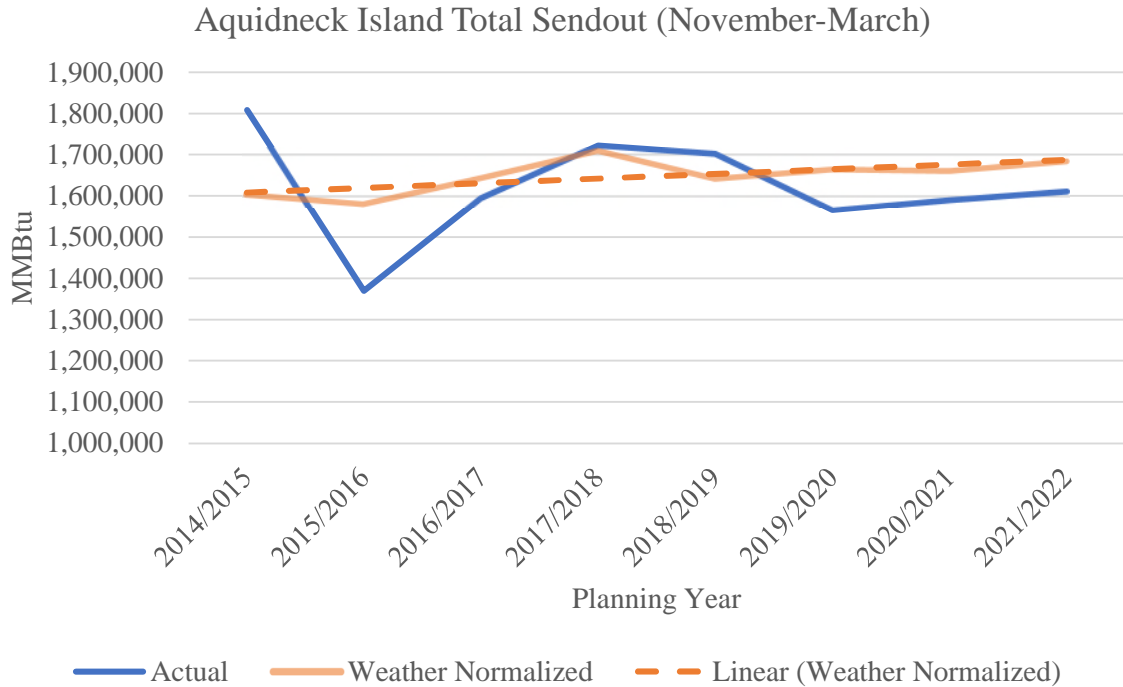
Heating Season	Peak Day HDD	Day on which Peak Day Occurred
2017/2018	57	Monday
2018/2019	59	Monday
2019/2020	47	Thursday
2020/2021	51	Sunday
2021/2022	54	Saturday
2022/2023	62	Friday

14

15 **Q. On a weather-normalized basis, what is the trend in sendout on Aquidneck Island?**

16 A. The chart below shows actual and weather-normalized winter sendout since the
17 2014/2015 planning year. Weather-normalized sendout increased 4.97 percent over the
18 period with a compound annual growth rate of 0.69 percent.

1



2

3

4 **Q. Does the forecast referenced in the Siting Report contemplate the impacts of the Act**
5 **of Climate and the Inflation Reduction Act?**

6 A. No. As the Division notes, the forecast was prepared before these laws were enacted. It
7 should also be noted that the Act on Climate is not expected to provide an immediate
8 impact on natural gas demand on Aquidneck Island. Absent an immediate solution, it is
9 my understanding that the reliability of the natural gas system on Aquidneck Island is at
10 risk during the winter months because of present gaps in supply as experienced February
11 3-4 of this winter. I would also note that the forecast does include the impact of the

1 Company's energy efficiency programs, which is an important component for any
2 decarbonization strategy.

3
4 **Q. The Division asserts that it would be naïve to suggest that the Act on Climate will**
5 **have no impact on future gas requirements. How do you respond?**

6 A. As I mentioned earlier, the increasing usage of gas heating in Rhode Island reflects
7 customers' preference for gas heating. In addition to customer preferences, the impact of
8 the Act on Climate will depend on incentives, which include cost shifts that will have to
9 be absorbed by customers. Currently, the mechanisms through which the Act on
10 Climate's goals will be achieved are not yet defined, their associated costs have not been
11 quantified, and the community's appetite for absorbing these costs is unknown.
12 Therefore, the impact of the Act on Climate is uncertain. Until it is determined if, how,
13 and when homes, businesses, hospitals, government offices, and factories across Rhode
14 Island can transition to an alternative to natural gas, the Company must continue to plan
15 for how to reliably deliver the fuel solution upon which these customers rely. The
16 forecast is re-evaluated every year and will reflect any impacts of the Act on Climate (a)
17 once incentives and enforcement mechanisms are defined or (b) as the impacts are
18 observed in historical data.

19

1 **Q. What are your thoughts on how the Inflation Reduction Act will impact the**
2 **forecast?**

3 A. The Inflation Reduction Act (“IRA”) creates new and extends existing tax credits and
4 rebates for energy efficiency projects. In addition to incentives that support converting
5 from natural gas to electric heating, the IRA also provides incentives for purchasing more
6 efficient gas appliances. Even with these incentives, it’s not clear to what extent
7 customers in Rhode Island will switch from gas to electric heating given that traditional
8 heat pumps do not perform as well in colder climates and cold climate heat pumps are
9 priced at a premium. Furthermore, because the incentives require an upfront investment
10 and most incentives are available through 2032, customers are unlikely to replace a
11 heating appliance until it fails. As a result, the impact of the IRA will be gradual.

12
13 **Q. Are you suggesting that the Act on Climate and IRA will have no impact on natural**
14 **gas demand?**

15 A. No. I am saying the impact on natural gas demand will be hard to predict until we know
16 more, and the Company cannot base its forecasts of customer demand on speculation.
17 Whatever the impact is, it will most likely occur gradually as customers choose
18 technologies available to them when facing a purchase decision (i.e., existing heating
19 appliances fail).

20

1 **Q. The Division cited targets in a Climate Action 2030 report from the U.S.**
2 **Department of Navy as the basis for suggesting declining usage on Aquidneck**
3 **Island. What are your thoughts about this report?**

4 A. Based on my review of the report, the impact of the targets identified in the report on the
5 Naval Station Newport is uncertain. The report identifies targets for the Department of
6 Navy as a whole. The Division’s assumption that the Navy’s facilities on Aquidneck
7 Island share equally aggressive targets may be incorrect. Naval Station Newport is not
8 specifically mentioned in the report, and the Company is not aware of any measures that
9 would significantly reduce the Naval Station Newport’s firm natural gas usage.⁹

10 Several aspects of the report suggest significant progress has already been made
11 toward natural gas and electricity savings. For example, the report references aggressive
12 energy-savings goals announced in October 2009, which include “50 percent of energy
13 from alternative sources by 2020.”¹⁰ In addition, the report says that the Department of
14 the Navy has already recovered \$155 million in energy savings from installing advanced
15 meters to track energy usage and to drive a culture of energy efficiency. Lastly, the target
16 cited by the Division for “a 65% reduction in scope 1 and scope 2 greenhouse gas
17 emissions by 2030” is measured from a 2008 baseline. Given the progress already made
18 toward this goal, it is unclear what incremental opportunities might exist.

⁹ The Navy’s largest account is interruptible and does not contribute to design day demand.

¹⁰ <https://www.secnav.navy.mil/eie/Documents/DoNStrategyforRenewableEnergy.pdf> at p. 2A (pdf p.5).

1 **Q. The Division contends that the nation has entered a period of long-term increase in**
2 **gas prices. If this is correct, do you agree that this will significantly reduce gas**
3 **consumption and hasten the pace of space heating electrification?**

4 A. Not necessarily. Energy use is largely inelastic, so reduction in gas usage is unlikely
5 unless customers switch to other fuel sources for heating. Electrification of heating must
6 consider the cost of electricity relative to natural gas. Long-term gas cost increases will
7 also increase the cost of electricity as natural gas is a significant fuel source for electric
8 generation in Rhode Island. Furthermore, if electric generation continues to transition
9 away from fossil fuels to more expensive alternatives, the cost of electricity will likely
10 increase faster than the cost of gas.

11
12 **Q. Does the forecast include any customer-initiated energy efficiency improvements?**

13 A. Yes. The pace of customer-initiated energy efficiency improvements experienced in
14 recent years is assumed to continue throughout the forecast. These improvements reflect
15 the installation of more efficient heating appliances as they fail. This trend is implicit in
16 the econometric models, and there is reason to suspect that remaining efficiency gains
17 provide diminishing returns relative to historic gains.

18
19 **V. Conclusion**

20 **Q. What are the main takeaways of your testimony?**

21 A. The need for additional gas supply cannot be assessed based on the February 3-4 event.

1 Population declines have historically not been associated with declines in customers. The
2 impact of climate legislation is uncertain and will most likely occur gradually. Therefore,
3 it is not reasonable to expect significant near-term changes to the forecast.

4

5 **Q. Given the uncertainty regarding the forecast, why should the Commission approve**
6 **the Company’s proposal?**

7 A. As explained in the Siting Report and pre-filed testimony on behalf of the Company, the
8 Company’s need for the Old Mill Lane LNG facility does not depend significantly on the
9 gas forecast. The need exists today.

10

11 **Q. Does this conclude your testimony?**

12 A. Yes.

13

APPENDIX A

Stuart A. Wilson, CFA

Director, Energy Planning, Analysis and Forecasting
Kentucky Utilities Company
Louisville Gas and Electric Company
220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-4993

Previous Positions

Manager, Generation Planning & Analysis	October 2009 – April 2016
Manager, Sales Analysis & Forecasting	May 2008 – October 2009
Supervisor, Sales Analysis & Forecasting	Aug 2006 – April 2008
Economic Analyst	Aug 2000 – July 2006
Compensation Analyst	Aug 1999 – July 2000
Business Analyst	June 1997 – July 1999

Civic Activities

Big Brothers Big Sisters of Kentuckiana – Board of Directors: 2017 – Present
Barren Heights Christian Retreat – Board of Directors: 2015 – 2021

Professional Memberships

CFA Society of Louisville

Education/Certifications

CFA Charterholder: September 2003

Master of Business Administration;
Indiana University, May 1997

Master of Engineering in Electrical Engineering;
University of Louisville, December 1995

Bachelor of Science in Electrical Engineering;
University of Louisville, December 1995

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: Tyler Olney

**PRE-FILED REBUTTAL TESTIMONY OF
TYLER OLNEY**

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: Tyler Olney

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VII. Conclusion	21
Attachment – Resume of Tyler Olney	

1 **I. Introduction**

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

3 A. My name is Tyler Olney. My business address is 685 Third Avenue, New York, NY
4 10017.

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

7 A. I am employed by Guidehouse as an Associate Director. Guidehouse is a specialized,
8 global professional services firm that serves public and commercial clients across a range
9 of fields including the energy industry. Guidehouse’s global Energy, Sustainability, and
10 Infrastructure segment employs more than 700 consultants who provide advisory services
11 to a diverse range of energy industry clients, including electric and gas utilities.

12

13 **Q. What are your responsibilities as an Associate Director at Guidehouse?**

14 A. As an Associate Director, I lead analyses performed for energy industry client projects.

15

16 **Q. Please described your education, training, and experience.**

17 A. I graduated from Tufts University with a bachelor’s degree in Mechanical Engineering
18 with minors in Computer Science and Entrepreneurial Leadership Studies. I have worked
19 with Guidehouse for five years and in that time have provided technical support on a
20 range of energy industry projects, including preparing greenhouse gas (“GHG”)
21 emissions analyses for several large utilities across the United States.

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Q. Have you previously filed testimony or testified before the Rhode Island Public Utilities Commission (“PUC” or the “Commission”) or other public utility commissions?

A. I have not filed testimony or testified before the Rhode Island PUC prior to this proceeding. I have provided expert testimony before the Connecticut Public Utilities Regulatory Authority under Docket Nos. 17-12-03RE03, No. 21-08-02, and No. 22-08-05. I have also presented before the New York Public Service Commission as part of a joint proceeding under Cases 19-G-0309, 19-G-0310, 20-E-0380, and 20-G-0381.

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

A. Yes. The Project involves the use of portable equipment on property owned by the Company at Old Mill Lane in Portsmouth for the vaporization and storage of liquified natural gas (“LNG”) to provide back-up supply of natural gas to the Company’s gas distribution system on Aquidneck Island.

Q. What is your role specific to the Project?

A. I am the lead technical analyst responsible for performing the Aquidneck Island Gas Reliability Project GHG analysis originally presented in the Project’s Siting Report submitted to the Rhode Island Energy Facility Siting Board (the “Siting Board”) in April 2022 with updates presented and discussed herein.

1

2 **Q. Are you familiar with the Application and Siting Report dated April 2022 (“Siting**
3 **Report”) that were submitted to the Siting Board?**

4 A. Yes. I prepared the original GHG analysis that is included as Section 4.10 (Greenhouse
5 Gas Analysis) of the Siting Report.

6

7 **Q. What role have you had in this proceeding to date?**

8 A. I sponsored direct testimony that was pre-filed on December 9, 2022 regarding
9 comparison of GHG emissions impacts associated with the Aquidneck Gas Reliability
10 Project relative to alternative scenarios.¹

11

12 **II. Purpose of Testimony**

13 **Q. What is the scope of your rebuttal testimony in this proceeding?**

14 A. In my rebuttal testimony, I will respond to certain issues raised in testimony filed by
15 Bruce R. Oliver and Paul Roberti on behalf of the Division of Public Utilities and
16 Carriers,² Jeffrey Loiter on behalf of the Town of Middletown,³ and Earnest White on
17 behalf of the Conservation Law Foundation.⁴ This includes issues raised related to my

¹ Submitted 12/9/22 under RIPUC 22-42-NG, available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2022-12/2242-TNEC-OLNEY.pdf>

² Submitted 3/13/23 under RIPUC 22-42-NG, available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-03/2242-DIV-Testimony-Oliver-Roberti.pdf>

³ Submitted 3/13/23 under RIPUC 22-42-NG, available at: https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-03/2242-Middletown-Loiter_3-13-23.pdf

⁴ Submitted 3/13/23 under RIPUC 22-42-NG, available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-03/2242-CLF-Testimony-White.pdf>

1 pre-filed direct testimony on GHG emission impacts as well as various issues raised
2 regarding demand-side management (“DSM”) assumptions.

3
4 **Q. Why are you responding to issues raised regarding DSM assumptions and costs that**
5 **were not covered in your pre-filed testimony?**

6 A. Prior to supporting the development of the Siting Report, I also supported development of
7 the assumptions involving DSM components and costs considered in the Aquidneck
8 Island Long-Term Gas Capacity Study published September 2020, which was also the
9 basis for some of the key assumptions and results referenced in the Siting Report.

10
11 **Q. How is your testimony structured?**

12 A. Section I is the Introduction. Section II presents the purpose and structure of my
13 testimony. Section III presents additional clarification of the GHG analysis. Section IV
14 presents additional clarification of Forecasting considerations, as it relates to DSM.
15 Section V presents additional clarification of DSM considerations. Section VI presents
16 additional clarification of costs. Section VII is the Conclusion.

17
18 **III. Additional Clarification of GHG Analysis**

19 **Q. Given concerns raised by Mr. Oliver and Mr. Roberti originating from the fact that**
20 **the “‘baseline scenario’ assumes there would [be] a moratorium placed on new gas**
21 **service connections” and concerns raised by Mr. Loiter similarly originating from**

1 **the fact that “the Company assumes that the baseline scenario consists of their**
2 **proposed solution (the Project) plus a moratorium on new gas connections”, can you**
3 **explain why a moratorium placed on new gas service connections was assumed as**
4 **part of the “baseline scenario” against which relative GHG impacts were measured**
5 **for alternatives?^{5,6}**

6 A. As noted in the Siting Report and in response to the Public Utility Commission’s Data
7 Request 1-7, the Siting Board’s Order No. 150 instructed the Company that its analysis
8 should assume (i) a scenario with a full moratorium and (ii) a scenario where there is no
9 moratorium.^{7,8,9} As described in my pre-filed direct testimony, GHG “results were
10 presented as savings relative to a baseline scenario where the Project remains in operation
11 through 2034-35 to serve existing customers and a moratorium is placed on new gas
12 connections that would [otherwise] be served by the Portsmouth take station and the
13 Project.”¹⁰ The choice of which alternative to measure relative GHG savings against as
14 the baseline is irrelevant for comparing the relative impacts because the difference in
15 results between any two scenarios remains the same regardless of reference point. The

⁵ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 27, line 17.

⁶ The Testimony of Loiter on behalf of the Town of Middletown, page 2, lines 19-20.

⁷ The April 2022 Siting Report, submitted under Docket No. SB-2021-04, pages 35-36, available at:
<https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2022-07/Aquidneck%20Island%20Gas%20Reliability%20Project%20-%20Siting%20Report%20-%20April%202022%20-%20...PDF>

⁸ Response provided to PUC Data Request Set 1 submitted 1/26/23, available at:
<https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-01/2242-TNEC-DR-PUC1%201-26-23.pdf>

⁹ See Order No. 150 submitted under Docket No. SB-2021-04 on 9/17/21, Page 35-36, available at:
https://ripuc.ri.gov/efsb/2021_SB_04/Order_150_Petition_Waiver_SB-2021-04.pdf

¹⁰ The Direct Testimony of Olney, at page 4, lines 9-12.

1 decision to use the alternative of continuing the Project through 2034-35 with a
2 moratorium on new gas connections as the baseline scenario is consistent with the
3 direction provided by the Siting Board. Further, using this scenario as the baseline
4 presents the clearest comparison of alternatives in result graphics. Because avoiding a
5 moratorium would lead to a net savings in GHG emissions under the assumptions made
6 in the Siting Report, alternatives without a moratorium and/or with incremental DSM
7 would all have relatively lower GHG emissions.^{11,12} This approach to presenting results
8 allows for simple comparison of net positive GHG savings across alternatives.

9
10 **Q. Can you provide more detail on why the choice of which alternative to use as the**
11 **baseline for measurement of relative GHG impacts is “irrelevant” to comparing the**
12 **results of different scenarios?**

13 A. Regardless of which alternative scenario is used as the baseline for measurement of
14 relative GHG emission impacts, the difference in GHG emissions between alternative
15 scenarios remains the same. Mr. Loiter contends in his testimony that changing the
16 baseline definition would change the results presented by the company by showing “the
17 Company’s preferred alternative to operate the Old Mill Lane facility and not implement

¹¹ Note that under updated assumptions described in my Pre-Filed Direct Testimony dated December 9, 2022, avoiding a moratorium would no longer lead to a net savings in GHG emissions.

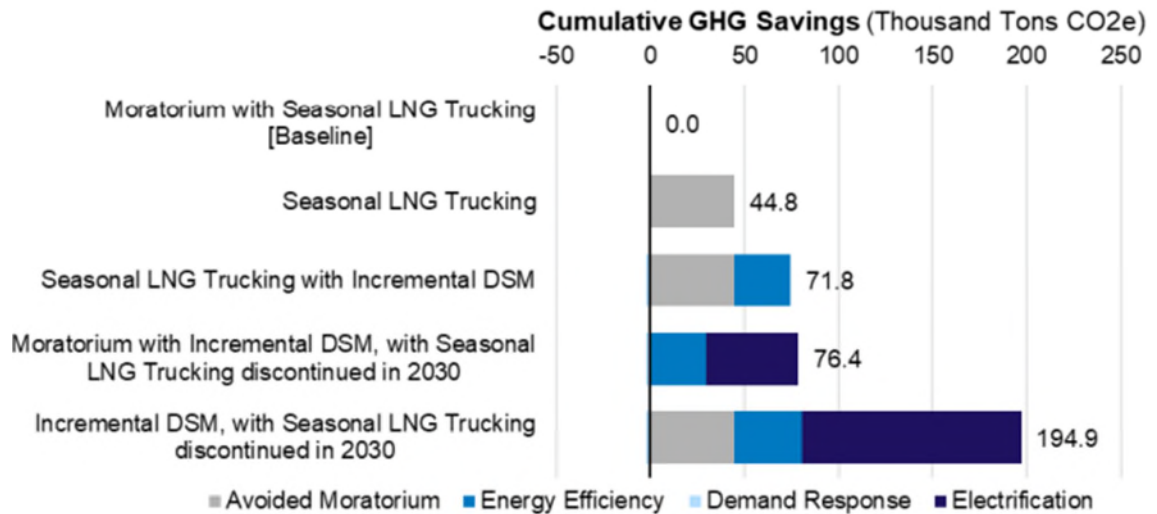
¹² “Incremental DSM” refers to considered energy efficiency, electrification of heat, and demand response efforts beyond baseline programs assumed to already be offered in the region and accounted for in the Company’s gas load forecast.

1 a moratorium would not result in any GHG emissions savings”.¹³ This is true when
2 measuring GHG emissions savings relative to a baseline of the Company’s preferred
3 alternative to operate the Old Mill Lane facility and not implement a moratorium. For
4 reference, Graphic 4 of the Siting Report, reproduced below as Figure 1, can be remade
5 with this choice of baseline as well, as shown in Figure 2. As Mr. Loiter describes in his
6 testimony, this graphic shows zero GHG emission savings associated with the Seasonal
7 LNG Trucking alternative, but, importantly, it still shows the same relative differences in
8 cumulative GHG emissions between alternatives as the original Siting Report, such as
9 44.8 thousand tons of carbon dioxide equivalent (CO₂e) savings relative to the
10 Moratorium with Seasonal LNG Trucking alternative. Note that Figure 2 is more
11 complex than the original Figure 1, because the impact of both negative and positive
12 savings need to be shown together. As explained, this is why the baseline alternative used
13 in the Siting Report provides a better visual for comparing alternative scenario results.

¹³ The Testimony of Loiter on Behalf of the Town of Middletown, page 6, lines 10-11.

1

Figure 1. Cumulative GHG Savings from Original Analysis

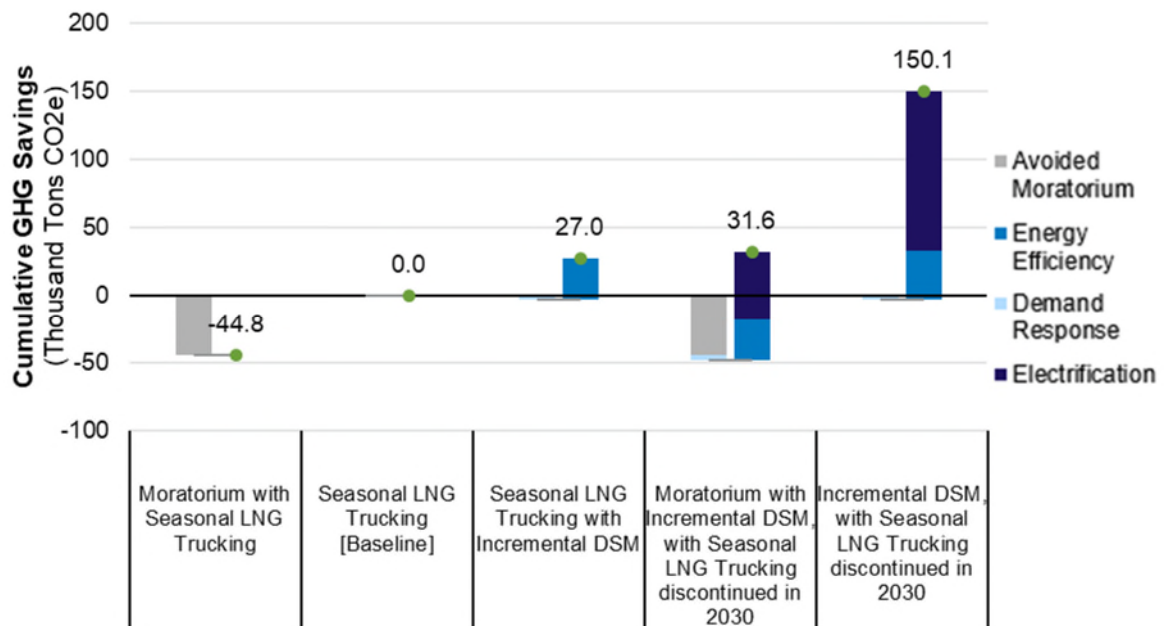


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3

Figure 2. Cumulative GHG Savings from Original Analysis, with Seasonal LNG Trucking as Baseline for Measuring Relative GHG Emissions Savings

4



5

6

1 **Q. Is it correct that, as Mr. Oliver and Mr. Roberti posit, the choice of an alternative**
2 **that includes a moratorium on new gas connections as the baseline scenario against**
3 **which relative GHG emission impacts are measured “is not consistent with the**
4 **Company’s load forecasting assumptions”?**¹⁴

5 A. No. Mr. Oliver and Mr. Roberti posit in their collective testimony that the choice of
6 baseline “is not consistent with the Company’s load forecasting assumptions”, stating that
7 “if such a moratorium is imposed it could have a significant impact on the Company’s
8 assessment of its design peak hour service requirements for the island and the need for
9 LNG vaporization to supplement its pipeline gas supplies during extreme winter weather
10 conditions”.¹⁵ It is true that assumptions about the impact of a moratorium on gas demand
11 do impact the forecasted need based on supply and design peak. However, it is not
12 correct to state that these assumptions are inconsistent with the Company’s own gas load
13 forecast. Rather the assumptions used for the scenario involving a moratorium are
14 directly informed by the Company’s gas load forecast. Specifically, the moratorium
15 assumes that all net forecasted growth in gas customer count, and thereby gas demand, as
16 determined by the Company’s gas load forecast, would not be served by gas.

17
18 **Q. Given Mr. White’s statement that attributing GHG savings to avoiding a**
19 **moratorium seems “counterintuitive”, can you explain how the assumptions made**

¹⁴ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 28, lines 3-4.

¹⁵ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 28, lines 3-4 and 8-11.

1 **in the April 2022 Siting Report lead to the result that avoiding a moratorium on new**
2 **gas service connections would yield a net savings in GHG emissions?**¹⁶

3 A. Under the moratorium assumed in the April 2022 Siting Report, gas demand would be
4 fixed at present levels while the otherwise-forecasted growth in gas demand is assumed
5 to be met by fuel oil-powered equipment.¹⁷ Fuel oil-powered equipment is assumed to be
6 less efficient than analogous natural gas-powered equipment, and fuel oil is assumed to
7 have a higher GHG emission rate than natural gas for the reasons described in the April
8 2022 Siting Report.¹⁸ Therefore, under those assumptions, a moratorium would result in
9 relatively higher GHG emissions associated with heating demand. In my pre-filed direct
10 testimony, the GHG analysis was updated to reflect the impact of Rhode Island’s state
11 law related to biodiesel products. This lowered the effective GHG emission rate of fuel
12 oil such that the assumed moratorium would lead to relatively lower emissions.¹⁹

13
14 **Q. Given disagreement expressed by Mr. Loiter and Mr. White in their testimony,**
15 **what is the basis for the assumption used in the April 2022 Siting Report that under**
16 **a moratorium on new gas service connections all of the otherwise projected growth**

¹⁶ The Testimony of White on Behalf of the CLF, page 17, lines 13-14.

¹⁷ April 2022 Siting Report, page 42.

¹⁸ April 2022 Siting Report, page 43.

¹⁹ The Direct Testimony of Olney, pages 11-12.

1 **in customer demand relative to 2023 levels on Aquidneck Island would be met with**
2 **fuel oil-powered equipment?**^{20,21}

3 A. As explained in the April 2022 Siting Report and again in my pre-filed direct testimony,
4 “this assumption was made at the time because absent substantial subsidies or mandates,
5 electrification was not a cost-effective heating option, and according to US Census data
6 more households in southeast Rhode Island currently use fuel oil than any other heating
7 source”.^{22,23} My testimony referenced an independent source, the Rhode Island Strategic
8 Electrification Study published in December 2020, that supports my statement that
9 electrification was not a cost-effective heating option at the time the study was
10 published.²⁴ Further, the Company’s response to Middletown Data Request 2-2 shows
11 that heat pump heating systems had roughly 10 percent higher space heating costs than a
12 gas heating system based on average prices in 2021.²⁵

13 Mr. Loiter disputed this assumption that under a moratorium on new gas service
14 connections all of the otherwise projected growth in customer demand relative to 2023
15 levels on Aquidneck Island would be met with fuel oil-powered equipment, stating first
16 that the current predominant heating fuel in the region is “irrelevant” because “the
17 heating equipment choices of home-owners and home-builders in the past... has no

²⁰ The Testimony of Loiter on behalf of the Town of Middletown, page 6, lines 20-24.

²¹ The Testimony of White on Behalf of the CLF, page 17, lines 1-12.

²² April 2022 Siting Report, page 42.

²³ The Direct Testimony of Olney, page 7, lines 12-15.

²⁴ Available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/eventsactions/docket/5.-Rhode-Island-Strategic-Electrification-Study.pdf>

²⁵ Response provided to Middletown Data Request Set 2 on 2/1/2023, available at:
<https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-02/2242-TNEC-DR-Middletown2%202-1-23.pdf>

1 bearing on the choices of today’s home-owners and home-builders”.²⁶ I agree in principle
2 that some of the factors influencing those choices have changed over time. However, as
3 noted in the 2020 Aquidneck Island Long-Term Gas Capacity Study, a significant portion
4 of load growth is driven by oil-to-gas conversions, which, if disallowed under a
5 moratorium on new gas service connections, would be more likely to remain on fuel oil
6 heating.²⁷ Further, for new construction, a complete shift in behavior would require
7 significant changes to the contractor and home-builder workforce, as well as clear
8 evidence that heat pumps are a more cost-effective heating option. Given these
9 considerations, I disagree that historic trends have “no bearing” on current practices.

10 Mr. Loiter also contends that the cost-effectiveness of electrification depends on
11 both upfront and ongoing costs.²⁸ He states that “the Company did not provide an
12 analysis of the up-front costs of heat-pump heating vs. natural gas heating”.²⁹ On the
13 contrary, the incremental electrification defined in Section 4.7 of the Siting Report clearly
14 refers to that defined in the September 2020 Long-Term Capacity Report, which includes
15 a detailed analysis of the relative costs of heat pump heating within Appendix A.³⁰ That
16 analysis considers different equipment types (i.e., natural gas furnaces vs. central heat
17 pump for homes with ductwork and natural gas boilers vs. ductless mini-split heat pumps

²⁶ The Testimony of Loiter on behalf of the Town of Middletown, page 6, lines 20-24.

²⁷ Aquidneck Island Long-Term Gas Capacity Study, published September 2020, available at:
<https://www.nationalgridus.com/media/pdfs/other/aquidneckislandlong-termgascapacitystudy.pdf>

²⁸ The Testimony of Loiter on Behalf of the Town of Middletown, page 6, lines 25-26.

²⁹ The Testimony of Loiter on Behalf of the Town of Middletown, page 6, lines 26-27.

³⁰ Aquidneck Island Long-Term Gas Capacity Study, published September 2020, pages 122-126.

1 for homes without ductwork) and the additional benefit of air conditioning that heat
2 pumps provide. Referring to ongoing operation costs, Mr. Loiter refers to the 10 percent
3 higher ongoing costs of heat pump heating identified in response to Middletown Data
4 Request 2-2 and concludes “an individual ratepayer may or may not consider heat-pump
5 heating ‘not cost-effective’”.³¹ Again, while I agree that the factors influencing
6 customers’ choices may be changing, at the time of the analysis heat pump heating was
7 not a cost-effective alternative to gas heating.

8 Mr. White also disputes the assumption that under a moratorium on new gas
9 service connections all of the otherwise projected growth in customer demand relative to
10 2023 levels on Aquidneck Island would be met with fuel oil-powered equipment, noting
11 that even prior to the subsidies provided in the Inflation Reduction Act (“IRA”) that it
12 “was already a tenuous assumption” that “in the absence of natural gas supply, load
13 growth on Aquidneck Island would be entirely met by fuel oil for heating purposes”,
14 justifying this in a footnote with a quote that electricity was already “the primary heat
15 source for about 9% of Rhode Island’s residential customers and 13% of commercial
16 square footage”.³² It is important to note, however, that the source for this quote is a 2017
17 study that shows that the majority of electric heating is in the form of electric resistance
18 heating with electric heat pump heating being used by just 0.2% of Rhode Island

³¹ The Testimony of Loiter on Behalf of the Town of Middletown, page 7, lines 11-14.

³² The Testimony of White on Behalf of the CLF, page 17, lines 1-12.

1 households and 5% of commercial square footage.³³ Customers with electric resistance
2 heating are not expected to be a primary contributor to growth in gas demand on
3 Aquidneck Island, as they are more likely to convert to electric heat pumps than to switch
4 to gas heating. The insignificant number of existing heat pump heating customers across
5 all of Rhode Island is not sufficient justification to dismiss the assumption as “tenuous”.

6
7 **Q. The statement in the Siting Report that “electrification was not a cost-effective**
8 **heating option” is made with the caveat that that is “absent substantial subsidies or**
9 **mandates”. Since the April 2022 Siting Report was published, have “substantial**
10 **subsidies or mandates” for electrification become available that may have changed**
11 **the relative economics of heat pump heating?**

12 A. Yes. The heat pump incentives provided by the recently effective IRA and Rhode
13 Island’s in-development High-Efficiency Heat Pump Program will change the relative
14 economics of heat pump heating versus delivered fuel heating. As noted by both Mr.
15 Loiter and Mr. White, these programs in the long-term will decrease the effective upfront
16 cost of heat pumps to consumers.^{34,35}

³³ Rhode Island Renewable Thermal Market Development Strategy, Table 5 and Table 7; available at: <https://energy.ri.gov/sites/g/files/xkgbur741/files/documents/Efficiency/Rhode-Island-Renewable-Thermal-Market-Development-Strategy-January-2017.pdf>

³⁴ The Testimony of Loiter on Behalf of the Town of Middletown, page 7, lines 1-10.

³⁵ The Testimony of White on Behalf of the CLF, page 17, lines 5-8.

1 **Q. Do you know what impact the heat pump incentives in the IRA or Rhode Island’s**
2 **High-Efficiency Heat Pump Program may have on adoption of heat pumps on**
3 **Aquidneck Island?**

4 A. Given that the IRA has only recently gone into effect and Rhode Island’s High-Efficiency
5 Heat Pump Program is still under development, I could only speculate on their impact on
6 gas heating demand. As it relates to the cost and composition of alternatives, it is
7 important to recognize that while adoption of electric heat pumps may increase because
8 of these programs, hybrid heating (i.e., installing a heat pump but maintaining a gas-
9 powered backup heating source for the coldest days) would not necessarily yield any
10 design hour savings. Therefore, if there is an increase in heat pump adoption without a
11 decrease in design day or design season gas demand (i.e., this adoption is dominated by
12 hybrid heating systems), there would be little or no change to the composition of
13 alternatives needed to address design day and design hour constraints. As it relates to the
14 GHG emission comparison of alternatives, an increase in electrification of heat would
15 lead to relatively more GHG emission savings, even if a hybrid system is installed,
16 because for most hours in the year the electric heat pump would be used in lieu of the gas
17 back-up system. This is demonstrated by the positive impact of electrification on GHG
18 emission savings within the “Moratorium with Incremental DSM, with Seasonal LNG
19 Trucking discontinued in 2030” and “Incremental DSM, with Seasonal LNG Trucking
20 discontinued in 2030” alternatives shown in Graphic 4 of the April 2022 Siting Report
21 and Figures 1 through 5 of my pre-filed direct testimony in this case (and reproduced in

1 Figure 1 and Figure 2 of this testimony).³⁶ To the extent that these programs increase
2 electrification of heat, this would lead to relatively higher GHG emission savings.

3
4 **Q. Do you agree with Mr. Oliver and Mr. Roberti’s assertion that your pre-filed direct**
5 **testimony “offers only a limited perspective on GHG impacts”?**³⁷

6 A. No. Mr. Oliver and Mr. Roberti opine in their collective testimony that I offer “only a
7 limited perspective on GHG impacts addressing only ‘relative’ changes in GHG emission
8 levels, and not specifically addressing estimated Scope 1 or Scope 2 emissions for the
9 LNG project itself”.³⁸ On their first point, the only GHG emissions necessary for
10 consideration in this proceeding are those that differentiate feasible alternatives. The
11 quantification of any other emissions – such as a comprehensive emissions inventory that
12 could supplant a relative comparison – would not be useful for deciding on which
13 alternative to pursue to meet the need identified in the Siting Report. On their second
14 point, Scope 1 and Scope 2 emissions for the LNG project itself have been considered in
15 my analysis, but are assumed to be de minimis in relation to one another. As noted in
16 response to the PUC’s Data Request 1-8, “if portable LNG operation is necessary, total
17 bottom-up system-wide emissions may increase because portable LNG has a higher total
18 effective emissions rate than pipeline gas and/or because cold weather leads to increased
19 energy consumption. But for the solution comparison performed in the GHG analysis

³⁶ April 2022 Siting Report, page 45.

³⁷ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 37, line 9.

³⁸ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 37, lines 9-11.

1 presented in my [direct] testimony, this would have a similar impact on each solution
2 meaning the relative results would not be significantly impacted.”³⁹ Also included in that
3 response is a table explaining the impact on the GHG analysis of various conditions,
4 reproduced below in Table 1. This table should satisfy the request of Mr. Oliver and Mr.
5 Roberti that “more well developed estimates of the Scope 1 and Scope 2 under varying
6 scenarios (i.e., (a) ready but not used, (b) unexpected upstream gas supply disruptions of
7 various magnitudes; (c) design weather conditions) should be required as part of the
8 Company’s assessment of the GHG impacts of the proposed project”.⁴⁰

**Table 1. Impact on GHG Analysis of Portable LNG Operation by Cause
(Reproduction of Table 1-8.1 from data request PUC 1-8)**

	Upstream System Disruption	Extreme Cold Conditions
Early in Analysis Period (<2030)	Upstream distribution necessitates portable LNG operation under all solutions, yielding no difference to relative emissions presented here.	Increased heating demand leads to portable LNG operation under all solutions, though relatively less in scenarios with incremental DSM (lower relative emissions). Higher emissions from fuel-oil customers would be experienced in solutions requiring a moratorium.
Late in Analysis Period (>2030)	Upstream disruption necessitates portable LNG operation where still in place. If major disruption prevents gas delivery, system shut-offs may be necessary without portable LNG operation.	Increased heating demand leads to portable LNG operation where still in place, but no increased emissions for solutions with DSM that avoids portable LNG operation.

11

³⁹ Response provided to PUC Data Request Set 1 submitted 1/26/23, available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-01/2242-TNEC-DR-PUC1%201-26-23.pdf>

⁴⁰ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 39, lines 14-18.

1 **Q. Does the Company’s latest Long-Range Resource and Requirements plan contradict**
2 **the assumption that the Project is not expected to be necessary to serve gas**
3 **customers on Aquidneck Island during a normal weather season, as implied by Mr.**
4 **Oliver and Mr. Roberti?**⁴¹

5 A. No. Mr. Oliver and Mr. Roberti imply that there is a contradiction in assumptions by
6 noting that “the Company’s Long-Range Resource and Requirements plan, which
7 includes projections through the 2026/27 planning year, shows the same projected
8 volumes from portable LNG equipment for a ‘Normal’ heating season that it projects for
9 a ‘Design’ heating season”.⁴² Exhibit 16 of that plan shows the same amount of “Liquid
10 for Portables and Refill” being acquired in a Design heating season as in a Normal
11 heating season.⁴³ However, while the same quantity of liquid is procured prior to the
12 season, that does not mean that the same quantity of liquid is deployed during a Normal
13 heating season as would be during a Design heating season.

14
15 **Q. Is Mr. Oliver and Mr. Roberti’s observation “that the Company’s estimates of**
16 **methane emissions for Aquidneck Island natural gas distribution are premised on**
17 **Rhode Island-wide methane losses without any investigation of potential differences**

⁴¹ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 36, lines 10-13.

⁴² Ibid.

⁴³ TNEC’s “Gas Long-Range Resource and Requirements Plan for the Forecast Period 2022/23 to 2026/27,” Docket No. 22-06-NG, June 30, 2022; Exhibit 16, page 4 and page 7.

1 **between losses from actual Aquidneck Island facilities and those for the rest of the**
2 **Company’s distribution system” correct?⁴⁴**

3 A. No. As explained in my pre-filed direct testimony, “utilizing this value [of Rhode Island-
4 wide leakage rate] implicitly assumes that Aquidneck Island has a similar proportion of
5 leak prone pipe as Rhode Island has in total... According to the Company, relatively less
6 of the gas distribution network on Aquidneck Island is comprised of leak prone pipe than
7 the Rhode Island gas distribution network in total. That implies the leakage rate on
8 Aquidneck Island is likely lower than Rhode Island in general.”⁴⁵

9
10 **IV. Additional Clarification of Forecasting**

11 **Q. Does the forecast upon which alternatives are based include energy efficiency and**
12 **conservation measures taken by customers, independent of company sponsored**
13 **programs?**

14 A. Yes. Mr. Oliver and Mr. Roberti state that in its Gas Long-Range Resource and
15 Requirements Plan for the Forecast Period 2022/23 to 2026/27, the Company “has
16 reduced the results of its statistical/econometric forecasting models to account for
17 Company-sponsored energy efficiency programs. It does not, however, attempt to
18 account for actions taken by customers outside of Company-sponsored programs.”⁴⁶ This
19 statement is false. The historical data upon which the Company’s statistical/econometric

⁴⁴ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 36, lines 14-17.

⁴⁵ The Direct Testimony of Olney, page 16, lines 1-7.

⁴⁶ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 21, lines 14-17.

1 forecasting models are based does include actions taken by customers outside of
2 Company-sponsored programs. For example, as noted by Mr. Oliver and Mr. Roberti,
3 older gas heating equipment is less efficient than newer equipment,⁴⁷ which is a trend in
4 reducing usage per customer that is already captured by the statistical/econometric
5 forecasting model.

6
7 **V. Additional Clarification of DSM Considerations**

8 **Q. Are Mr. Oliver and Mr. Roberti correct in their assertion that “the Company’s**
9 **consideration of alternatives to LNG Vaporization on Aquidneck includes no**
10 **consideration of [cost-effective gas energy efficiency] programs to eliminate the need**
11 **for the comparatively expensive, sporadic, use of LNG vaporization for this limited**
12 **segment of the Company’s service territory?”⁴⁸**

13 **A.** No. That is precisely what comprises the non-infrastructure alternatives described in
14 Section 4.7 of the Siting Report, which are parameterized in Appendix A of the
15 September 2020 Aquidneck Island Long-Term Gas Capacity Report.

⁴⁷ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 20, lines 4-13.

⁴⁸ The Direct Testimony of Oliver and Roberti on behalf of the Division, page 7, lines 5-15.

1 **VI. Additional Clarification of Costs**

2 **Q. Do you agree with Mr. Loiter and Mr. White in their views that the Rhode Island**
3 **Cost Test is an economic perspective that can be used to determine cost-effectiveness**
4 **of potential alternatives?^{49, 50}**

5 A. Yes. The Company’s 2021 System Reliability Procurement Year-End Report confirms
6 that “the Company adheres to the Rhode Island Benefit-Cost Test (“RI Test”) for all SRP
7 investment proposals”, in specific reference to Non-Pipeline Alternative assessments.⁵¹
8 The Company provided the net cost of originally considered alternatives from the RI Test
9 perspective in the Aquidneck Island Long-Term Gas Capacity Study,⁵² and provided the
10 cost of additional alternatives considered in the Siting Report from the RI Test
11 perspective in response to Middletown Data Request 3-4.⁵³

12

13 **VII. Conclusion**

14 **Q. Does this complete your rebuttal testimony?**

15 A. Yes, it does.

⁴⁹ The Testimony of Loiter on Behalf of the Town of Middletown, page 10, lines 1-4.

⁵⁰ The Testimony of White on Behalf of the CLF, page 24, lines 8-10.

⁵¹ National Grid’s System Reliability Procurement Plan 2021 Year-End Report, submitted under RIPUC Docket No. 5080 on 5/23/2022, page 8, available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2022-06/5080-NGrid-2021%20SRP%20Year-End%20Report%20%28PUC%205-23-22%29%20w-bates.pdf>

⁵² Aquidneck Island Long-Term Gas Capacity Study, published September 2020, page 97.

⁵³ Response provided to Middletown Data Request Set 3 submitted 2/23/23, available at: https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-02/2242-TNEC-DR3-Middletown_2-23-23.pdf

Tyler Olney

Associate Director

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Professional Summary

Tyler Olney is an associate director in the North Market Team within the Energy, Sustainability, and Infrastructure Team at Guidehouse. He develops powerful decision-making tools for clients, leveraging experience working directly with clients and his background in engineering and computer science.

Tyler has developed multiple cost benefit analysis models for clients across the United States designed to evaluate non-wire and non-pipe alternatives, distributed energy resources, energy storage incentives, energy efficiency programs, and grid modernization measures. He has also developed a framework for web-scraping LED prices, helped assess the demand response potential of various residential appliances, and has created reports on regulatory standards for solar PV and alternative generation technologies.

Tyler has a bachelor's degree from Tufts University in mechanical engineering with minors in computer science and entrepreneurial leadership studies.

Areas of Expertise

- **Energy System Transformation:** Strategizes with utility clients on innovative solutions to traditional programs
- **Data Analysis:** Performs comprehensive data gathering in conjunction with relevant analysis and modeling to present cost-effective and user-friendly reports
- **System Modeling:** Generates functional models using an array of applications

Professional Experience

Energy System Transformation

- Performed non-pipes analysis to determine least-cost portfolio of energy efficiency, electrification, and demand response necessary to meet a natural gas capacity constraint in downstate New York for various infrastructure and demand scenarios. Client then requested generalized tool for client for application throughout their service territories in the Northeast.
- Built non-wires analysis model that determines the optimal targeted DER portfolio needed to defer a wired solution based on hourly substation load data, projected load growth, optimized energy storage dispatch profiles, and the utility's zip-code level technical potential for energy efficiency, solar, renewable combustion generation, and demand response measures.

Tyler Olney

Associate Director

- Developed integrated solution for non-wires analysis that aggregates, analyzes, and compares developers' RFP responses for technical and economic efficacy for a New York utility using a combination of Excel and Analytica.
- Performed comprehensive benefit cost analysis for AMI deployment in Massachusetts and Connecticut using Guidehouse's GRID+™ Analytica tool.

Data Analysis

- Developed web-scraping tool using R, Python, and JavaScript which gathered data on LEDs such as price and specifications from 16 vendors' websites. Cleaned and processed this data and combined it with historical information to help inform incentive levels for a New England utility.
- Cleaned and analyzed multiple years' worth of a Michigan utility's gas billing data as part of an audit mandated by the Federal Trade Commission.
- Evaluated the performance of a utility's residential energy storage demand response program by using R to clean and process interval data
- Generated an exhaustive database of information for heat-intensive plants by utilizing automated data scraping techniques. Cleaned the data and combined it with market data to create an Excel output that provided estimates for market size by country, market segment, operating company, and more.
- Aggregated existing thin film-photovoltaic and roof-mounting standards from numerous databases to develop a list on relevant standards for developing novel lightweight photovoltaic systems. Summarized the most important standards in a report which was published and distributed to industry leaders via the Photovoltaic Manufacturer's Consortium.
- Researched numerous gas and electric utility companies to present briefing presentations regarding financial health and strategies for residential customer satisfaction.
- Demonstrated proficiency in data scraping and data analysis tools: R, Python, HTML, JavaScript, VBA

System Modelling

- Developed an energy storage dispatch model and a cost benefit analysis model which were used to set the incentive levels for energy storage in Connecticut (Docket 18-12-35 and 17-12-03RE03).
- Tailored Guidehouse's Analytica-based benefit cost analysis tool for electric and gas energy efficiency measures (ProCESS™) based on utilities' specific needs as mandated by New York and Arizona regulatory agencies.
- Created an Excel-based benefit cost analysis model to assess distributed energy resources for electric utilities in the state of New York based on the societal cost test as outlined by New York's major electric utilities in their benefit cost analysis handbooks.



Tyler Olney

Associate Director

- Developed Guidehouse’s Excel-based Microgrid Cash Flow and Optimization Models to simulate multiple optimal hourly energy storage dispatch profiles based on various generation scenarios and dispatch conditions to determine cost-effectiveness as outlined by a client in California.
- Demonstrated proficiency in modeling programs: Excel, Analytica

Work History

- Associate Director, Guidehouse
- Product Marketing Intern, MTPV Power Corporation
- Research Assistant, College of Nanoscale Science and Engineering

Certifications, Memberships, and Awards

- Tau Beta Pi Member

Education

- Bachelor of Science, Mechanical Engineering with minors in Computer Science and Entrepreneurial Leadership Studies, Tufts University

Expert Testimony

Case Description	Company	Year	Docket Jurisdiction
Issuance of Advisory Opinion to Energy Facility Siting Board Regarding The Narragansett Electric Co. Application to Construct LNG Vaporization Facility	Guidehouse on behalf of Rhode Island Energy	2023	22-42-NG Rhode Island
PURA Investigation into Distributed System Planning of the Electric Distribution Companies – Electric Storage	Guidehouse on behalf of Connecticut Green Bank	2021	17-12-03RE03 Connecticut
Annual Residential Renewable Energy Tariff Program Review and Rate Setting	Guidehouse on behalf of Connecticut Green Bank	2021	21-08-02 Connecticut