

July 24, 2014

VIA HAND DELIVERY & ELECTRONIC MAIL

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

**RE: Docket 4366 - 2013 Energy Efficiency Program Plan
2013 Energy Efficiency Year-End Report
Responses to Commission Data Requests – Set 2**

Dear Ms. Massaro:

Enclosed is National Grid's¹ responses to the Commission's Second Set of Data Requests issued July 3, 2014 concerning the Company's 2013 Energy Efficiency Year-End Report submitted to the Commission on May 1, 2014 in the above-referenced docket.

Thank you for your attention to this filing. Please feel free to contact me if you have any questions concerning this matter at (401) 784-7288.

Very truly yours,



Jennifer Brooks Hutchinson, Esq.

Enclosures

cc: Docket 4366 Service List
Steve Scialabba, Division
Leo Wold, Esq.

¹ The Narragansett Electric Company d/b/a National Grid (the "Company").

PUC 2-1

Request:

PUC 1-1(e) refers to efficient lighting, water saving aerators, showerheads, advanced power strips and pipe insulation that are received by the participant through the home energy assessments.

- a) How many of these types of savings equipment are given to each participant during a typical home energy assessment?
- b) Is it true that the Company does not track whether savings equipment is actually installed by the customer following a home energy assessment?
- c) Assuming the Company does not know whether a customer has installed savings equipment following a home energy assessment, how does the Company quantify savings associated with home energy assessments?

Response:

- a) The following table shows the total products installed and average units per household for lighting for the EnergyWise single-family program that provides no cost home energy assessments to customers.

Total Audits		8,645	
Type of equipment installed	Total Products installed	Average Products per participant	Notes
Lighting products	195,742	22.6	
Aerators	2		Not frequently recommended due to customer concerns with changing existing equipment.
Showerheads	23		Not frequently recommended due to customer concerns with changing existing equipment.
Advanced power strips	12,830	1.5	
Pipe insulation	857 feet	95 feet	
Refrigerator brush	6,664		

PUC 2-1, page 2

Following are the total products installed and average units per household for the Income Eligible single-family program.

Total Audits		2,646	
Type of equipment installed	Total Products installed	Average Products per participant	Notes
Lighting products	44,035	16.6	
Advanced power strips	1,681		
Pipe insulation	25,984 feet	59.5 feet	

- b) It is not true that the Company does not track whether savings equipment is actually installed by the customer following a home energy assessment. Installations are confirmed by the Company through multiple methods. The first tier of confirmation is by the auditors. The Company requires that auditors install all lighting products so that savings can be counted, and this is communicated through regular trainings. The majority of electric savings are achieved through installation of efficient lighting. Pipe insulation is installed by the auditors as are aerators and showerheads. Some advanced power strips may not be installed at the time of the audit if a customer expresses concern about installers touching their electronic equipment.

The second level of verification is by the lead vendor that verifies through an administrative review the work done during the assessment. For customers that receive additional weatherization, the lead vendor also conducts an on-site verification of all the savings measures installed.

Finally, confirmation is conducted by an independent company called CRI that conducts on site audits of up to 10% of all home energy assessments. CRI verifies paperwork and audits as well as weatherization through random customer selection.

- c) While the Company's installation verification methods do not provide for physical verification of 100% of the installed measures, as noted in the response to part (b), the Company believes the verification methods used provide assurance that the measures have actually been installed. The number of measures installed is multiplied by the savings per item as documented in the Company's Technical Reference Manual. The savings per item are based on the results of the latest applicable evaluation studies.

The Narragansett Electric Company
d/b/a National Grid
R.I.P.U.C. Docket No. 4366
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PUC 2-2

Request:

Provide tables similar to E-1 and G-1 for all of the measures delivered by the Company in 2013 in all of the programs in all 3 sectors (electric and gas), and include the benefit cost ratio for each measure.

Response:

The following table describes the definitions for participation in National Grid’s efficiency programs.

Fuel	Sector	Program	Participation Unit
Gas	Commercial & Industrial	Large Commercial New Construction	Unique Account
		Large Commercial Retrofit	Unique Account
		Small Business Direct Install	Unique Account
		C&I Multifamily	Housing Unit
	Income Eligible Residential	Single Family – Income Eligible Services	Unique Account
		Income Eligible Multifamily	Unique Account
	Residential	Energy Star® HVAC	Unique Account
		EnergyWise	Unique Account
		EnergyWise Multifamily	Unique Account
		Home Energy Reports	Unique Account
		Residential New Construction	Housing Units
Electric	Commercial & Industrial	Large Commercial New Construction	Unique Account
		Large Commercial Retrofit	Unique Account
		Small Business Direct Install	Unique Account
	Income Eligible Residential	Single Family – Income Eligible Services	Unique Account
		Income Eligible Multifamily	Unique Account
	Residential	Energy Star® HVAC	Unique Account
		EnergyWise	Unique Account
		EnergyWise Multifamily	Unique Account
		Home Energy Reports	Unique Account
		Residential New Construction	Housing Units
		ENERGY STAR® Lighting	Estimated Housing Units
		ENERGY STAR® Products	Number of Rebates

PUC 2-2, page 2

In all cases where unique account is the participation unit, the account is only unique within the program. It is possible that a customer can participate in two separate programs and be counted as unique in each program. For C&I Multi-family, housing unit is used because many large gas-heated apartment buildings are not sub-metered. For residential lighting, housing units are estimated by assuming each participating home purchases five rebated bulbs. This ratio is based on the findings of an evaluation completed in 2011 by NMR Group for National Grid, entitled ‘Results of the Multistate CFL Modeling Effort’. Processed rebates are used as the unit of account for the residential products program because unique account information cannot be collected for some measures for which the cost is bought down at the store level (eg. instant rebate).

An example template for how program savings and participation can be disaggregated is shown below for the electric Large Commercial New Construction program. The Company will supplement this response with detailed versions of Tables E-1 and G-1 once it has compiled the information reflected in the template.

Program	Sub Program	Annual kW	Annual MWh	Participation	Cost Field
Large Commercial New Construction	Compressed Air				
	Cool Choice				
	Custom				
	HVAC				
	Lighting				
	Upstream Lighting				
	Miscellaneous				
	Variable Speed Drives				

The level of granularity will vary by programs due to the availability of high-level categorizing fields such as “Sub Program.” “Cost Field” is not defined but will include some spend-related data such as incentives or implementation costs.

PUC 2-3

Request:

Referring to the data for Large Commercial Retrofit in Table E-1, explain why the Company had less than half of the participants expected for this program but still spent roughly 83% of the projected budget for this program?

- a) Identify the third party vendor referred to on p.18 of the Report, the date the vendor was hired and describe the pilot in more detail, including the total cost associated with the pilot.
- b) Is the expense of this pilot included in the actual budget of \$9,814.10?

Response:

As described in PUC 2-2, the unit of participation for the Large Commercial Retrofit project is the unique account number. In order to estimate how many projects will happen in the next year (the participation target) in the Plan, National Grid divides the Plan's program savings goal by historical savings per participant data. When the 2013 participation target was set for the electric Large Commercial Retrofit program in fall 2012, year-to-date savings per participant data was used. The program year then begins, and Large Commercial Retrofit projects are developed continually by National Grid's energy efficiency sales team. What projects are feasible and cost-effective, therefore, are determined in the program year.

That the 2013 electric Large Commercial Retrofit savings goal was nearly met and almost all program funds were used but the participation target was not met, therefore, means that the 2013 savings-per-participant ratio was higher than the 2012 savings-per-participant ratio. This means that, on average, the projects that were implemented in 2013 were larger (more kWh savings) than the projects in 2012. In Commercial programs, variability in savings-per-participant in a year is to be expected due to the range of possible projects and the range of customer sizes. Depending on the profile of customers that participate in a given year, savings-per-participant may also vary over time.

- a) The third-party vendor referred to on p.18 of the report is Leidos Inc., formerly known as SAIC Inc. Leidos Inc. was hired in the first quarter of 2013. The Company hired Leidos as the dedicated technical experts to target industrial and manufacturing customers in the top quartile of energy consumption to reduce energy usage in both building operations and manufacturing processes. A more detailed description of these services is included in the 2014 Energy Efficiency Plan on page 71.

PUC 2-3, page 2

While referred to as a pilot in text, Leidos's services comprised a new initiative that contributed to portfolio energy savings and was budgeted through the gas and electric Large Commercial Retrofit programs. The Company apologizes for this confusion with the terminology. The Company traditionally uses "pilot" to refer to studies that explore the use of new technologies and services, do not contribute to portfolio savings, and are tracked in budgets separate from programs that do contribute to portfolio savings.

- b) The expenses for this initiative totaled \$47,621 in 2013, of which \$39,903 were charged to the gas Large Commercial Retrofit budget. A portion of the expense should have been included in the \$9,814,100 referred to in the question, which is the total of implementation expenses for the electric Large Commercial Retrofit program, as described in Table E-1. Due to an invoice-mapping issue, the electric Large Commercial Retrofit was not properly charged. National Grid is investigating how the charges were allocated so that full cost is charged to the appropriate programs. Therefore, at this time, the Company cannot definitively state how much was charged to the electric Large Commercial Retrofit program for this initiative, but will provide that information when it becomes available.

PUC 2-4

Request:

Is the methodology described in PUC 1-4 for calculating bill savings the same methodology for calculating benefits in the cost benefit ratio?

Response:

The methodology described in PUC 1-4 for estimating annual bill savings is not the same as the methodology used to calculate benefits in the portfolio benefit-cost ratio. In the calculation of the benefit-cost ratio, benefits are calculated for the lifetime of measure energy savings. The energy savings of a measure are multiplied by the avoided energy costs over its lifetime before being discounted back to a present value. These measure-level present values are then summed up to the program and portfolio level. These values are not bill savings, as they include system-wide benefits and non-energy impacts.

The estimation described in PUC 1-4 was an illustration of the bill savings electric and gas customers would experience only in 2013. The calculation was not based in avoided costs and non-energy impacts, but on the retail rates for different customer segments.

PUC 2-5

Request:

Explain how the energy savings (10,002 MWH and 15,248 MMBTU) in PUC 1-10 (Home Energy Reports) were derived.

Response:

National Grid derived the energy savings consistent with what is stated in the Technical Reference manual on page M-52:

“Program impacts are estimated by the program implementer using a linear fixed effects regression (LFER) analysis. The LFER analysis provides what is termed a Difference-in-Difference (DID) estimate of program savings. The analysis approach is described in Section 3.4.1. of the Massachusetts Three Year Cross-Cutting Behavioral Program Evaluation Integrated Reports.”

More specifically, the implementer, OPower, follows the best practices detailed by the Department of Energy's State and Local Energy Efficiency Action Network, so that savings for Home Energy Reports are calculated via a panel data regression model with household fixed effects. The implementer's model effectively estimates savings as the difference in the following two quantities: 1) The change in energy consumption for the recipient group between baseline period and the program period, and 2) The change in energy consumption for the control group between baseline period and the program period. The difference in these two quantities yields a difference-in-differences estimate of the savings which can be attributed to the program. The random allocation of eligible participants into recipient and control groups ensures that this method will yield an unbiased estimate of program savings. Effectively, the change in energy consumption of the control group serves as the counterfactual for the treatment group. Differencing the two quantities yields the energy savings which can be attributed to the program.

Once OPower estimates the effect of the program on average daily energy usage using this method, they then multiply by the program days (adjusted for attrition) and the number of recipient households to get an aggregate total for energy saving due to the program.

PUC 2-6

Request:

What was the 2013 cost of the RI Energy Challenge: Find your Four! initiative, and how is it classified as a budget expense? In which line item of the energy efficiency budget (i.e. marketing, program planning & administration etc.) is it included?

Response:

The total cost (allocated amongst three budget lines – see below) of the RI Energy Challenge in 2013 was \$205,000. The electric costs were \$174,250, and the gas costs were \$30,750. This total cost refers only to the fee paid to the initiative's vendor for implementation of the RI Energy Challenge.

However, as described in the 2013 Annual Plan, this initiative is just one part of the Company's Community Based Initiatives. Other costs to the Community Based Initiatives budgets include general allocation costs (payroll, marketing, admin, etc.), community events and activities (WaterFire, PawSox games, etc.), and community marketing and sponsorships. These other costs in 2013 amounted to \$290,800, and thus total expenditures for all gas and electric Community Based Initiatives in both Residential and C&I sectors equaled \$495,800.

The RI Energy Challenge costs are included in the Community Based Initiative budget lines in Tables E-1 and G-1, specifically Community Based Initiatives – C&I Electric; Community Based Initiatives – Residential Electric; and Community Based Initiatives – Residential Gas. Costs are included in all of the typical expense categories, including PP&A, Marketing, and STAT (Sales, Tech, and Training [implementation]).

PUC 2-7

Request:

Referring to PUC 1-12, what was the amount of overestimated savings from Home Energy Reports and the corresponding dollar refunds that were directed back into the electric and gas programs.

Response:

To clarify, the Home Energy Reports vendor overestimated their savings projections given to the Company in 2012 – i.e., the amount of savings the vendor predicted the reports could achieve in 2013 and 2014. The vendor did not overestimate the actual savings reported to the Company. The overestimated gas projections from Home Energy Reports affected both the 2013 and 2014 Annual Plans. As a result, the Company received two separate refunds that were directed back into the Company's residential gas efficiency programs in 2014, as set forth below. No refunds were directed back into the electric programs as they were unaffected by this overestimation.

2013 projection overestimation: 100,299 therms – about 27% of the Annual PlanHER program gas goal

2013 refund: \$82,242 – about 27% of the HER program gas budget

2014 projection overestimation: 188,580 therms – about 25% of the Annual PlanHER program gas goal

2014 refund: \$100,000 – about 25% of the HER program gas budget

PUC 2-8

Request:

Referring to PUC 1-12, what were the inaccurate assumptions made by Opower in projecting gas savings?

Response:

The inaccurate savings projections were due to predicting gas savings during the summer months. The program typically experiences robust, electric savings in the summer months (e.g. customers reducing their air conditioning usage), but very rarely any gas savings.

PUC 2-9

Request:

PUC 1-15 states that the \$15,000 Massachusetts award was funded by the MA C&I Electric Retrofit incentive budget. Does this mean that that the \$15,000 Massachusetts award was, or was not, funded by Rhode Island ratepayers?

Response:

The \$15,000 Massachusetts award was not funded by Rhode Island customers.

PUC 2-10

Request:

PUC 1-15 implies that the fixed costs associated with the Energy Star Lighting Makeover contest were shared between Rhode Island and Massachusetts. If that is true, what specific costs were allocated to each state?

Response:

The costs associated with running the Light up Your Library Community Tour included:

- Location of library events and associated staffing costs
- Geotargeting of online banner ads and Facebook ads for selected locations
- Print ads and radio spots
- Public relations and media outreach
- Energy Efficiency brochures

There were a total of nine library events. Two were held in Rhode Island (22% of the events) and seven in Massachusetts (78% of the events) libraries. Rhode Island paid for 17% of the above costs and Massachusetts paid for 83% of the costs.

In addition to the fixed costs described above, incentives for the winning libraries are paid out of the Commercial and Industrial lighting programs depending on the location of the winning library. The Rhode Island library will have incentives paid for by Rhode Island customers and the Massachusetts library will have incentives paid for by Massachusetts customers.

PUC 2-11

Request:

Please explain in plain English what information Tables E-6 and E-7 is intended to convey.

Response:

Tables E-6 and E-7 show inflows and outflows for the Company's two electric revolving loan funds: 1) Large and Medium Commercial & Industrial Revolving Loan Fund, and 2) Small Commercial & Industrial Revolving Loan Fund.

As the name implies, these loan funds are used to assist customers in financing their portion of project costs, and supplement the incentives or grants they receive for energy efficiency projects. These loan funds are provided to the customer and are then paid back over the term of the loan as part of the customer's monthly bill payments. The repaid funds are deposited back into the loan fund and, in this way, "revolve" for use in financing other customer projects.

Below is further explanation of each line included in tables E-6 and E-7:

1. Total Payments Received – this line shows inflows received from customer repayments on existing loans and additional funds provided by Energy Efficiency program budgets or RGGI. For example, in 2013, \$1 million from the 2013 Electric Energy Efficiency Program Budget and \$4.3 million in carryover program funds from 2012 were injected into the Large & Medium revolving loan fund.
2. Total Expense – This line shows new loans lent out to customers each month.
3. Cash Flow Over/(Under) – This shows the difference between "Total Payments Received" and "Total Expense" explained above.
4. Start of Period Balance – This line rolls forward the "End of Period Balance After Interest" from the prior month.
5. End of Period Balance Before Interest – This line shows the sum of "Cash Flow Over/(Under)" and "Start of Period Balance" for each month.
6. Total Interest – This line shows inflows for interest charges on the average "End of Period Balance Before Interest". In 2013, the Company applied the customer deposit annual interest rate of 1.80%.

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PUC 2-11, page 2

7. End of Period Balance After Interest – This line sums the “End of Period Balance Before Interest” and “Total Interest”.

PUC 2-12

Request:

What is the Homes Tier III Pilot referred to on the very last page of the Report (RGGI Auction Proceed Report)? Is it true that \$65,000 in RGGI funds was budgeted for the pilot, none of which has been allocated? If yes, why?

Response:

The funds for the Homes Tier III pilot were reallocated to the Deep Energy Retrofit pilot and spent in 2012. This reallocation was done primarily because there were no accredited HVAC contractors at the time who could have implemented the pilot according to ENERGY STAR[®] guidelines. This was discussed with the Office of Energy Resources in advance of the transfer. Some of the pilot's objectives were folded into the Residential New Construction program in 2012. The experience of the Tier III pilot is more fully described in the RGGI Auction Proceeds Report for 2011, included in the Company's 2011 Year-End Report filed in Docket No. 4209, beginning on page 47.