Memorandum

To: **Rhode Island Public Utilities Commission**

CC: **James Crowley, Conservation Law Foundation**

From: **David Hill, Zack Tyler**

Date: **August 18, 2025**[1]

Re: **Commission Docket 25-16-NG IN RE: The Narragansett Electric Company d/b/a Rhode Island Energy's Analysis to Comply with Energy Facility Siting Board's Decision and Order in EFSB Docket No. SB-2021-04**

After reviewing the pre-filed direct testimonies of Daniel Aas and Lee Gresham, Energy Futures Group (EFG) on behalf of the Conservation Law Foundation, respectfully offers the following comments concerning The Narragansett Electric Company d/b/a Rhode Island Energy's ("RIE") June 1, 2025 filing in response to Order No. 169 of the Energy Facility Siting Board ("EFSB or Board"), which has since been posted in the above-referenced docket pending before the Public Utilities Commission ("PUC" or "Commission").

Our comments start with a summary of four key points and EFG's recommendations, followed by a more detailed discussion of each of the key points. To summarize, the key points from our review are:

- ***The analysis presented by Mr. Aas is not an efficiency demand response plan and the Company was directed by the Board to develop such a plan.***
- ***Implementing a plan to eventually eliminate the design day peak hour constraint promotes market activity and measures that are necessary if Rhode Island is to meet its greenhouse gas emission reduction requirements. At the same time, it protects rate payers from potentially stranded costs.***
- ***The design and subject to approval by the PUC, implementation of such a plan is entirely feasible and in the public interest.***

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[1] Commission counsel granted CLF a 30-day extension of time to file its comments.

- ***The process and assumptions supporting the plan deserve stakeholder engagement (through formal proceeding or workshops), but the details will not alter the fundamental rationale behind the prior Order to create said plan.***

Based on our review EFG recommends the Commission:

- ***Direct the Company to develop and with PUC approval implement a demand side alternative plan to reduce the capacity gap, consistent with prior EFSB Order.***
- ***Require the plan to be developed with stakeholder review and input, and to include monitoring and reporting.***
- ***Do not transition cost recovery for the Old Mill Lane (OML) facility to long-term asset, but keep as operational expense.***

The remainder of this memo provides further details on the points raised above.

THE ANALYSIS IS NOT A PLAN

The analysis presented in Mr. Aas's testimony is not a plan to deploy DSM measures and electrification.

In presenting the purpose of his testimony Mr. Aas states the Energy Facilities Siting Board (EFSB) ordered "the Company file with the PUC "a demand response/energy efficiency ***plan*** targeted specifically for Aquidneck Island with the objective of eventually eliminating the design-day peak hour capacity gap that has caused the gas capacity constraint on Aquidneck Island."[2]

Mr. Aas then states his testimony "does not include a recommendation for a specific demand-side alternative portfolio plan or program design to be pursued."[3] By focusing on the technical options and implementation challenges to demand side alternatives, the analysis conducted by E3 and Mr. Aas can inform a plan's development, but it does not substitute for the required plan.

The failure to provide a plan is striking, given that in prior studies both RIE and E3 have clearly recognized the demand-side alternatives of efficiency and electrification

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[2] Analysis to Comply with Energy Facility Siting Board's Decision and Order, Direct Testimony of Daniel Aas, p. 2-3 at lines 19-3.
[3] Ibid. p. 4 at 4-6.

are foundational components to meeting the capacity constraints on Aquidneck Island and to meeting Rhode Island's greenhouse gas reduction (GHG) statutory requirements.

For example, the Company's *Aquidneck Island Long-Term Capacity Study* states, "Demand-side measures can complement the portable LNG, slowing or offsetting projected gas demand growth and thus preserving the contingency capacity that the LNG provides…"[4]

The same study also states, "A decision on a long-term solution for Aquidneck Island needs to consider the implications of Rhode Island's long-term decarbonization goal. The Resilient Rhode Island Act (enacted in 2014) established a goal of 80% economy-wide greenhouse gas (GHG) emission reductions relative to a 1990 baseline by 2050 with interim targets of 10% reductions by 2020 and 45% reductions by 2035."[5]

A study conducted by Mr. Aas and E3 in Docket 22-01-NG found that across six decarbonization scenarios designed to meet Rhode Island's GHG reduction requirements:

"***Energy efficiency and building electrification*** are a critical component of gas system decarbonization. Across scenarios, ***between 50-100% of buildings are assumed to electrify to comply with the Act's targets***. In the industrial sector, all scenarios include significant levels of efficiency and varying levels of industrial electrification, while leaving a role for pipeline gas for "hard-to-decarbonize" applications."[6]

Mr. Aas concludes his current testimony reviewed by EFG and the subject of this memo by stating:

"However, ***if electrification and efficiency can be effectively scaled, perhaps in service of broader state goals such as meeting the Act on Climate targets***, the incremental cost and challenge of also addressing the OML gap may be reduced."[7]

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[4] National Grid, 2020, *Aquidneck Island Long-Term Capacity Study*, p.9.
[5] Ibid, p. 17.
[6] Emphasis added. Energy and Environmental Economics (E3), 2024, *Rhode Island Investigation into the Future of the Regulated Gas Distribution Business*, Docket NG22-01. p. 6.
[7] Emphasis added. Analysis to Comply with Energy Facility Siting Board's Decision and Order, Direct Testimony of Daniel Aas, p. 49 at lines 2-5.

The other finding presented by Mr. Aas in his testimony, that the levels of electrification and efficiency to fully offset OML need within the 10-year analysis horizon require unprecedented levels of demand side alternative adoption, does not excuse the Company from the EFSB's Order to develop a plan to increase these activities.

EFG respectfully recommends the Commission direct Company to develop and implement a plan for demand side alternatives to reduce the long-term need for the OML vaporization plant, while concurrently contributing to meeting greenhouse gas reduction requirements.

PLAN FOR DEMAND SIDE SUCCESS

The studies conducted by the Company and by E3 for Rhode Island are consistent with research elsewhere and support the EFSB's decision and directive for the Company to develop a demand side alternative plan. It is widely recognized that demand side resources are critical to success for meeting climate and gas and electric system capacity needs in the most cost-effective fashion.[8] To meet climate objectives such as those in Rhode Island's Act on Climate, increasing program activities and participation to "unprecedented" levels is both necessary and attainable with sound program planning and implementation.

To that end, any DSM plan should consider the legally binding GHG emissions targets associated with the Act on Climate. As noted above, the E3 analysis is not a plan and stops short of making recommendations regarding DSM plan activities. The DSM plan resulting from this process should reflect progress towards the states binding climate goals and not assume business as usual modeling scenarios. Given the mandates, the DSM plan should propose program activities that make meaningful progress towards the Act on Climate emissions mandates. A DSM plan that shows progress towards the state's climate goals is likely to also show a reduced need for the long-term operation of the OML vaporization plant.

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[8] Select references include RMI and National Grid, 2021, Collaborating for Gas Utility Decarbonization. ACEEE, 2021, Pathways for Deep Energy Use Reductions and Decarbonization in Homes. Evolved Energy Research, for the Commonwealth of Massachusetts, 2020, Energy Pathways to Deep Decarbonization. Iain Walker, 2024, Residential Electrification as a Decarbonization Strategy, Illinois Commerce Commission Future of Gas Working Group Presentation.

INCORPORATING RECENT CHRI SUCCESSES AND PROGRAM CHANGES

Results from the Clean Heat Rhode Island (CHRI) incentives on Aquidneck Island show that 409 residential customers on the island adopted heat pump technologies over a 15-month period.[9] This is a significant increase compared to the 75 customers that adopted heat pumps through RIE programs across 2018 and 2019.[10] According to the U.S. Census (specifically the 2023 American Community Survey 5-year estimates), Aquidneck Island has 25,192 occupied residential housing units, 43% of which are heated by utility gas. While we don't know the heating fuel mix of CHRI participants, if we assume 43% of participants were heated by natural gas, we estimate that 176 residences heated with natural gas underwent full or partial heat pump displacement through the CHRI program; this represents more than 1% of all residential gas customers on the island. The CHRI program recently announced new heat pump incentives that reflect an increase in the total financial incentives available compared to those accounted for in the E3 analysis and those responsible for the 409 Aquidneck participants referenced above. This suggests that the CHRI program could see greater levels of participation moving forward (assuming sustainable program funding). It should also be noted that the CHRI participation rates on Aquidneck Island represented a higher proportion of residential housing units than the program as a whole.[11]

The new CHRI requirements indicate that homes must be sufficiently weatherized to participate in the program. This impact, along with the increased incentives listed above, should be considered when assessing the potential savings and uptake associated with the CHRI program. Any RIE DSM plan for Aquidneck Island should account for the anticipated impact of new CHRI program requirements and the ability for customers to layer on RIE incentives. While the first draft of the 2026 RIE Energy Efficiency Plan is focused on electric resistance to heat pump conversions for

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[9] The towns of Portsmouth, Middletown, and Newport had 384 incentives paid and additional 25 reserved from October 2023 through February 2025. This represents 3% of the 12,915 residential customers cited in the Aas testimony. Data were pulled from the Clean Heat Rhode Island program website: https://cleanheatri.com/resources/program-statistics/

[10] National Grid, 2020. Aquidneck Island Long Term Gas Capacity Study, p. 124.

[11] Our analysis of CHRI data and residential housing units shows 1.6% of residential customers (409 customers out of 25,192 occupied housing units) on Aquidneck Island participated from October 2023 through February 2025. This compares to 0.9% for the state as a whole (4,040 customers out of 436,902 occupied housing units).

residential customers, there are still rebates available to customers heating with natural gas.

REGIONAL HEAT PUMP SUCCESS STORIES

Recent results from both Maine and Vermont offer regional success stories for residential heat pump conversions. Maine successfully installed over 100,000 heat pumps between 2019 and the middle of 2023; this represents 5% of residential housing units installing heat pumps each year during that timeframe. Given their recent success, they set a new ambitious target of installed 175,000 additional heat pumps by 2027 – this would represent nearly 9% of all housing units converting to heat pumps each year.[12] The state of Vermont recently installed more than 11,000 heat pumps in 2023; this represents a little more than 4% of all residential housing units.

These adoption rates are proof that homeowners and business will install heat pump technologies with the right support systems in place. The adoption rates from Maine and Vermont are greater than those seen in the CHRI program and suggest Rhode Island has room to grow. We suggest the details associated with heat pump rebate programs in Maine and Vermont be considered during the design of the required demand side alternative plan for Aquidneck Island.

CHANGES IN THE DEMAND GAP

The E3 analysis notes a decrease in the capacity demand gap between forecasted peak demand contracted supply since the 2020 National Grid study. The 2034/35 demand gap was forecasted at 310 dekatherms per hour (Dth/hr) in the 2020 study and this is reduced, by roughly 10%, to 281 Dth/hr in the recent E3 analysis. We acknowledge that the E3 analysis forecasts an increase from 264 Dth/hr in 2025 to 281 Dth/hr in 2034/35. However, given the decrease in the demand gap from the 2020 study to this testimony, it would be useful to see a sensitivity analysis around the demand gap that is being forecasted. How would the results of the E3 analysis change if a lower demand gap were assumed? Any forecast should account for this possibility given the changes noted in the E3 analysis compared to the 2020 study.

[12] https://www.maine.gov/governor/mills/news/radio_address/expanding-use-heat-pumps-across-maine-2024-08-23

NATURAL GAS DEMAND RESPONSE

The E3 analysis indicates that a large portion of the demand gap could be closed through Demand Response (DR) for large Commercial and Industrial (C&I) customers. E3 modeled dual fuel boilers that use either natural gas or heating oil as the technology underpinning the potential associated with C&I DR. The analysis accounted for existing dual fuel boilers and the installation of new dual fuel boilers that would be installed moving forward. The analysis assumes that large C&I customers would enroll in a demand response program that requires up to three calls per year, each with a duration of 24 hours.

It is not clear whether the E3 analysis includes a proposed reduction in usage during the demand response events. Instead, it appears as though the proposed demand response solution is simply fuel switching from natural gas to fuel oil. We recommend that the required demand side alternatives plan fully consider the incentives and potential impacts associated with more traditional demand response programs that would result in some level of curtailment during the peak demand periods. We note the concerns raised by Portsmouth that the Company did not take steps to manage peak demand by engaging with the Navy about its anticipated needs.[13]

While we acknowledge the potential to reduce natural gas peak demand on Aquidneck Island using the Company's assumed dual fuel oil approach, we disagree with its inclusion in this analysis and any subsequent demand side alternatives plan. Fuel switching natural gas to fuel oil results in an increase in GHG emissions from these projects, and runs counter to the Rhode Island 2021 Act on Climate, which includes the following emissions mandates:

- 10% below 1990 levels by 2020
- 45% below 1990 levels by 2030
- 80% below 1990 levels by 2040
- Net-zero emissions by 2050

[13] State of Rhode Island, Energy Facilities Siting Board, SB-2021-04, Decision and Order, at p. 28.

TECHNICAL ASSUMPTIONS

Below we summarize comments on select technical assumptions noted in the E3 analysis.

Residential ASHP System Sizing. The E3 analysis indicates that a system size of 4 tons was assumed for single family homes, and 2.8 tons for multifamily homes. A recent study[14] from the 2024 American Council for an Energy Efficient Economy (ACEEE) Summer Study proceedings, showed that multifamily ASHPs could have had their capacity reduced by 40-50% without requiring backup heat. Moreover, the study found that the oversized systems led to unnecessary annual energy consumption. It would be helpful to understand the extent to which the sizing assumptions used in the E3 analysis influenced the forecasted energy consumption of these buildings.

Building Shell Improvements. The E3 analysis notes that basic building shell improvements were assumed for single-family and multifamily housing, leading to reduced heating demand of 16% and 11%, respectively. It would be helpful to understand exactly what building shell improvements were applied in the E3 analysis, and how those compare to weatherization efforts associated with RIE programs and to the new CHRI weatherization requirements.

The E3 analysis also notes that building shell improvements were not included in C&I buildings. Given the challenges associated with closing the demand gap with demand-side resources, we believe that this should be considered in the required demand side alternatives plan.

Cost-Effectiveness Testing

The E3 analysis notes that their model uses both the Societal Cost Test (SCT) and the Utility Cost Test (UCT), with avoided cost components aligned with the Rhode Island Cost Test conventions. There is no explanation of why the Rhode Island Cost Test was not applied directly for the purpose of cost-effectiveness screening. The draft 2026 RIE efficiency plan notes that the Rhode Island Cost Test will be used for the calculation of benefits and costs with the 2026 Annual Energy Efficiency Plan.[15] We recommend the

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[14] https://www.aceee.org/sites/default/files/proceedings/ssb24/pdfs/Air%20Source%20Heat%20Pump%20(ASHP)%20Case%20Study%20%E2%80%93%20Presentation%20of%20In%20Situ%20Operational%20Performance.pdf

[15] https://eec.ri.gov/wp-content/uploads/2025/06/Attachment-4-RI-Test.pdf

Company be required to use the Rhode Island Cost Test for any future analysis of the cost effectiveness of the required Aquidneck Island demand side alternative plan.

Number of Customers and Adoption Rates

The E3 analysis provides portfolio definitions in Table 5, where the percentage of annual equipment sales or the percentage of customers affected by each portfolio are detailed. However, the analysis does not appear to provide details on the specific number of customers or buildings that are influenced by each portfolio, nor does it detail the specifics associated with the measures applied within each portfolio. We recommend that these details be provided so stakeholders have more insight into the adoption rates and equipment specifications that were used to support the savings and cost estimates presented in the analysis.

PROTECTING RATE-PAYERS FROM STRANDED COSTS

We recognize the PUC refrained from opining whether the Company should own or lease the OML equipment required to meet the near-term capacity constraints.[16] While this question may be more appropriate to address in a rate proceeding, we still encourage the Commission to exercise caution when considering whether the Company should be permitted to add OML, or for that matter, any long-term gas infrastructure assets to the rate base.

Continuing OML as an operational expense, while implementing a required demand side alternatives plan, avoids the risk of additional infrastructure assets in the rate base that, if demand side alternative plans and green house gas reduction targets are realized, have a high likelihood of becoming stranded assets.

The option value of continuing to treat the OML as operational expense while mitigating the capacity constraints through the implementation of a required demand side alternative plan is a better, less risky, outcome for ratepayers. If demand side alternatives and electrification measures will be required in any case to meet GHG reductions, then why make long term commitment to infrastructure that the demand side alternatives will eventually render unnecessary?

[16] State of Rhode Island, Energy Facilities Siting Board, SB-2021-04, Decision and Order, at p. 11.