

December 10, 2013

VIA HAND DELIVERY & ELECTRONIC MAIL

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

**RE: Docket 4451 – The Narragansett Electric Company, d/b/a National Grid
2014 Energy Efficiency Program Plan
Responses to Commission Data Requests – Set 4**

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's¹ responses to the Commission's Fourth Set of Data Requests concerning the above-referenced proceeding.

Thank you for your attention to this filing. If you have any questions, please feel free to contact me at (401) 784-7288.

Very truly yours,



Jennifer Brooks Hutchinson

cc: Docket 4451 Service List
Karen Lyons, Esq.
Jon Hagopian, Esq.
Steve Scialabba, Division

¹ The Narragansett Electric Company d/b/a National Grid (referred to herein as “National Grid” or the “Company”).

Certificate of Service

I hereby certify that a copy of the cover letter and/or any materials accompanying this certificate were electronically transmitted to the individuals listed below. Copies of this filing were hand delivered to the RI Public Utilities Commission and the RI Division of Public Utilities and Carriers.

Joanne M. Scanlon

December 10, 2013

Date

**Docket No. 4451 - National Grid - 2014 Energy Efficiency Program Plan
Service list updated 11/5/13**

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Commission 4-1

Request:

Is it true that that NECEC's FTE Study is based on 2012 data and therefore contains no findings with respect to National Grid's CHP program?

Response:

Yes. Since there were no CHP installations in 2012, the NECEC FTE study does not contain findings with respect to the Company's CHP program.

Commission 4-2

Request:

Attachment COMM 1-5 (NECEC Study). If National Grid provided the funding for the NECEC Study, what was the amount of funding provided by National Grid for this Study? Was the funding for this study an expenditure from the energy efficiency budget and if so, which line item in the energy efficiency budget was it charged to?

Response:

The amount of funding provided by National Grid for the NECEC study was \$38,976. This amount was also shown in the Table provided in the response to COMM 1-21. Since this study was not specific to one or two programs, the study cost is charged as an evaluation expense across all energy efficiency programs in 2013.

Commission 4-3

Request:

Section 1.2A(4)(a)(2) of the Energy Efficiency Procurement Standards require the Company to invest FCM revenues in energy efficiency programs. Referring to COMM 1-8,

- a) What, if any, portions of the FCM revenues referenced in Attachment COMM 1-8 were invested in energy efficiency programs?
- b) What were the Company's FCM participation costs incurred for each of these years (2011, 2012 and 2013) and were these costs recovered from energy efficiency program funds? If yes, please refer to the section, page number and/or table where these costs are reflected in the applicable Energy Efficiency Program Plan.

Response:

- (a) The Company invested 100% of the amounts shown in Attachment COMM 1-8 in energy efficiency programs, either as program expenses or as administration of the energy efficiency resources in the FCM to produce the revenue.
- (b) The Company's FCM participation costs in 2011, 2012 and YTD 2013 are shown in the table below. These costs are for staff time and expenses to administer the Company's energy efficiency resources in the FCM. These costs were recovered from energy efficiency program funds. These costs are shown in Table E-2 in the respective program plan under the Program Planning and Administration budget category. The costs for FCM participation are allocated across all programs and are therefore not identified as a single budget item.

Calendar Year	Total
2011	\$12,622
2012	\$11,520
2013 (YTD)	\$16,545

Commission 4-4

Request:

For Tables E-5 and G-5, explain how the benefits were derived, including the assumptions used to develop and monetize the benefits and the individuals responsible for same.

Response:

Benefits in Tables E-5 and G-5 are outputs of the electric and gas benefit cost models (further details of which are found in Tables E-6 and G-6), which the Company provided as Attachments COMM 2-4-A and COMM 2-4-B, respectively. Each measure in the benefit cost model is located in a row in the workbook and the assumptions for that measure occupy many columns in the row. The assumptions that contribute to the benefit calculation include savings per measure, expected quantity, savings components, impact factors, loss factors, on- and off-peak and coincidence factors, and value components. The savings components are derived from assumptions documented in the Technical Reference Manual.

In the Total Resource Cost (TRC) Test, benefits are the Net Present Value (NPV) dollar value of avoided supply costs and non-resource impacts resulting from a program over the lifetime of the measure. Benefits accrue from savings components:

- Avoided on and off-peak electrical energy (kWh), cost of compliance with RGGI and other enacted emissions control are embedded
- Avoided electric generation capacity (kW)
- Avoided electric transmission and distribution costs (kW)
- Avoided natural gas or delivered fuel consumption (mmbtu oil, kerosene, etc.)
- Water and sewer benefits (gallons of water; etc.)
- Non-energy impacts (\$ of low income benefits, O&M savings, etc.)

To determine benefits, gross savings components per measure (which are linked to the TRM, except for site specific calculations) from engineering analysis, manufacturer's specifications, etc. are modified by impact factors to determine net savings attributable to program efforts. Impact factors are adjustments from spillover, free-ridership, in-service rates, persistence and realization rates from evaluations. Electric savings (kW and kWh) are increased by line loss factors to determine savings at the generator. On- and off-peak and coincidence factors are used to apportion savings to be in alignment with avoided cost value factors.

Benefits are Net Savings times Value. The value of each component is represented by avoided cost factors, or value per unit savings:

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- \$ value per kW of electricity
- \$ value per kWh of electricity
- \$ value per mmbtu of natural gas
- \$ value per mmbtu of fuel resources or gallons of water
- \$ value per unit of non-energy impacts

Avoided costs of energy and capacity are from regional Avoided Energy Supply Component study while non-energy impacts are identified through other M&V planning studies. Each value component is calculated for each year of the measure life and converted to the present value using a discount rate, and summed with other value components to determine total value of benefits.

The individuals responsible for the calculation of benefits in the benefit cost models are Rachel Henschel, Sean Murphy, and Courtney Lane at National Grid.

The individuals responsible for the development of the savings and monetization assumptions are the many engineers inside and outside the Company as well as the third party evaluators who have contributed to the analysis of energy efficiency savings over the years. The evaluation sources and some of the engineering sources are listed in the List of Sources in the Technical Reference Manual provided as Attachment COMM 1-16.

Commission 4-5

Request:

Page 42 of the Plan. Is the Company's position that the economic development benefit rate of \$2.51 of lifetime gross state product increase per dollar of program investment satisfies the economic development criteria prescribed in RIGL 39-1-27.7(6)(iii)? If yes, why. If no, explain how the Company factored economic development benefits into the development of the CHP plan.

Response:

The Company believes that the economic development rate of \$2.51 of lifetime gross state product increase per dollar of program investment satisfies the economic development criteria prescribed in RIGL 39-1-27.7(6)(iii). The Environment Northeast study that is the source of this number (as this number has been modified in the 2014 Energy Efficiency Program Plan) states that "[e]fficiency programs deliver consumer savings, and these savings flow through state economies to impact overall economic conditions and job growth." See "Energy Efficiency: Engine of Economic Growth," at page 6. Though stated as "job growth" in the study, it was confirmed that the economic impacts from jobs could be either job growth or job retention. Therefore, the application of a value for economic benefits as determined by the study is consistent with the criteria specified in the law.

Commission 4-6

Request:

Explain how the following statutory criteria were factored into the development of the CHP plan:

- a) Energy and cost savings for customers
- b) Energy supply costs
- c) Greenhouse gas emission standards and air quality benefits
- d) System reliability benefits

Response:

All of the above statutory criteria are factored into the cost effectiveness screening for combined heat and power (CHP) projects under the 2014 Energy Efficiency Program Plan (2014 EEPP). This screening determines if CHP projects are eligible for energy efficiency incentives.

- a) Energy costs and savings for consumers are factored in the avoided costs of energy and capacity.
- b) Energy supply costs are considered to be the same as energy cost savings.
- c) Greenhouse gas benefits per ton of avoided pollutant are identified in the table on Attachment 2 page 41 of the 2014 EEPP; though not explicitly referenced in the 2014 EEPP, greenhouse gas emission standards will be enforced through the permitting process for the CHP generator that is overseen by the appropriate state agencies.
- d) System reliability benefits are factored through the treatment of distribution benefits as described on Attachment 2, pages 41 and 42 of the 2014 EEPP.

Commission 4-7

Request:

Explain how the 2014 EEPP results in monetary savings or benefit to an individual customer who does not participate in any energy efficiency programs but pays for them in the form of an EEP charge and revenue decoupling adjustment.

Response:

The reduction in electricity consumption resulting from the Company's energy efficiency plans benefits all customers, regardless of participation. There are a number of ways in which a non-participating customer benefits from energy efficiency.

First, because demand decreases, fewer relatively expensive resources are needed to meet that demand, and supply prices for electricity and gas fall, thereby reducing the cost of commodity supply charges passed on to customers' electric and gas bills. Energy efficiency has a lifetime cost that is less than traditional electricity supply so that the overall cost of supply is suppressed for all customers. This is the essence of least cost procurement.

Second, the presence of energy efficiency in the market creates longer term structural changes in the market as suppliers see demand permanently reduced and alter their decision-making about how much supply, and which supply resources, to deploy in the market. These shifts take place over several years until such time as the market reaches equilibrium. During this period, market prices continue to be suppressed by the presence of energy efficiency. This interaction of demand and price is referred to as the Demand Reduction Induced Price Effect, or DRIPE.

Since much of New England's electricity supply comes from natural gas generation, the reductions in electricity demand have a suppression effect on aggregate gas demand and price. Gas efficiency's effect on the wholesale gas prices makes gas generation less expensive, resulting in reduced electric commodity charges. This interactive effect of gas and electricity is known as cross-DRIPE.

The biennial regional Avoided Energy Supply Component¹ study, the most recent version of which was completed in July, 2013 by Synapse Energy Economics, provides the research and quantitative backing for DRIPE benefits, which, in turn, form the foundation of the Company's benefit-cost models.

¹ Synapse Energy Economics, Inc., "Avoided Energy Supply Costs in New England: 2013 Report", Prepared for the Avoided-Energy-Supply-Component (AESC) Study Group, (2013).

Commission 4-8

Request:

Attachment 2. Footnote 15. Are the cross subsidization issues inherent in CHP projects factored into the TRC test? If yes, how? If not, why not?

Response:

The cross-subsidization issues described in Attachment 2, pages 44 and 45 are not factored into the TRC test. The TRC test is concerned with the benefits created by resource savings and the cost to achieve those savings. The potential impacts of any energy efficiency project undertaken by a participant on other customers or generators are not factored into the TRC test. It should be noted that cross-subsidization is similarly not considered by other cost-effectiveness tests commonly used for customer funded energy efficiency programs, such as the Societal Test or the Utility Test.

The Company believes that the cross-subsidization issue described in the footnote was appropriately addressed by the tariff modifications recommended and adopted as part of the 2013 Energy Efficiency Program Plan. As part of those tariff modifications, customers who elect to accept a CHP incentive from the Company's energy efficiency programs are subject to a minimum charge designed to mitigate the potential cross-subsidy by other customers of distribution costs avoided by the participating customer generating a portion of their electricity with the CHP facility.

Commission 4-9

Request:

To date, how much has R.I. received in annual and total RGGI payments. How much of those payments have been allocated, annually and in total, toward energy efficiency programs?

Response:

According to RGGI, Inc., the State of Rhode Island has received \$25,363,132 through Auction 22 which was held on December 4, 2013.¹

The table below illustrates annual and total auction proceeds, the amount allocated to energy efficiency programs, and the percent that the allocation represents.

Additionally, the Company's 2012 RGGI Auction Proceed Report includes results from energy efficiency activities implemented with RGGI auction proceeds. It was included as Attachment 5 in the 2012 Year End Report in Docket No. 4295, submitted on May 31, 2013.

¹ Source: http://www.rggi.org/market/co2_auctions/results.

The Narragansett Electric Company
d/b/a National Grid
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Year	Auction	Total Proceeds	Annual Total Proceeds	Proceeds Allocated to EE	Percent Allocated to EE
2008	Auction 1	\$ 1,347,036	\$ 2,830,092		
2008	Auction 2	\$ 1,483,056			
2009	Auction 3	\$ 1,640,470	\$ 5,092,494	\$ 6,583,586	94%
2009	Auction 4	\$ 1,485,034			
2009	Auction 5	\$ 1,022,455			
2009	Auction 6	\$ 944,536			
2010	Auction 7	\$ 1,422,257			
2010	Auction 8	\$ 1,298,553	\$ 4,417,622	\$ 4,034,678	75%
2010	Auction 9	\$ 961,335			
2010	Auction 10	\$ 735,476			
2011	Auction 11	\$ 1,306,120	\$ 2,780,097	\$ 1,888,138	68%
2011	Auction 12	\$ 402,460			
2011	Auction 13	\$ 220,748			
2011	Auction 14	\$ 850,768			
2012	Auction 15	\$ 746,648	\$ 2,857,539	\$ -	
2012	Auction 16	\$ 693,744			
2012	Auction 17	\$ 781,893			
2012	Auction 18	\$ 635,254			
2013	Auction 19	\$ 1,750,708	\$ 7,385,288	\$ -	
2013	Auction 20	\$ 2,089,389			
2013	Auction 21	\$ 1,669,428			
2013	Auction 22	\$ 1,875,762			
Total		\$ 25,363,132	\$ 25,363,132	\$ 12,506,402	49%

Notes

- 1) Auction Proceeds Source: http://www.rggi.org/docs/Auctions/22/RI_Proceeds_By_Auction.pdf
- 2) OER's Allocation Plans do not correspond to Annual Proceeds for 2009-2010. Specifically, there was an Allocation Plan for Auctions 1-5 and 6-10. The Percent Allocated to EE is calculated as the Proceeds Allocated to EE divided by the sum of Total Proceeds from corresponding auctions.
- 3) Allocation Plan for 2012 and 2013 Auctions have not been finalized.

Commission 4-10

Request:

Referring to COMM 3-10, please quantify, in dollars, the amount of cross subsidization between electric rate classes.

Response:

Below is the amount of cross subsidization between electric rate classes per COMM 3-10.

2014 Supplemental Filing dated November 22, 2013, Attachment 4-Revised:

- The Residential sector is subsidizing the Income Eligible sector by approximately \$4.9 million.
- The Commercial and Industrial ("C&I") sector is subsidizing the Income Eligible sector by approximately \$1.9 million.
- The Income Eligible sector is receiving a subsidy from the residential and C&I sectors of \$6.8 million.

Commission 4-11

Request:

Please quantify, in dollars, the amount of cross subsidization between gas rate classes.

Response:

Please find below the amount of cross subsidization between gas rate classes per the Company's 2014 Energy Efficiency Program Plan Supplemental Filing dated November 26, 2013, Attachment 5-Revised:

- The Commercial and Industrial ("C&I") sector will subsidize the income eligible sector by \$3.8 million.
- The C&I sector will also subsidize the residential sector by \$2.1 million.

Commission 4-12

Request:

Please provide copies of any presentations the company plans to utilize at the December 11th hearing by no later than Noon, December 10, 2013.

Response:

The Company has provided a draft presentation that the Company plans to use at the December 11, 2013 hearing as Attachment COMM 4-12. The Company electronically filed this presentation as a .pdf file at Noon on December 10, 2013 per the Commission's request. This presentation contains the content that the Company plans to present during the hearing. If the Company makes substantive modifications to this presentation, it will bring updated handouts to the hearing.

Commission 4-13

Request:

Where does Rhode Island rank nationally in terms of cost of energy per kWh?

Response:

According to data collected by the U.S. Energy Information Administration (EIA) on Form EIA-826, for the year-to-date ending September 2013, the average total price of electricity per kilowatt-hour in Rhode Island is \$0.1519 for residential customers, \$0.1299 for commercial customers, and \$0.1377 for all sectors, including industrial and transportation customers. By comparison, the actual billed rate (including customer charge) for an average 500 kWh A-16 residential customer of the Company at the end of September 2013 was \$0.1516, including the Standard Offer Service rate for commodity service of \$0.0657 in effect for the period July 1, 2013 to December 31, 2013.

According to the EIA's Electric Power Monthly, released November 20, 2013, comparing year-to-date EIA-826 data at the state level, as shown on Table 5.6.B, "Average Retail Price of Electricity to Ultimate Customers by End-Use Sector," Rhode Island ranked, in order from the most to least expensive: 10th in average residential price; 9th in average commercial price; and 10th in average All Sectors price. The U.S. average price per kWh was \$0.1019 in the same period.