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March 8, 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 Responses to DIV Data Requests – Set 2 (Full Set)

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company (the “Company”), I have enclosed the Company’s responses to the Division of Public Utilities and Carriers’ Second Set of Data Requests (Full Set) in the above-referenced docket.

The Company’s response to DIV 2-4 contains confidential information; and therefore, the Company has provided a redacted public version of the response 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

March 8, 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 2/13/2023**

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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) DOCKET NO. 22-42-NG
AN LNG VAPORIZATION FACILITY ON)
OLD MILL LANE, PORTSMOUTH, RHODE ISLAND)

**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 in response to Division Data Request 2-4. 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).

The Company’s response to Division Data Request 2-4 contains discrete and identifiable information regarding a single customer’s natural gas usage (the “Confidential Customer Information”). As a general matter, the Company does not make the identifiable usage data of its customers available to the public, and the Company.

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*, 557 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 in the Company’s Response to Division Data Request 2-4 concerns a customer’s range of peak hour natural gas consumption. A customer’s usage information is confidential and the Company does not release this information to the public. The Company takes seriously the privacy of its customers’ data and does not generally make public the details of customers’ usage or billing. Given that the Company’s response to Division Data Request 2-4 references a single customer by name, the Company does not believe it is appropriate to publicly disclose the details of the customer’s natural gas usage. The Confidential Information is not of a kind that would customarily be released to the public by the Company, and, therefore, 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 its Response to Division Data Request 2-4.

Respectfully submitted,

**THE NARRAGANSETT ELECTRIC
COMPANY d/b/a RHODE ISLAND
ENERGY**

By its attorneys,



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Dated: March 8, 2023

CERTIFICATE OF SERVICE

I hereby certify that on March 8, 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.



The Narragansett Electric Company
 RIPUC Docket No. 22-42-NG
 In Re: The Issuance of Advisory Opinion to the
 Energy Facility Siting Board Regarding
 The Narragansett Electric Company
 Application to Construct and LNG Vaporization Facility on
 Old Mill Lane, Portsmouth, Rhode Island
 Responses to the Division's Second Set of Data Requests
 Issued on February 3, 2023

Division 2-1

Request:

Please document each day (and date) within the most recent 60 months in which portable LNG units have been used to provide gas supply for Aquidneck Island, and for each day identified, provide:

- a. The terms of gas of gas supplied for Aquidneck Island through the Company's portable LNG facilities on Aquidneck Island;
- b. The number of hours the portable LNG facilities were operated;
- c. The amount of supply for Aquidneck Island received through the Algonquin transmission lateral service Aquidneck Island;
- d. The highest hourly demand experienced on each day identified; and
- e. The reason the LNG facilities were operated on each day identified (e.g., supplement Peak Hour gas supply; upstream supply disruption; testing; and
- f. The number of heating degree days reported for each day identified.

Response:

Please see the following table for the requested information:

Gas Day	(a) Portable LNG sendout	(b) # hours operated	(c) AGT supplied sendout	(d) Highest hourly demand	(e) Reason for operation	(f) HDD
12/23/22	663 dth	4	14023 dth/day	863 dth/hr.	Peak shaving	39
12/24/22	695 dth	4	18054 dth/day	809 dth/hr.	Peak shaving	51
02/03/23	1120 dth	5	21335 dth/day	1171 dth/hr.	Peak shaving	62
02/04/23*	650 dth	4	17513 dth/day	1037 dth/hr	Peak shaving	47

* Please note that the vaporization on gas day February 4, 2023 was a continuation of vaporization that began on gas day February 3, 2023. Please also note that gas days are not

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
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Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-1, Page 2

confined to a single calendar day—a gas day begins at 10:00 AM of a calendar day and continues until 9:59 AM of the following calendar day.

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
Energy Facility Siting Board Regarding
The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-2

Request:

For each of the last five years, please provide the actual aggregate therm requirements of the Company's five largest FT-1 customers located on Aquidneck Island:

- a. Annually and for each billing month
- b. For the system peak hour
- c. For the Aquidneck Island peak hour
- d. For the winter season.

Response:

- a. The monthly and annual aggregate billed therms for the Company's five largest FT-1 customers are provided for each of the last five years in the table below.

Billed Therms	2018	2019	2020	2021	2022
Jan	308,931	289,207	266,614	265,102	285,401
Feb	233,793	261,229	248,450	251,022	250,070
Mar	252,979	248,339	208,986	224,581	223,200
Apr	202,076	168,660	158,401	164,575	165,749
May	97,258	118,607	92,061	101,050	102,261
Jun	74,955	75,023	62,908	64,651	67,745
Jul	63,842	64,672	61,736	60,123	59,714
Aug	61,901	68,392	61,010	52,225	58,338
Sep	75,944	79,256	73,319	71,548	75,364
Oct	135,548	118,143	110,415	94,993	110,161
Nov	212,810	211,549	156,267	183,415	163,439
Dec	251,374	258,976	235,383	221,639	245,076
Annual	1,971,411	1,962,053	1,735,550	1,754,924	1,806,518

The Narragansett Electric Company
 RIPUC Docket No. 22-42-NG
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 The Narragansett Electric Company
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 Old Mill Lane, Portsmouth, Rhode Island
 Responses to the Division's Second Set of Data Requests
 Issued on February 3, 2023

Division 2-2, Page 2

- b. The aggregate usage for the Company's five largest FT-1 customers for the system peak hour over the last five years is provided in the table below.

Usage (MCF)	1/7/2018, 7:00AM	1/21/2019, 5:00PM	1/18/2020, 7:00AM	1/30/2021, 7:00AM	1/16/2022, 7:00AM
Peak Hour	65.7	53.0	51.8	42.5	47.6

- c. The Aquidneck Island peak hour occurred coincidentally with the system peak hour. See the response to part b above.
- d. The aggregate billed therms for the Company's five largest FT-1 customers over the last four winters (i.e., November to March) are provided in the table below.

Billed Therms	2018/19	2019/20	2020/21	2021/22
Winter	1,262,959	1,194,575	1,132,355	1,163,725

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
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The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-3

Request:

Please identify the number of accounts for customers on Aquidneck Island that are served under the Company's Interruptible Service tariff and the amount of Interruptible load served by the Company for Interruptible service accounts located on Aquidneck Island on the three highest demand days for Aquidneck Island in each of the last five calendar years (i.e., through December 31, 2022).

Response:

There is only one customer that is served under the Company's Interruptible Service tariff; and there was zero usage by that customer on the three coldest days observed over each of the last four years.

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
Energy Facility Siting Board Regarding
The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-4
(REDACTED)

Request:

The Company's response to Division Data Request 1-7(b) in Docket No. 22-54-NG indicates that the Company presented the customer (Oxbow Farms in Middletown, RI) an electrification option at an approximate out-of-pocket cost of \$8 million. Please:

- a. Provide the data and analyses used to support the development of the referenced \$8 million out of pocket amount;
- b. Provide the Company's assessment of the impact that electrification of the referenced customer would have on peak hour requirements for Aquidneck Island:
 - (i) Under design day weather conditions;
 - (ii) Under normal weather peak hour conditions.
- c. Indicate when the Company expects to complete its assessment of "whether this location is a good candidate for electrification, ground source heat pump, or other non-pipes alternatives.
- d. Please identify each customer or group of customers on Aquidneck Island for which the Company is currently assessing or has plans to assess electrification, ground source heat pump, and/or other non-pipes alternatives, and provide the Company's schedule for completing those assessments. Further, for any assessments that have been completed to date please fully document those assessments, including detailed documentation and explanation of the methods and data used in those analyses.

Response:

- a. Please see Attachment DIV 2-4 for the assessment that was performed by RISE.
- b. Oxbow Farms does not rely on the Company for natural gas supplies, and, therefore, does not use the capacity available under the Company's agreements with its upstream providers (e.g., Algonquin Gas Transmission). Please note that Oxbow Farm's demand is a demand on the distribution system itself, and the Company must consider this load in preparing to maintain system pressure during periods of high

Prepared by or under the supervision of: Nathan Kocon, Julie Porcaro,
Brett Feldman and Laeyeng Hunt

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
Energy Facility Siting Board Regarding
The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-4, Page 2
(REDACTED)

demand or in the event of an upstream supply disruption. Therefore, the Company does need to ensure sufficient resources are available to meet the total system pressure needs of Aquidneck Island including the demand of Oxbow Farms. Using the dates listed in the Company's response to Division 2-2 part b, the customer's peak hour consumption ranges from approximately ■ Mcf to ■■ Mcf.

- c. Shortly after RISE completed its Electrification Report in October 2021, the Company presented the content of the report to Oxbow Farms ownership to solicit ownership's feedback on whether there was interest in pursuing the electrification option.¹ The Company did not, and still does not, have any substantial incentives, rebates, or cost-offsets to offer Oxbow Farms' ownership to help offset the \$7.77 million to \$9.95 million estimated cost of electrifying the Oxbow Farms property.

Oxbow Farms ownership expressed that it was not interested in self-funding the electrification investment of that magnitude at that time. If there were no potential changes on the horizon to help fund an electrification/non-gas project like this, the Company and Oxbow Farms would have likely already moved forward with a gas main/services replacement project. However, around that same time, the Rhode Island Governor's FY 2023 budget proposal included a line item for a Heat Pump program which would be administered by the Rhode Island Office of Energy Resources ("OER"); this was an example that other funding sources may become available to fund an electrification/ non-gas project like Oxbow Farms. Given the potential for other funding sources and the fact that the parameters of OER's Heat Pump program are still being developed, the Company and Oxbow Farms agreed to put any potential gas main/service replacement on hold, as long as no immediate infrastructure, safety, and/or reliability concerns arose for the site, in order to allow potential funding/ pilot programs to develop.

Please note, as mentioned above, if any immediate infrastructure, safety, and/or reliability concerns arise, then the Company may proceed with a gas main and service replacement in advance of any potential decision on a non-gas alternative

¹ Under the Oxbow Farms electrification option, the Oxbow Farms Laundry building located along existing gas main on West Main Road would remain on gas as "current technology would not allow the conversion of the existing hot water systems without an additional building to supply hot water as there is currently no instantaneous hot water solution of that necessary size".

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
Energy Facility Siting Board Regarding
The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-4, Page 3

(REDACTED)

- d. The Company is not currently assessing, nor does it have plans to assess, electrification, ground source heat pump, and/or other non-pipes alternatives for any individual customers or groups of customers on Aquidneck Island, besides Oxbow Farms, at this time. Further, the Company has not completed any such assessments, besides Oxbow Farms, to date.



ELECTRIFICATION REPORT

Oxbow Farms

[Abstract](#)

This report summarizes the findings for electrification of Oxbow farms by RISE Engineering.



Contents

Project Contact Information	2
Executive Summary.....	3
Overview	3
Summary of Findings.....	3
Electrification Overview	5
Electrification	5
Gas Stove.....	5
Domestic Hot Water	5
Gas Furnace.....	5
Existing A/C	6
Laundry Equipment.....	6
Electrical Infrastructure	6
Secondary.....	6
Associated Costs	6
Drawings	6
Electric Infrastructure	7
Electrification	7
Temporary Housing.....	7
Time Lines	7
Technical Information	8
Heat Pumps.....	8
Heat Loads.....	8
Equipment Selection.....	8
Domestic Hot Water	9
Electrical upgrades.....	9



Project Contact Information

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Executive Summary

Overview

Electrification has an estimated cost of \$7,766,083 to \$9,953,168 and an estimated time line of 18 to 27.5 Months.

Summary of Findings

Oxbow Electrification Costs					
		Costs Range			
Engineering					
	Design with existing DWGs	\$ 100,000	-	\$ 150,000	
	Design without existing DWGs	\$ -	-	\$ 50,000	
Electric upgrades					
	Primary ¹	\$ -	-	\$ -	
	Secondary	\$ 1,382,173	-	\$ 1,658,608	
Electrification					
	Heat pumps	\$ 4,561,000	-	\$ 5,473,200	
	Water Heaters	\$ 1,208,000	-	\$ 1,812,000	
	Ovens	\$ 422,800	-	\$ 507,360	
	A/C Removal and finish work	\$ 92,110	-	\$ 302,000	
	Laundry ¹	\$ -	-	\$ -	
Temporary Housing					
	Housing ³	\$ -	-	\$ -	
	Food ³	\$ -	-	\$ -	
Total		\$ 7,766,083		\$ 9,953,168	
¹ Estimating cost of upgrading the primary electric power to the transformers is outside of RISE's expertise's and determined National Grid's in house team would have a better understanding of costs.					
² Current technology would not allow the conversion of the existing hot water systems without an additional building to supply hot water, there is currently no instantaneous hot water solution of that size.					
³ Housing and food allowances were not calculated apart of RISE's scope but should be considered due to tenants not having heat, hot water or oven power during the electrification process					



Oxbow Electrification Time Line			
Engineering			
Design	3	-	5 Months
National Grid Review	1	-	2 Month
Bid Process			
	1	-	1.5 Month
Electric upgrades			
Primary	4	-	6 Months
Secondary	3	-	4 Months
Electrification			
Install of HP, DHW, & Ovens	6	-	9 Months
Estimate		18	- 27.5 Months



Electrification Overview

RISE reviewed the building for gas supplied equipment and determined if the existing electric infrastructure would facilitate the transition. The following are the results of the electrification, electric infrastructure, associated cost and timelines associated with the study.

Electrification

Currently there are three pieces of equipment in each apartment that utilizes natural gas; gas stove, gas domestic hot water heater and gas furnace.

Gas Stove

The gas stove is located in the kitchen and could be converted to an electric oven and stove top combination unit. The difficulty in this conversion comes from the location of the existing panels, which is on the 2nd floor of the multi-bedroom units and is supplied from the attic space. The new stove's electric line would need to be supplied from that panel. Creating openings in the walls, patching and painting would be required to facilitate the install. The single-bedroom units are simpler because they do not transcend floors, but would still require openings in the walls, patching and painting. RISE is estimating that the cost of this conversion would be \$1,400 - \$1,680 per unit, \$422,800 - \$507,360 for the entire facility. These costs include the appliance, electrical upgrade, and finish work.

Domestic Hot Water

The domestic hot water for the multi-bedroom units are located in the center of the apartment on the 1st floor. For the single-bedroom units, the water heater is located in the utility closet next to the kitchen. These units can be easily converted from the gas fired tank to a standalone heat pump water heater. The heat pumps water heaters would absorb heat from the ambient space, and in order to offset the absorption RISE would upsize the air source heat pumps for the space heating. RISE is estimating the cost of this conversion to be between \$4,000 to \$6,000 per unit and \$1,208,000 to \$1,812,000 for the entire facility.

Gas Furnace

The gas furnace that supplies the heat for the apartment is located in the center of the apartments on the 1st floor. The furnace is ducted to the rest of the building through uninsulated duct work. RISE determined the best course of action would be to abandon the existing ductwork, due to it not being insulated. If a heat pump were to utilize the existing uninsulated ductwork, during the cooling season the ductwork would reach dew point and moisture would condense on the ductwork inside the walls. This could lead to mold issues.

For the multi-bedroom units RISE recommends installing a single outdoor inverter that supplies one ductless unit for the 1st floor, and installing a ducted unit in the attic that supplies heat to all rooms upstairs. Adding a small amount of electric resistance heat in the 1st floor bathrooms of the three-bedroom units will also be necessary. RISE is estimating the cost of this conversion to be between \$15,500 to \$18,600 per unit.

For the single-bedroom units RISE recommends installing one outdoor inverter that supplies an indoor ducted unit to supply heat to the entire apartment. New ductwork would need to be installed to supply conditioned air to the bedroom and the bathroom. RISE is estimating the cost this conversion to be between \$13,500 to \$16,200 per unit.



The total cost of all unit's conversion is estimated to be between \$4,561,000 - \$5,473,200 which includes finish work.

Existing A/C

The existing cooling is supplied by through the wall A/Cs. These units would become redundant if heat pumps were installed. These units would need to be removed and the existing penetrations would need to be covered and insulated. RISE estimated that this portion of the cost could be between \$305-\$1,000 per unit and \$92,110 - \$302,000 for the entire facility. Cost is dependent on the extent of opening remediation.

Laundry Equipment

There is one commercial laundry facility for the entire campus. The laundry facility consists of 12 gas fired dryers and 12 washer machines. Currently there are 4 instantaneous gas fired water heaters, each 199,900 BTU/hr. Currently there is no domestic hot water (DHW) heat pump solution for this size of equipment. The only option would be electric resistance water heaters. The current layout of the facility would not accommodate the installation of these units due to the difference in physical size of the equipment. Either an addition would need to be added to the space or just keep the equipment on gas, as required. RISE determined that this factor is outside the scope of the study and would need further investigation.

Electrical Infrastructure

Secondary

Currently the electrical distribution to each of the buildings is master-metered. The building has a main panel that supplies the power through the attic space to sub panels in each of the apartments.

During the course of gathering data on the site, it was discovered that the existing main panels to all the buildings were federal pacific panels. These panels are no longer covered under warranties, therefore contractors are unable to reuse any existing distribution.

The existing power supplied to the building is not large enough to supply the electrification power needed and would need to be abandon and new infrastructure be added to the facility. RISE recommends upgrading the existing distribution to 3 phase power and individual meters to each apartment. This upgrade would facilitate the installation of the electrification of previously stated equipment.

RISE is estimating a cost of \$1,382,173 to \$1,658,608 for upgrading the electric equipment for the campus. This estimate is only for the secondary electric equipment as RISE does not have the expertise to estimate the primary electric equipment for the campus.

Associated Costs

Drawings

For the electrification project to move forward, electrical stamped drawings would need to be created. Site plans would also either need to be supplied or created for this site. RISE estimated the following costs for these stamps drawing sets.

Electrical design \$100K - \$150K

Plan site drawings \$50k



Electric Infrastructure

Primary

As stated in pervious segment, the primary power from the grid may need to be upgraded to supply the necessary power for the upgrade. This was outside of RISE's scope of work, and it was determined that National Grid's in-house engineering team could determine these costs and needed upgrades.

Secondary

As stated in a previous segment the estimated costs are between \$1,382,173 to \$1,658,608.

Electrification

As stated in a previous segment the total estimated upgrade is estimated to be between \$6,283,910 to \$8,094,560.

Temporary Housing

The electrification upgrades are going to be very disruptive to the tenant spaces and individual upgrades to each apartment are not possible due to the existing electrical distribution. Temporary housing might be needed for the tenants in order to facilitate a quicker install. These cost estimates associated with this temporary housing are outside of RISE scope but should be considered when determining total project costs.

Time Lines

RISE estimated that it would take approximately 18 to 28 months to complete the associated work described above. RISE has supplied an excel spread sheet along with this report to help change timelines and associated costs that National Grid can give better estimates.



Technical Information

Heat Pumps

Heat Loads

RISE utilized Wright Soft for calculating the heat load associated with heat unit. Eight heat loads were calculated to determine equipment sizing for the entire campus. There are three apartment types for the entire campus; single-bedrooms, two-bedrooms and three-bedrooms. Single-bedrooms are single story units where some are located on the 1st floor and others are located on the 2nd floor. The two bedrooms and three bedrooms are two story units. Most units are interior units with adjacent units on both sides, the other units are exterior units with only one adjacent unit. This resulted in eight different apartment types. The ASHRAE design days for these apartments were 13°F for heating and 87°F for cooling. Below are the results

Apartment Type	Configuration	Heating BTUs	Cooling BTUs
Single 1st floor	Interior	11,728	8,293
Single 1st floor	Exterior	10,223	8,786
Single 2nd Floor	Interior	10,462	9,490
Single 2nd Floor	Exterior	11,968	9,984
Two Bedroom	Interior	17,476	17,236
Two Bedroom	Exterior	21,270	19,000
Three Bedroom	Interior	20,553	18,926
Three Bedroom	Exterior	27,664	22,701

Equipment Selection

RISE utilized Fujitsu equipment for this selection. Other manufacturers have equipment that could be used. Below are the equipment model numbers selected for each apartment type.

Apartment Type	Configuration	Outdoor	Head#1	Head#2
Single 1st floor	Interior	AOU12RLFC	ARU12RGLX	N/A
Single 1st floor	Exterior	AOU12RLFC	ARU12RGLX	N/A
Single 2nd Floor	Interior	AOU12RLFC	ARU12RGLX	N/A
Single 2nd Floor	Exterior	AOU12RLFC	ARU12RGLX	N/A
Two Bedroom	Interior	AOU18RLXFZH	ASU9RLF1	ARU9RLF
Two Bedroom	Exterior	AOU24RLXFZH	ASU12RLF1	ARU12RLF
Three Bedroom	Interior	AOU24RLXFZH	ASU12RLF1	ARU9RLF
Three Bedroom	Exterior	AOU36RLZFZH	ASU18RLF	ARU12RLF



Domestic Hot Water

RISE utilized RUDD heat pump water for this selection. Other manufacturers have equipment that could be used. All apartments sizes were able to utilize the same equipment and it was determined that the RUDD PROUH50 T2 RU375-30 would be the best option.

Electrical upgrades

RISE engineering, in conjunction with Creative Environment Corp, determine the service requirements for each building for electrification. Below are the estimated loads for each building.

Building	Apartment Type	QTY	Total Amps
1	1 Beds	16	600
2	1 bed	24	800
3	1 bed	16	800
	2 Beds	4	
	3 Beds	4	
4	1 bed	4	800
	2 Beds	16	
	3 Beds	4	
5	2 Beds	24	1200
	3 Beds	8	
6	2 Beds	32	1200
7	2 Beds	18	1200
	3 Beds	14	
8	2 Beds	16	600
9	2 Beds	4	600
	3 Beds	12	
10	2 Beds	18	800
	3 Beds	4	
11	2 Beds	4	600
	3 Beds	12	
12	2 Beds	16	800
	3 Beds	8	
13	3 Beds	24	800

If you have any questions, please contact Kevin Silveira by emailing KSilveira@RISEngineering.com or by calling (401) 784-3700 ext. 6164.



PROJECT Oxbow Farms DATE _____
 BY: 3 BDRM UNIT PAGE _____ OF _____

APARTMENT DEMAND CALCULATION

FOR _____

1 UNITS @ 909 SQ. FT. EA = 909 SQ. FT.
 _____ UNITS @ _____ SQ. FT. EA = _____ SQ. FT.
 _____ UNITS @ _____ SQ. FT. EA = _____ SQ. FT.

LTG. LOAD @ 3W/SF x 909 SQ. FT. = 2,727 VA
 SM. APPL. LOAD @ 3000 W x _____ UNITS = 3,000 VA
 LAUNDRY CIRCUIT 1500 X _____ UNITS
 TOTAL LOAD = 5,727 VA

DEMAND: FIRST 3000 WATTS @ 100%		<u>3,000</u>	VA
(NEXT 117,000)	<u>2,727</u>	VA @ 35%	<u>955</u> VA
(REMAINDER)		VA @ 25%	VA
DEMAND TOTAL		<u>3,955</u>	VA

LIGHTING & SMALL APPLIANCE DEMAND TOTAL (FROM ABOVE)	<u>3,955</u>	VA
RANGES (table 220-55)	<u>8,000</u>	VA
ELECTRIC HEAT ("0" if A/C is larger)	<u>—</u>	VA
AIR CONDITIONING ("0" if E.H. is larger)	<u>3,536</u>	VA
HOT WATER	<u>2,700</u>	VA
FIXED APPLIANCES (220-53) (# _____ x _____ w x _____ %)	<u>1,200</u>	VA
MECHANICAL ROOM, CORRIDORS, ETC.		VA
EXTERIOR LIGHTING		VA
DRYER (Table 220-54)		VA
OTHER		VA
TOTAL DEMAND	<u>19,391</u>	VA

VOLTAGE: 120/208 PHASE: 1 WIRE: 3
 CURRENT: 93.2 AMPS AMPS.

PROJECT OXBOW FARMS APARTMENTS DATE _____
 BY: _____ PAGE _____ OF _____

APARTMENT DEMAND CALCULATION

FOR BLDG. 8, 1, 9, 11,

16 UNITS @ 771 SQ. FT. EA = 12,336 SQ. FT.
 UNITS @ _____ SQ. FT. EA = _____ SQ. FT.
 UNITS @ _____ SQ. FT. EA = _____ SQ. FT.

LTG. LOAD @ 3W/SF x 12,336 SQ. FT. = 37,008 VA
 SM. APPL. LOAD @ 3000 W x 16 UNITS = 48,000 VA
 LAUNDRY CIRCUIT 1500 X _____ UNITS
 TOTAL LOAD = 85,008 VA

DEMAND: FIRST 3000 WATTS @ 100% _____ 3,000 VA
 (NEXT 117,000) _____ VA @ 35% 28,702 VA
 (REMAINDER) _____ VA @ 25% _____ VA
 DEMAND TOTAL 31,702 VA

LIGHTING & SMALL APPLIANCE DEMAND TOTAL (FROM ABOVE) 31,702 VA
 RANGES (table 220-55) _____ 31,000 VA
 ELECTRIC HEAT ("0" if A/C is larger) _____ VA
 AIR CONDITIONING ("0" if E.H. is larger) _____ 43,264 VA 28,800
 HOT WATER _____ 43,200 VA
 FIXED APPLIANCES (220-53) (# _____ x _____ w x _____ %) _____ 14,400 VA
 MECHANICAL ROOM, CORRIDORS, ETC. _____ VA
 EXTERIOR LIGHTING _____ VA
 DRYER (Table 220-54) _____ VA
 OTHER _____ VA
 TOTAL DEMAND 163,566 VA 149,102

VOLTAGE: 120/208 PHASE: 3 WIRE: 4
 CURRENT: 454 AMPS.

600 AMP SERVICE

1 BDRM APT.
 HTG./COOLING 15 x 120 = 1800 WATTS

PROJECT OXBOW FARMS APT. DATE _____
 BY: _____ PAGE _____ OF _____

APARTMENT DEMAND CALCULATION

FOR BLDG. # 2, 3, 4, 10, 12, 13

24 UNITS @ 588 SQ. FT. EA = 14,112 SQ. FT.
 UNITS @ _____ SQ. FT. EA = _____ SQ. FT.
 UNITS @ _____ SQ. FT. EA = _____ SQ. FT.

LTG. LOAD @ 3W/SF x 14,112 SQ. FT. = 42,336 VA

SM. APPL. LOAD @ 3000 W x 24 UNITS = 72,000 VA

LAUNDRY CIRCUIT 1500 X _____ UNITS

TOTAL LOAD = 114,336 VA

DEMAND: FIRST 3000 WATTS @ 100%		<u>3,000</u>	VA
(NEXT 117,000)	<u>111,336</u>	VA @ 35%	<u>38,968</u> VA
(REMAINDER)		VA @ 25%	VA
DEMAND TOTAL		<u>41,968</u>	VA

LIGHTING & SMALL APPLIANCE DEMAND TOTAL (FROM ABOVE)	<u>41,968</u>	VA
RANGES (table 220-55)	<u>39,000</u>	VA
ELECTRIC HEAT ("0" if A/C is larger)		VA
AIR CONDITIONING ("0" if E.H. is larger) <u>1.8</u>	<u>43,200</u>	VA
HOT WATER	<u>64,800</u>	VA
FIXED APPLIANCES (220-53) (# _____ x _____ w x _____ %)	<u>21,600</u>	VA
MECHANICAL ROOM, CORRIDORS, ETC.		VA
EXTERIOR LIGHTING		VA
DRYER (Table 220-54)		VA
OTHER		VA
TOTAL DEMAND	<u>210,568</u>	VA

VOLTAGE: 120/208 PHASE: 3 WIRE: 4
 CURRENT: 584.9 AMPS. 800AMP SERVICE

48,672 2 BDRM APT. 13 AMPS x 208 = 2704
 49,504 3 BDRM APT. 17 AMPS x 208 = 3536

PROJECT OXBOW FARMS APT. DATE _____
 BY: _____ PAGE _____ OF _____

APARTMENT DEMAND CALCULATION

FOR BLDG. 7, #6, 5

<u>18</u>	UNITS @	<u>771</u>	SQ. FT. EA =	<u>13,878</u>	SQ. FT.
<u>14</u>	UNITS @	<u>909</u>	SQ. FT. EA =	<u>12,726</u>	SQ. FT.
_____	UNITS @	_____	SQ. FT. EA =	_____	SQ. FT.

LTG. LOAD @ 3W/SF x 36,604 SQ. FT. = 79,812 VA
 SM. APPL. LOAD @ 3000 W x 32 UNITS = 96,000 VA
 LAUNDRY CIRCUIT 1500 X _____ UNITS
 TOTAL LOAD = 175,812 VA

DEMAND: FIRST 3000 WATTS @ 100%		<u>3,000</u>	VA
(NEXT 117,000)	VA @ 35%	<u>40,950</u>	VA
(REMAINDER)	VA @ 25%	<u>13,953</u>	VA
	DEMAND TOTAL	<u>57,903</u>	VA

LIGHTING & SMALL APPLIANCE DEMAND TOTAL (FROM ABOVE)	<u>57,903</u>	VA
RANGES (table 220-55)	<u>47,000</u>	VA
ELECTRIC HEAT ("0" if A/C is larger)	_____	VA
AIR CONDITIONING ("0" if E.H. is larger)	<u>98,176</u>	VA
HOT WATER	<u>86,400</u>	VA
FIXED APPLIANCES (220-53) (# _____ x _____ w x _____ %)	_____	VA
MECHANICAL ROOM, CORRIDORS, ETC.	_____	VA
EXTERIOR LIGHTING	_____	VA
DRYER (Table 220-54)	_____	VA
OTHER	_____	VA
TOTAL DEMAND	<u>289,479</u>	VA

VOLTAGE: 120/208 PHASE: 3 WIRE: 4
 CURRENT: 804 AMPS.

1200 AMP SERVICES

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
Energy Facility Siting Board Regarding
The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-5

Request:

Please provide that Company's assessment of the costs of main and service replacement for the customer referenced in its response to Division Data Request 1-7 in Docket No. 22-54-NG.

Response:

Regarding the customer referenced in Division Data Request 1-7 in Docket No. 22-54-NG, for a "gas main replacement/abandonment – remain on gas" option, the Company has developed a plan to install 9,999 feet of 2" 55# gas main as well as 144 new services to replace the existing main and services at the Oxbow Farms apartment complex in Middletown, RI. The estimated cost for this project is \$1.858 million.

The Narragansett Electric Company
RIPUC Docket No. 22-42-NG
In Re: The Issuance of Advisory Opinion to the
Energy Facility Siting Board Regarding
The Narragansett Electric Company
Application to Construct and LNG Vaporization Facility on
Old Mill Lane, Portsmouth, Rhode Island
Responses to the Division's Second Set of Data Requests
Issued on February 3, 2023

Division 2-6

Request:

Please identify each geographic element of the Company's gas service territory in Rhode Island that is dependent upon a single gas transmission line for delivery of pipeline gas supplies.

Response:

There are three segments of the Rhode Island system that have one source of supply: Burrillville, Tiverton, and Portsmouth. The Burrillville and Tiverton gate stations have two pipes feeding the gate station. Portsmouth is fed by a 4 mile single pipe, and it is the only station in the Rhode Island system with this configuration.