

August 9, 2023

VIA ELECTRONIC MAIL

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

RE: Docket No. 5189 – 2022 Annual Energy Efficiency Plan Year-End Report 2022 Responses to PUC Post-Hearing Data Requests – Set 4

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a Rhode Island Energy (the "Company"), enclosed, please find the Company's responses to the Fourth Set of Post Decision Data Requests ("Post Decision Set 4") issued by the Public Utilities Commission ("PUC") in the above-referenced matter.

Thank you for your attention to this filing. If you have any questions, please do not hesitate to contact me at 401-784-4263.

Sincerely,

Andrew S. Marcaccio

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cc: Docket No. 5189 Service List

Docket No. 22-33-EE Service List

The Narragansett Electric Company d/b/a Rhode Island Energy RIPUC Docket No. 5189

In Re: 2022 Energy Efficiency Year-End Report Responses to the Commission's Third Set of Post Decision Data Requests

Issued on June 20, 2023

PUC Post Decision 4-1

Request:

In response to PUC post-decision 3-3, the Company explained that it significantly over-delivered "WiFi Tstat-cool only, Elec" measures relative to planned levels. Regarding the "WiFi Tstat-cool only, Elec" measure, please explain the following:

- a. How specifically does the "WiFi Tstat-cool only, Elec" measure deliver oil savings if it is a cooling-only measure? To support your response, provide supporting savings documentation from the TRM and any relevant EM&V studies.
- b. In its response to PUC 3-3, the Company explained that it planned to deliver 1,700 "WiFi Tstat-cool only, Elec" units in 2022 but actually delivered 8,299. Commission staff notes that in 2021, the Company similarly planned to deliver 132 "WiFi Tstat-cool only, Elec" units but actually delivered 5,508 (data provided in response to post-hearing PUC 3-1 in Docket No. 5076, dated July 19, 2022). Please explain the following: what factors contributed to the Company actually delivering 5,508 units in 2021 after only planning to deliver 132 units? After having delivered 5,508 units in 2021, why did the Company only plan to deliver 1,700 units in 2022? And what factors contributed to the Company actually delivering 8,299 units in 2022 after only planning to deliver 1,700 units?
- c. For the 8,299 units delivered in 2022, please provide a table showing the total cost of those units (broken down by program incentives vs. customer contributions) and the total benefits delivered by those units (following the same benefits categorization as Table E-6 from the Plan).
- d. Based on the TRM filed in Docket No. 22-33-EE, it appears that the "WiFi Tstat-cool only, Elec" measure delivers 10 times more oil savings than electricity savings. Recognizing that the Energy Efficiency performance incentive structure only values oil savings at 50%, please explain why the Company made the mid-year planning decision to significantly increase the number of "WiFi Tstat-cool only, Elec" relative to planned levels?

Response:

a. In the 2022 Benefit Cost Model the measure "WiFi Tstat-cool only, Elec" was the name used for the TRM measure "WiFi programmable thermostat with cooling (oil)." Page M-111 of the 2022 Technical Reference Manual describes the measure "WiFi Programmable Thermostat with Cooling (Oil)" as "installation of programmable thermostats with the ability to adjust heating or air-conditioning operating times according to a pre-set schedule to meet occupancy needs and minimize redundant HVAC operation." The table on Page M-

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111 shows electric and oil savings for this measure and the sources for those savings values. To eliminate future confusion, this measure was renamed in the 2023 Benefit Cost Model to "Wi-Fi Tstat-cool and heat oil/propane".

- b. Wi-Fi thermostats are frequently promoted through the Company marketplace. Throughout the year there may be additional discounts to Wi-Fi thermostats supported by the manufacturer, the Company, and sometimes the marketplace vendor that makes the pricing on the product attractive to the consumer. In terms of planning, the program manager and strategy team making the 2021 and 2022 planning estimates are no longer with the Company and the Company does not have any insights into what contributed to the planning decisions.
- c. Please see <u>Attachment PUC PD 4-1</u>. A table similar to E-6 from the plan was created with the addition of the total cost information and the exclusion of the economic benefits. Economic benefits are excluded from the measure-level calculation as they are calculated on a per program basis and not per measure.
- d. The Company continued to promote "Wi-Fi Tstat-cool only, Elec" throughout 2022 even though the planned goal had been achieved. If there is available funding in the program and the measures are cost effective, then the Company would not discriminate against customers based on fuel type. Lower priced items, such as the Wi-Fi Tstat, can often be an introduction to energy efficiency for many customers. The goal of the Company is to ensure the customer has a positive consumer experience and can realize energy benefits, so they will be receptive to making larger energy efficiency upgrades in the future. Even though the Wi-Fi Tstat-cool only, Elec measure delivers 10 times more oil savings than electricity savings, the customer is still a RI Energy electric customer and contributes to the system benefit charge and should therefore be able to take advantage of program incentives if the funding is not depleted for the program year. Finally, obtaining additional oil savings available from this measure at a low cost are very much in line with the Act on Climate

In situations where there is higher than expected demand for a measure, the Company weighs the consequences of discontinuing or adjusting the incentive for that measure. In this case, if the Company were to stop oil heating customers from purchasing Wi-Fi Tstats mid-year, a screen would need to be set up on the marketplace which would first ask the customer to enter their heating fuel type and could then remove any available incentive for this customer. There would be additional programming costs to update the change. Another scenario may involve removing the incentive at check-out which could potentially upset the customer to go through a shopping experience and then learn there is no incentive available to them.

The Narragansett Electric Company d/b/a Rhode Island Energy RIPUC Docket No. 5189 Attachment Post Decision PUC 4-1 Page 1 of 2

							Capacity	
					Summer	Capacity		
					Generation	DRIPE	Transmission	Distribution
					Sum of	Sum of		
					Summer	Electric	Sum of	Sum of
					Generation	Capacity	Transmission	Distribution
	TRC (Total)	Incentive (Total)	Customer Cost (Total)	Sum of Total Benefits	Benefits (\$)	DRIPE (\$)	Benefits (\$)	Benefits (\$)
WiFi Tstat-cool only, Elec	\$2,177,243	\$ 622,425	\$ 1,554,818	\$ 14,600,761	\$ 215,581	\$ 194,129	\$ 423,901	\$ 419,993

	Benefits										
	Electric Energy				Non-Electric Benefits			Societal			
	Wii	nter	Sum	mer	Electric	Natural		Other-		Carbon	
Reliability	Peak	Off Peak	Peak	Off Peak	Energy DRIPE	Gas	Oil	Resource	Non-Resource	Benefits	Nox Benefits
								Sum of		Sum of Total	
	Sum of	Sum of	Sum of	Sum of		Sum of		Total		Avoided Non-	
Sum of	Winter Peak	Winter Off-	Summer Peak	Summer Off-	Sum of Total	Total Gas		Other	Sum of Total	Embedded	Sum of Total
Reliability	Energy	Peak Energy	Energy	Peak Energy	Energy DRIPE	Resource	Sum of Total	Resource	Non-Energy	Carbon	NOX Benefits
Benefits (\$)	Benefits (\$)	Benefits (\$)	Benefits (\$)	Benefits (\$)	Benefits (\$)	Benefits	Oil Benefits	Benefits	Impacts	Benefits (\$)	(\$)
\$ 2,431	\$ 39,190	\$ 22,505	\$ 220,872	\$ 184,698	\$ 135,772	\$ -	\$ 8,360,041	\$ -	\$ 435,888	\$ 3,512,880	\$ 432,879

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Responses to the Commission's Fourth Set of Post Decision Data Requests

Issued on July 27, 2023

PUC Post Decision 4-2

Request:

In response to PUC post-decision 3-8, the Company writes "the difference in the ratio between benefits and costs [of the electric Home Energy Reports program] results from the planned values using fixed, evaluated savings and the annual report using actual savings with evaluated realization rates applied." Regarding this statement, please explain the following:

- a. What does the Company mean by "actual savings" in this context? Please explain how the Company differentiates between "actual savings" and "planned values" in this context.
- b. How does the Company derive, impute, or measure the actual Home Energy Reports savings that it includes in the Annual Report?
- c. In part c of its response to PUC post-decision 3-8, the Company writes "the costs for delivering the program were close to the planned values. The savings in the program exceed the planned savings value." When the actual cost of delivering the program remains consistent with the planned cost, how is it possible for "actual savings" to exceed "planned savings"? Motivating this question is Commission staff's understanding (based on prior Company testimony) that the actual costs and actual claimed savings for a given measure do not change within a program year. To support your response, please provide the cost, energy savings, and participation assumptions that the Company used to support its plan for the Home Energy Reports (electric) 2022 program, as well as the actual cost, energy savings, and participation data that the Company relied on when developing the Annual Report.
- d. In part c of its response to PUC post-decision 3-8, the Company writes "the difference between actual and planned savings is likely due to customers saving more during 2022 than when they were last evaluated." Please explain this sentence in greater detail, specifically as it relates to the savings evaluation process for the Home Energy Reports program.

Response:

a. "Actual" savings in this context refers to the savings reported in the Energy Efficiency Year End Report. Home Energy Report actual savings are calculated by the Lead Vendor (LV) of the program on a monthly basis using customer usage in the treatment (receives HER communications) and control groups (does not receive program communication) and an estimate of savings based on the LV's statistical model. The monthly savings are

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aggregated at the end of the year. A realization rate from the most recent evaluation is applied to the LV savings. The realization rate accounts for the accuracy of LV's estimated savings and removes savings that are claimed by other energy efficiency programs, eliminating the possibility of double-counting. Given these adjustments, the actual, realized savings are a more accurate representation of what the program achieved throughout the year. Due to the large participation levels in the HER program and the randomized control trial method of assigning customers to treatment and control groups, the program also removes selection bias which could occur when metering a small number of real time projects. These actual savings are reported in the year-end report.

"Planned" savings are based on the quantity of customers expected to participate in the HER program and an average savings per household. Average savings per household are determined by the most recent evaluation and are a fixed amount. Regarding the quantity, since average savings per household is fixed, if the Company and LV believe the program can achieve greater per household savings than the evaluated per household savings, then the only way to achieve those savings, given the benefit-cost model inputs, is to increase the number of participants (quantity). The planned savings are presented in the Energy Efficiency Plan.

- b. The LV receives monthly usage values of both treatment and control customers. Using a proprietary statistical model, monthly savings are estimated and sent to the Company. Each month, the new month's savings are sent as well as updated savings to prior monthly forecasts. The prior months are adjusted as additional usage information is presented. Since the monthly savings are reported on a distinct date, not every customer's usage information may be available, and estimates are used. These values are updated throughout the year. The Annual Report savings are the monthly savings added up for the year with the application of the realization rate. The most recent evaluation is available on the Rhode Island EERMC website.¹
- c. For the Home Energy Reports program, it is possible for actual savings to exceed planned estimates. As noted in the response to part a., planned savings are based on a fixed number of savings per household from the most recent evaluation study while actual savings are based on the LV's statistical model using data collected during 2022, with a realization rate applied. For the Home Energy Reports program, the actual savings result from the difference in savings between the treatment (participants) and energy usage of the control group. The difference between planned savings and actual savings occur because the planned values are a snapshot of savings from the last evaluation and the actual savings are

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¹ http://rieermc.ri.gov/wp-content/uploads/2020/10/ngrid-ri-behavior-evaluation-28aug2020.pdf

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from the 2022 actual usage between the participants and control populations, adjusted by the evaluated realization rate. As noted in the 2020 Impact Evaluation of Home Energy Reports Program, "The number of customers who ultimately receive reports each year can vary from forecasts (based on eligibility, attrition, etc.) and achieved per household savings can also vary."²

The table below shows the cost, energy savings, and participation values for the 2022 Plan and 2022 Year End Report.

2022 Home Energy Report Electric

Measure	Plan/Actual	Participation	Net Lifetime	Program
			MWh Savings	Costs
New Mover electric	Plan	18,428	1,816	
New movers dual fuel	Plan	10,342	911	
Electric Only	Plan	171,077	16,533	
Dual Fuel	Plan	123,401	7,592	
Home Energy Report	Plan	323,248	26,852	\$2,641,297
New Mover electric	Actual	16,068	3,533	
New Mover dual fuel	Actual	8,726	1,440	
Electric Only	Actual	136,406	16,300	
Dual Fuel	Actual	91,024	6,826	
Home Energy Report	Actual	252,224	28,099	\$2,639,136

The principle of savings not changing during the year applies generally to savings algorithms documented in the Rhode Island Technical Reference Manual (TRM). The TRM documents savings per measure used in planning the year's programs and in tabulating claimed savings in the Year-End Report. These are fixed for the entire program year. Some of the savings documented in the TRM are deemed savings and some of them are calculation algorithms. Measure costs are not documented in the TRM and may change, for example, if there is an RFP for a price increase mid-year or if vendors approach the company with evidence of material cost and/or labor cost increases.

The savings for HER is documented in the 2022 TRM. For example, on page M-1, for the Home Energy Report, Existing Dual Fuel measure, the electric savings calculation is indicated as "Calc" with a note "Supplied by vendor." This refers to the algorithm, noted above, of the LV's calculation of actual savings using the difference between the treatment

² Page 16 of http://rieermc.ri.gov/wp-content/uploads/2020/10/ngrid-ri-behavior-evaluation-28aug2020.pdf

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and control group can be used, with the application of a realization rate from the most recent evaluation.

d. As noted earlier in this response, planned savings values are from the 2020 Impact Evaluation Home Energy Reports National Grid Rhode Island which averaged the savings from the 2017-2019 program years. These savings represent the per household program savings during that period in time as captured in the evaluation study. The LV has designed into their statistical model the fact that per household savings change as participants remain in the program for a longer period of time. These factors are accounted for when planning the savings for the next program year. The planning process for this program uses the average per household savings as the starting point for accounting for the forecasted savings for the next program year.

The actual savings can deviate from planning estimates because of participating customer behavior in 2022 (customer actions in response to the HER communications they receive throughout the year) which affects their energy consumption and changes to the number of participants (customers move and are removed from the program and some customers may choose to opt out of the program). As described in section c of this response, the actual savings from usage and LV statistical model is used for reporting in the year end report.

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was 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.

Joanne M. Scanlon

August 9, 2023

Date

Docket No. 5189 – Rhode Island Energy – 2022 Annual Energy Efficiency Program - Service list updated 6/1/2023

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Certificate of Service

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

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Joanne M. Scanlon

August 9, 2023
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Docket No. 22-33-EE – Rhode Island Energy's Energy Efficiency Plan 2023 Service list updated 11/09/22

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