STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

In Re: The Narragansett Electric Company d/b/a National Grid Energy Efficiency Program Plan for 2015	**Docket No. 4527**

ENERGY EFFICIENCY PROGRAM PLAN FOR 2015

SETTLEMENT OF THE PARTIES

November 1, 2014

LETTER

Jennifer Brooks Hutchinson
Senior Counsel

October 31, 2014

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4527 – The Narragansett Electric Company d/b/a National Grid
2015 Energy Efficiency Program Plan

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's[1] proposed Energy Efficiency Program Plan for 2015 (the 2015 Plan or Plan). As in past years, the Plan is being filed as a settlement, agreed to by the participating members of the Collaborative Subcommittee of the Energy Efficiency Resources Management Council (EERMC).

This year's energy efficiency annual plan filing is made pursuant to the System Reliability and Least Cost Procurement statute, R.I.G.L. § 39-1-27.7 and the Public Utilities Commission's (PUC) Standards for Energy Efficiency and Conservation Procurement, as revised and approved by the PUC in Docket 4443 (Standards). Section 1.1 of the Standards requires the Company to annually file a program plan with the implementation details by program for the following program year. The 2015 Plan is consistent with the framework and savings goals established in the Three Year Energy Efficiency Procurement Plan (Three-Year Plan) filed and approved in Docket 4522. Below is a summary of the implementation details for the 2015 program year as set forth in the Plan.

The 2015 Plan proposes total budgets of $86.6 million and $24.5 million for electric and gas, respectively. These expenditures are estimated to create substantial annual and lifetime savings for customers, with Rhode Island customers realizing $2.45 in benefits for every $1 invested in the Plan's electric programs and $1.97 in benefits for every $1 invested in the Plan's natural gas programs. The electric plans are expected to produce lifetime savings of 1,966,462 MWh, which translates into lifetime bill savings of approximately $2 million.[2] The gas plans are expected to produce lifetime savings of 4,886,893 MMBtu, which translates into a lifetime bill savings of approximately $87.9 million.[3] Over all, the Plan will generate economic benefits of more than $336.5 million over the life of the measures, with $277.9 million in benefits coming

[1] The Narragansett Electric Company d/b/a National Grid (referred to herein as National Grid or Company).
[2] Lifetime bill savings are estimated by multiplying lifetime savings by current residential rates in 2014 dollars.
[3] Lifetime bill savings are estimated by multiplying lifetime savings by current rates in 2014 dollars.

from the electric energy efficiency programs, and $58.6 million in benefits coming from the natural gas programs.

This year's Plan builds upon the implementation strategies set forth in the Three-Year Plan: (i) promoting cost efficiency, (ii) empowering communities and markets to be energy efficient, (iii) innovating to capture untapped savings, and (iv) developing opportunities for system-level savings and integration. In addition, the Plan provides greater detail on the application of the Total Resource Cost Test, expected participation, and bill impacts than prior plans.

In accordance with the requirements of Least Cost Procurement, R.I.G.L. § 39-1-27.7, to achieve the energy efficiency goals, the Plan proposes a fully reconciling funding mechanism that would increase the current $0.00911 per kWh Energy Efficiency Program (EEP) charge by $0.00042 per kWh for a total EEP charge of $0.00953 per kWh for effect January 1, 2015. The Plan proposes to increase the current residential $0.600 per dekatherm charge by $0.181 per dekatherm, resulting in a total $0.781 per dekatherm EEP charge for residential gas programs. The plan also proposes to increase the current commercial and industrial $0.492 charge by $0.145 per dekatherm, resulting in a total $0.637 per dekatherm EEP charge for commercial and industrial gas programs.[4] The electric total funding required and EEP charge are slightly lower than was predicted in the Three-Year Plan filed on September 1, 2014. The gas total budget and EEP charge are slightly higher than was predicted in the Three-Year Plan. There was a significant amount of collaboration and input from the parties regarding the funding levels for this year's Plan. The Company believes that the Plan addresses those concerns in a balanced way while maintaining a stable delivery of energy efficiency services to its customers. The members of the Collaborative Subcommittee have reviewed and approved the reasonableness of the Plan funding levels.

As it has done in prior years, the Company is providing copies of the executive summaries of recently completed evaluations provided for in Section VI. of the 2015 Plan as well as a copy of the Technical Reference Manual. Due to the voluminous nature of these documents, both documents are being provided on CD-ROM and are included with this filing.

Lastly, subsection (c)(5) of the Least Cost Procurement statute, R.I.G.L. § 39-1-27.7 provides the EERMC with the specific responsibility for reviewing and approving the cost-effectiveness of the Plan to be submitted to the PUC for review and approval of the full funding. The 2015 Plan has been reviewed and approved by the EERMC and complies with all aspects of the Least Cost Procurement statute. In order to deliver the expected economic benefits from the 2015 Plan and to meet the 2015 goals the Plan seeks to achieve, the Company respectfully requests that the PUC approve this Plan.

[4] These calculations are based on a January 1, 2015 effective date.

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

Enclosure

cc: Karen Lyons, Esq.
Jon Hagopian, Esq.
Steve Scialabba, Division

280 Melrose Street, Providence, RI 02907
T: 401-784-7288 ■ jennifer.hutchinson@nationalgrid.com ■ www.nationalgrid.com

TABLE OF CONTENTS

TABLE OF CONTENTS

ATTACHMENTS

1. 2015 Residential Energy Efficiency Solutions
2. 2015 Commercial and Industrial Energy Efficiency Programs and Initiatives
3. 2015 Measurement and Verification Plan
4. Total Resource Cost Test Description
5. 2015 Electric Energy Efficiency Program Tables
6. 2015 Gas Energy Efficiency Program Tables
7. Bill Impacts

EE PLAN 2015

I. Introduction and Summary

The Narragansett Electric Company d/b/a National Grid (National Grid or Company) is pleased to submit this Energy Efficiency Program Plan (EE Program Plan or Plan) for 2015 to the Rhode Island Public Utilities Commission (PUC). This Plan has been developed by National Grid in collaboration with the Collaborative Subcommittee of the Energy Efficiency and Resource Management Council (EERMC).[1]

This EE Program Plan is submitted in accordance with the Least Cost Procurement law, R.I.G.L. §39-1-27.7, the basis for which is the Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006, R.I.G.L. § 39-2-1.2,[2] and the PUC's Standards for Energy Efficiency and Conservation Procurement, as revised by the EERMC and approved by the PUC at the Open Meeting on June 10, 2014 in Docket 4443, (Standards). This Plan is being jointly submitted as a Stipulation and Settlement (Settlement), entered into by the Division of Public Utilities and Carriers (Division), the EERMC, The Energy Council of Rhode Island (TEC-RI), Environment Northeast (ENE), People's Power & Light (PP&L), and National Grid (together, the Parties), and addresses all issues raised by members of the Collaborative Subcommittee concerning the Company's electric and natural gas Energy Efficiency (EE) programs for calendar year 2015.

The 2015 Plan is consistent with the Three-Year Energy Efficiency Procurement Plan (EE Procurement Plan) submitted by National Grid on September 1, 2014, in Docket 4522, with approval of the EERMC, and support from the Division, ENE, PP&L, and TEC-RI.

The primary goal of the 2015 EE Program Plan is to create energy and economic cost savings for Rhode Island consumers as required by R.I.G.L. §39-1-27.7. To that end, the 2015 Plan will create annual savings of 193,602 MWh and 376,963 MMBtu and lifetime savings of 1,966,462 MWh and 4,886,893 MMBtu. The Plan will generate economic benefits of more than $336.6 million over the life of the measures (with $277.9 million in benefits coming from electric efficiency and $58.7 million in benefits from natural gas efficiency), which represents a large and urgently needed benefit for Rhode Island's

[1] A collaborative group has been meeting regularly since 1991 to analyze and inform the Company's electric and gas energy efficiency programs. Members of the Subcommittee presently include the Company, the Division, PP&L, and ENE, along with participation from the Office of Energy Resources (OER), several EERMC members and representatives from the EERMC's Consulting Team. The Collaborative has functioned as a subcommittee of the EERMC since 2008. The constitution of the Collaborative Subcommittee has varied since 1991, as some organizations have withdrawn and others have joined.

[2] In June, 2011 R.I.G.L. § 39-2-1.2 was amended to ensure that the funding provisions for electric and natural gas energy efficiency were consistent with all of the Least Cost Procurement provisions of § 39-1-27.7. See P.L. 2011 Ch. 028, S0293; P.L. 2011 Ch. 19 H5281 (Enacted May 27, 2011).

residential, commercial, industrial, and low income energy customers. Table 1 summarizes the 2015 Plan metrics and goals.[3]

Table 1: 2015 Energy Efficiency Program Plan Summary

Electric Programs by Sector	Implementation Spending in 2015 ($000)	Annual MWh Savings	Annual kW Savings	Lifetime MWh Savings	Total Benefits ($000)	TRC B/C Ratio	TRC ¢/lifetime kWh	Participants
Non-Income Eligible Residential	$29,133	85,733	11,865	618,068	$ 99,186.34	2.25	6.9	402,748
Income Eligible Residential	$10,105	6,587	599	66,652	$ 18,674.00	1.76	15.2	10,500
Commercial and Industrial	$41,061	101,282	17,252	1,281,742	$ 160,026.05	2.80	4.3	3,649
Subtotal	**$81,709**	**193,602**	**29,715**	**1,966,462**	**$277,886**	**2.45**	**5.6**	**416,897**
Gas Programs by Sector	**Implementation Spending in 2015 ($000)**	**Annual MMBtu Savings**		**Lifetime MMBtu Savings**	**Total Benefits ($000)**	**TRC B/C Ratio**	**TRC $/lifetime MMBtu**	**Participants**
Non-Income Eligible Residential	$10,335	168,687		2,514,214	$ 32,550.22	2.13	5.87	148,833
Income Eligible Residential	$5,022	27,878		452,954	$ 6,889.27	1.37	11.09	3,300
Commercial and Industrial	$7,249	180,397		1,919,724	$ 19,227.14	2.23	4.32	2,878
Subtotal	**$23,137**	**376,963**		**4,886,893**	**$58,667**	**1.97**	**5.85**	**155,012**
Total for Plan	**$104,847**				**$336,553**	**2.35**		**571,908**

(1) Subtotals for implementation costs include EERMC and OER costs which are not included in the sector amounts
(2) Implementation spending does not include customer contributions, evaluation costs, shareholder incentive, and commitments.

The aggressive energy and cost savings for the 2015 program year are consistent with the objectives and requirements of Least Cost Procurement and meet or exceed the savings targets approved by the PUC at the Open Meeting on June 10, 2014 in Docket 4443. The electric savings goal proposed for 2015 is 193,602 MWh, or 2.5% of the reference 2012 load.

The natural gas savings target is 1.00% of 2012 natural gas load, and is consistent with the proposed goals for 2015 in the EE Procurement Plan approved in Docket 4522. The savings also meet the Standards' requirements for cost-effectiveness, which mandate that the Plan's Total Resource Cost Test ratio (TRC Test) - the ratio of Total Benefits/Total Costs- be greater than 1.0.[4] The overall electric EE Program TRC Test ratio is 2.45 and the overall natural gas EE Program TRC Test ratio is 1.97.

[3] Consistent with the planning process articulated in the EE Procurement Plan in Docket 4522, National Grid has examined the planning assumptions, supply costs, program enhancements and corresponding budgets using the most robust data available for this Plan. Consequently, the TRC cent per kWh and TRC dollar per lifetime MMBtu are lower than projected in the EE Procurement Plan.

[4] See *Standards for Energy Efficiency and Conservation Procurement*, Section 1.2.A.2.

This Plan, supported by the Collaborative and the EERMC, will cement Rhode Island's position as a recognized national leader in energy efficiency to the benefit of the State's population through cost savings and additional significant economic benefits, such as increased gross state product (GSP) and job creation. In order to meet this challenge, National Grid is committed to establishing and maintaining the infrastructure and the customer relationships to deliver deeper, broader savings.

The following table compares the 2015 Annual Plan components to the 2015-2017 Least Cost Procurement Plan.

Table 2: 2015 Annual Plan compared to 2015 in 2015-2017 Three Year Plan

Electric Programs	3 Year Plan	2015 Annual Plan
Annual MWh Savings	193,603	193,602
Lifetime MWh Savings	1,956,845	1,966,462
Annual Peak kW Savings	31,447	29,715
TRC $/Lifetime kWh	$ 0.055	$ 0.056
Total Benefits	$ 282,875,002	$ 277,886,399
Total Spending	$ 86,741,232	$ 86,624,529
Benefit Cost Ratio	2.61	2.45
TRC Cents per lifetime kWh	$ 0.055	
EE Program Charge per kWh	$ 0.00966	$ 0.00953

Gas Programs	2015	2015 Annual Plan
Annual MMBtu Savings	376,915	376,963
Lifetime MMBtu Savings	4,048,728	4,886,893
TRC $/Lifetime MMBtu	$ 0.073	$ 0.059
Total Benefits	$ 59,415,057	$ 58,666,627
Total Spending*	$ 24,416,348	$ 24,547,877
Benefit Cost Ratio	2.02	1.97
TRC Dollars per lifetime MMBtu	$ 7.27	
C&I EE Program Charge per Dth	$ 0.615	$ 0.637
Residential EE Program Charge per Dth	$ 0.750	$ 0.781

The electric and natural gas energy efficiency program budgets proposed for 2015 are consistent with the budget illustrations presented for 2015 in the EE Procurement Plan approved in Docket 4522. The electric efficiency portfolio budget is lower than the illustration presented in the EE Procurement Plan. The gas efficiency portfolio budget is greater than the EE Procurement Plan illustration.

This cost-effective 2015 EE Program Plan includes an investment of $81.7 million for electric energy efficiency implementation in 2015. If approved, this will be funded by

the existing energy efficiency program charge of $0.00911 per kWh, as well as other funding sources including ISO-New England's (ISO-NE) Forward Capacity Market (FCM) auction revenue, and Large C&I copayments. Pursuant to R.I.G.L. § 39-1-27.7(c)(5), a fully reconciling mechanism of $0.00042 per kWh is needed to fully fund the cost-effective electric energy efficiency programs for 2015.[5] This funding will generate economic benefits of $227.9 million for Rhode Island electric customers.

This Plan also includes a $23.1 million investment in cost-effective natural gas energy efficiency implementation. If approved, this investment will be funded by the existing energy efficiency program charge of $0.600 per dekatherm for residential customers and $0.492 per dekatherm for non-residential customers. Pursuant to R.I.G.L. § 39-1-27.7(c)(5), fully reconciling mechanisms of $0.181 per dekatherm for residential customers and $0.145 per dekatherm for non-residential customers will be needed to fully fund the cost-effective natural gas energy efficiency programs for 2015. The programs will generate economic benefits of $58.6 million.

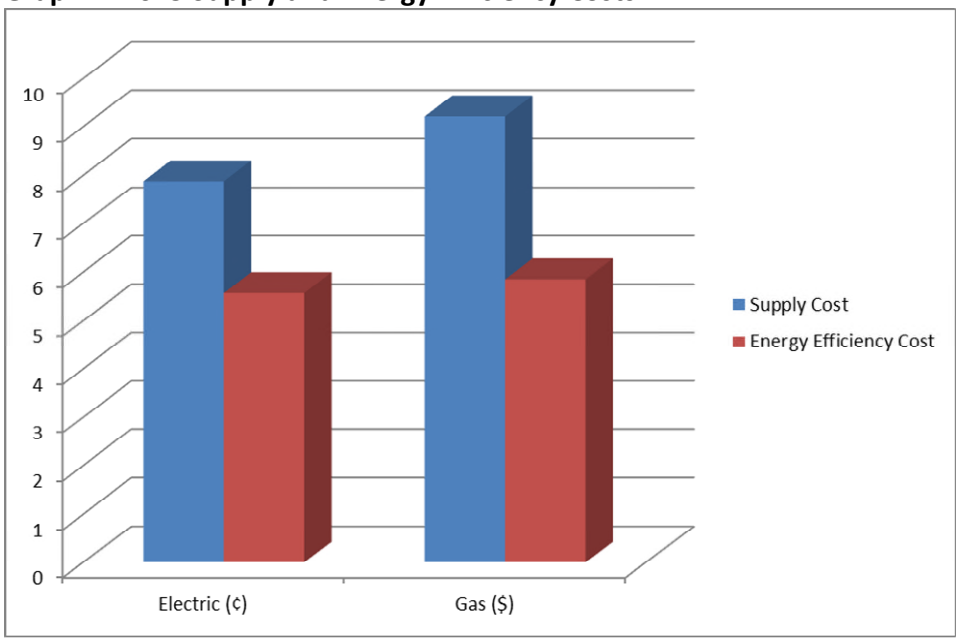
In addition to the primary statutory requirement of cost-effectiveness, which requires a value greater than 1.0 in the TRC Test (the TRC ratio for electric is 2.45 and the TRC ratio for natural gas is 1.97), the cost of electric energy efficiency programs is 5.6¢ per lifetime kWh saved, which is 2.28¢ less than the cost of supply, 7.88¢ per kWh.[6] The cost of natural gas energy efficiency is $5.85 per lifetime MMBTU saved, which is $3.36 less than the cost of supply for residential heating customers, $9.21 per MMBTU.[7]

[5] In May 2010, R.I.G.L. § 39-1-27.7 was revised to state that the PUC shall approve a fully reconciling funding mechanism to fund investments in all efficiency measures that are cost-effective as established by the TRC Test. A second revision to § 39-1-27.7 extended the provisions for Least Cost Procurement of energy efficiency and conservation measures to natural gas, requiring the Company to procure all natural gas efficiency resources that are cost-effective and less costly than supply just as has been the case for electric efficiency resources. For the legislative history, see P.L. 2010 Ch. 15 S2841 Sub A; P.L. 2011 Ch. 17 H8082 Sub A (Enacted May 27, 2010).

[6] The electric supply cost is based on the Residential Standard Offer Charge effective from July 1, 2014 until December 31, 2014, available online at: http://www.nationalgridus.com/narragansett/non_html/SOS_Rates_Table_Residential.pdf. It is levelized over the average lifetime of all measures in the plan. Additionally, the Commercial Customer Group fixed price option for July 1, 2014 until December 31, 2014 is a levelized cost of 8.801¢. Available online at: http://www.nationalgridus.com/narragansett/non_html/SOS_Rates_Table_Commercial.pdf

[7] The natural gas supply cost is based on the residential heating gas charge in effect since April 1, 2014 and is levelized over the average lifetime of all measures in the plan. Large Customer Low Load gas charge is also is a levelized cost of $9.21. Gas charges are available at: https://www1.nationalgridus.com/files/AddedPDF/POA/rigas_firm_rates.pdf

Graph 2: 2015 Supply and Energy Efficiency Costs



The 2015 EE Program Plan is cost-effective and has a cost that is lower than the cost of acquisition of additional supply for both electricity and natural gas, pursuant to R.I.G.L. § 39-1-27.7 (a)(2). For each $1 invested, electric programs will create $2.45 of economic benefits over the lifetime of the investment, and natural gas efficiency investments will create $1.97 in economic benefits over the lifetime of the investments. Rhode Islanders will receive a total of $336.5 million in benefits from the 2015 energy efficiency plan investments.

II. Strategies to Achieve Goals

The primary goal of the 2015 EE Program Plan is to create economic value and cost savings for Rhode Islanders through energy efficiency. The Plan achieves this goal by implementing the following key strategies, introduced in Docket 4522:

- **Promoting Cost Efficiency –** the Company will continue to focus its efforts to identify strategies to deliver energy efficiency services as cost-effectively as possible, while continuing to optimize the net-benefits of energy efficiency to customers.
- **Empowering communities and markets to be energy efficient** – the Company will implement strategies to increase awareness of energy efficiency programs through the enhancement of existing programs to reach new and repeat customers, leveraging existing partnerships and forging new ones, and enhancing marketing and analytical tools to target customers more effectively.

- **Innovating to capture untapped savings** – the Company will continue to play a leading role in deploying such technologies to better drive both energy savings and customer program participation.
- **Developing opportunities for system-level savings and integration** – the Company will work with partners to research, develop and integrate distributed energy resources into the various aspects of Least Cost Procurement.

The application of these strategies is more fully described in the detailed program and marketing descriptions in Attachments 1 and 2.

III. Delivering 2015 Goals

National Grid will build on its more than twenty-five years of experience in order to deliver the energy and cost savings goals in this plan.[8]

A. Residential Programs

In 2015, the Parties agree to continue the residential programs offered in 2014, as well as to offer new programs and pilot the development of new technologies for potential inclusion in programs in future years. The programs are summarized in Table 3. Descriptions of these programs are provided in Attachment 1. Included in description of each program are proposed changes from 2014 that are intended to help meet the savings targets for 2015.

[8] Throughout the program year, the Parties may consider additional enhancements beyond those identified herein as more information becomes available to support an informed review of those potential changes. As part of this process of identifying additional enhancements, in addition to continuing to meet with the Subcommittee, the Company will continue its work sessions with the EERMC's consultants.

Table 3. Proposed Residential Energy Efficiency Programs	
Residential Buildings Efficiency Programs	
EnergyWise Program (Funded by Gas and Electric)	Energy*Wise* offers single family customers home energy assessments and information on their actual energy usage. Participants in this program receive recommendations and technical assistance as well as financial incentives to replace inefficient lighting fixtures, appliances, thermostats, and insulation levels with models that are more energy efficient. The program addresses base load electric use and heating and cooling energy loads in all residential buildings. The program recommends efficient products that are delivered through National Grid's various programs. The program will continue to deliver the Heat Loan in 2015 offers a 0% interest loan for efficiency retrofits through local banks. The program will also continue to offer weatherization incentives to customers who heat with oil and propane.
Multifamily Programs Income Eligible, Residential and Commercial sectors (funded by Gas and Electric)	Comprehensive energy services for multifamily customers include energy assessments, incentives for heating and domestic hot water systems, cooling equipment, lighting and appliances. Coordinated services will be offered for all types of multifamily properties. An approach tailored for multifamily properties designates a primary point-of-contact to manage and coordinate services offered through our existing portfolio, including EnergyWise, C&I Retrofit, Residential New Construction, Income Eligible, and the ENERGY STAR® HVAC programs.
Income Eligible (Funded by Gas and Electric)	Income Eligible Services, also known as the Single Family Low Income Services, are delivered by local Community Action Program (CAP) agencies with oversight provided by a Lead Industry Partner. Three levels of home energy assessments will be offered: (1) lighting and appliance focus, (2) heating and weatherization focus, and (3) comprehensive focus. Customers qualifying for LIHEAP are eligible and receive all services and equipment upgrades at no cost.
Residential New Construction (Funded by Gas and Electric)	The program promotes the construction of high-performing energy efficient single family, multifamily, and low income homes, as well as the education of builders, tradesmen, designers, and code officials. RNC has been overhauled over the past few years to make it more performance oriented. .
Education Programs (Funded by Electric)	The Company promotes energy education to private and public schools and youth groups through the National Energy Education Development (N.E.E.D) Program. This program provides curriculum materials and training to students and teachers in grades K-12.
Residential Home Energy Report Program (Funded by Electric and Gas)	The Company will continue a statewide Residential Home Energy Report Program in 2015. This program will feature home energy reports and other enhanced feedback tools to inspire customers to take actions that reduce their energy consumption and also increase their participation in the other energy efficiency programs.
Community Based Initiatives (C&I and Residential, Funded by Electric and Gas)	The initiative is designed to leverage trusted community partnerships and develop targeted marketing strategies in order to promote all energy efficiency programs, residential and commercial, in specific, targeted communities or businesses.

Residential Efficient Products Programs	
ENERGY STAR® Lighting (Funded by Electric Only)	This is an initiative implemented jointly with other regional utilities. It provides discounts to customers for the purchase of ENERGY STAR® compact fluorescent lamps and fixtures and solid state lighting through instant rebates, special promotions at retail stores, or a mail order catalog.
ENERGY STAR® Products (Funded by Electric Only)	The program is run in collaboration with other regional utilities to promote the purchase of high efficiency household appliances including kitchen appliances and electronics. These appliances carry an ENERGY STAR® label. The program also offers refrigerator recycling which promotes more efficient refrigerators while removing non-efficient units from the market.
ENERGY STAR® HVAC Program (Funded by Electric and Gas)	This program promotes the installation of high efficiency central air conditioners for electric customers and new energy efficient natural gas related equipment including boilers, furnaces, water heating equipment, thermostats, boiler reset controls, and furnaces equipped with high efficiency fans. The program provides training of contractors in installation, testing of the high efficiency systems, tiered rebates for new ENERGY STAR® systems, and incentives for checking new and existing systems. The program also includes the oil and propane heating equipment rebates.
Residential Products Pilots (Funded by Electric and Gas)	The pilot tests innovative technologies for saving both gas and electricity.

B. Residential Low-Income Programs

The Company and the Subcommittee want customers who have a high energy burden and/or difficulty paying their electric bills to participate in, and benefit from, the Company's energy efficiency programs, especially in these difficult economic times. For that reason, this segment of the customer base is designated as a unique sector and funding for this sector will be subsidized by both non-low-income residential customers and commercial and industrial customers using 12% of total implementation funding for the electric programs, and 22% for natural gas programs.[9]

In 2015, the Company has consolidated energy efficiency offerings for income eligible multifamily properties into the Income Eligible Multifamily programs. The suite of programs offers comprehensive gas and electric opportunities that were previously offered as part of EnergyWise or C&I Retrofit. Additionally, the Residential New Construction Program works with housing authorities and developers to build energy-efficient multifamily properties. Additional detail about the services offered to economically disadvantaged customers is described among the residential programs in Attachment 1.

[9] The proportion of funding for low-income customers is equal to total funding from all programs serving low-income customers, illustrated in Attachment 1, Table 2; compared to total funding for all programs, illustrated on Attachment 5, Table E-2, and Attachment 6, Table G-2.

C. Commercial and Industrial Programs

The Parties agree to continue in 2015 the commercial and industrial programs offered in 2014, and pilot the development of new technologies for potential inclusion in programs in future years. The programs are summarized in Table 4 below.

Table 4. Proposed Commercial and Industrial Energy Efficiency Programs	
Small Business Direct Install (Gas and Electric)	The Small Business Direct Install Program provides direct installation of energy efficient lighting, non-lighting retrofit measures, and gas efficiency measures. Electric customers with average monthly demand of less than 300 kW are eligible to participate. The program's lighting and non-refrigeration measures are delivered through one labor and one product vendor selected through a competitive bidding process. The customer pays 30% of the total cost of a retrofit. This amount is discounted 15% for a lump sum payment or the customer has the option of spreading the payments over a two-year period interest free.
Large Commercial Retrofit (Gas and Electric)	Large Commercial Retrofit is a comprehensive retrofit program designed to promote the installation of energy efficient electric equipment such as lighting, motors, and heating, ventilation and air conditioning (HVAC) systems, thermal envelope measures, and custom measures in existing buildings. All commercial, industrial, and institutional customers are eligible to participate. The Company offers technical assistance to customers to help them identify cost-effective conservation opportunities, and pays rebates to assist in defraying part of the material and labor costs associated with the energy efficient equipment.
Large Commercial New Construction (Gas and Electric)	Promotes energy efficient design and construction practices in new and renovated commercial, industrial, and institutional buildings. The program also promotes the installation of high efficiency equipment in existing facilities during building remodeling and at the time of equipment failure and replacement. Large Commercial New Construction is known as a lost opportunities program because a customer who does not install energy efficient equipment at the time of new construction or equipment replacement will likely never make the investment for that equipment or will make the investment at a much greater cost at a later time. The program provides both technical and design assistance to help customers identify efficiency opportunities in their new building designs and to help them refine their designs to pursue these opportunities. The program also offers rebates to eliminate or significantly reduce the incremental cost of high efficiency equipment over standard efficiency equipment. Commissioning or quality assurance is also offered to ensure that the equipment and systems operate as intended.

Table 4. Proposed Commercial and Industrial Energy Efficiency Programs	
Commercial and Industrial Products Pilots (Funded by Electric and Gas)	The pilots test innovative technologies for saving both gas and electricity.

Descriptions of these programs are provided in Attachment 2. Included in the description of each program are proposed changes from 2014 that are intended to help meet the savings targets for 2015.

In order to assist customers to overcome the financial barriers to investing in energy efficiency, the Company will concentrate on securing sources of funding to offer finance options to commercial and industrial customers. Through 2014, the Company has created a revolving loan fund to support electric projects of approximately $14.6 million ($4.2 million for small business, $9.9 million for large business customers' electric projects, and $0.5 million for large business customers' gas projects). This loan fund was funded in part by RGGI auction proceeds and program funds.

In 2015, the Company is targeting to increase the C&I loan fund by $4.5 million to make more funds available to both electric and gas customers to finance energy efficiency projects. There will be an additional $4.0 million allocated for electric efficiency project financing and an additional $500 thousand allocated for gas efficiency projects. The budget for this incremental lending related activity is included in the C&I budget and cost-effectiveness tests, found in Attachment 5, Tables E-2 and E-5 and in Attachment 6, Tables G-2 and G-5. The projections regarding operations of the Large C&I and Small Business revolving loan funds are shown separately in Attachment 5, Table E-10.

D. Participation

Each program described in this Plan seeks to drive customer participation in order to deliver the benefits of energy efficiency to customers throughout Rhode Island. For 2015, The Company will plan and report participation in 'net' terms, which takes into account free-ridership and spillover, which are commonly referred to as net-to-gross factors. This improved method of accounting for participants will align participation numbers with energy savings numbers, which are already recorded in net terms. The Company is the first New England energy efficiency Program Administrator to approach planning and reporting participation in this manner. The effort will provide a more accurate connection between energy savings and those customers who benefit efficiency programs.

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

Table 5: Participation Definitions

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

E. System Reliability Procurement

In a contemporaneous filing, the Company is submitting its System Reliability Procurement (SRP) Annual Report for 2015 for the PUC's review and consideration. The SRP Annual Report describes the strategies, goals, and funding request for SRP in 2015 to continue an existing pilot to defer an anticipated distribution upgrade in the towns of Tiverton and Little Compton. As detailed in that filing, some of the non-wires strategies proposed in 2015 are targeted energy efficiency programs, which will leverage existing programs. For example, a targeted energy efficiency program may include home energy assessments or small business direct installs that are already a part of the energy

efficiency programs; these programs would simply be coordinated through an incremental effort to a specific town. Targeted energy efficiency was proven cost-effective and successful in the 2009-2010 Energy Action: Aquidneck & Jamestown Pilot. The cost of the existing programs which may be leveraged is part of the energy efficiency budget illustrated in Attachment 5, Table E-2. However, the estimated incremental cost of targeting and implementing energy efficiency programs in a specific area for System Reliability is provided in several tables in Attachment 5 for informational purposes only. The request for incremental funds for SRP is being made in the separate SRP filing.

IV. Funding, Budgets, Goals, and Cost-effectiveness

Funding, budgets, goals, and cost-effectiveness information is provided in Attachment 5 for the proposed electric energy efficiency programs and in Attachment 6 for the proposed natural gas energy efficiency programs.

A. 2015 EE Program Plan Funding Sources

The sources of funding and the amounts of the funding needed for the cost-effective 2015 EE Programs proposed by the Company, with the support of the Parties, are shown in Table E-1 for electric programs and Table G-1 for natural gas programs.

The sources of funding for the 2015 electric programs are shown in Attachment 5, Table E-1. In terms of a means of collecting these funding sources for the 2015 cost-effective programs, the Company proposes: (1) one line on the customers' bill labeled "Energy Efficiency Programs" at $0.00953 per kWh, as calculated in Attachment 5, Table E-1 (composed of the existing energy efficiency program charge of $0.00911 per kWh plus a fully reconciling funding mechanism charge of $0.00042 per kWh and in accordance with the requirements of R.I.G.L. § 39-1-27.7); (2) projected Large C&I commitments from 2014, if any; (3) projected carryover of the year-end 2014 fund balance, as applicable, including interest earned and funds expected to be received from C&I program financing repayments and from large C&I technical assistance co-payments in 2014, if any; (4) revenue generated by ISO-NE's Forward Capacity Market (FCM); and (5) anticipated revenues generated through RGGI permit auctions. Additional detail regarding RGGI funds is described below. Funding sources also do not include revolving loan funds.

The sources of funding for the 2015 natural gas programs are shown in Attachment 6, Table G-1. The Company proposes that the 2015 budget should be funded from the following sources: (1) one line on the customers' bill labeled "Energy Efficiency Programs" at $0.781 per dekatherm for residential customers and $0.637 per dekatherm for non-residential customers as calculated in

Attachment 6, Table G-1 (composed of the existing energy efficiency program charge of $0.600 per dekatherm plus fully reconciling funding mechanism increases of $0.181 per dekatherm for residential customers and the existing energy efficiency program charge of $0.492 per dekatherm plus fully reconciling funding mechanism increases of $0.145 for non-residential customers in accordance with the requirements of R.I.G.L. § 39-1-27.7); (2) projected carryovers or under-recoveries of the year-end 2014 fund balance, including interest; and (3) low income weatherization funding in base rates.

The 2015 budgets for cost-effective electric and natural gas efficiency investments are dependent on a number of projections that inform the amount of funding, including projections of kWh or therm sales of electricity and natural gas, year-end 2014 large C&I program commitments, capacity payments received from ISO-NE (electric only), and year-end 2014 spending. The Company estimates the electric projected fund balance at year end 2014 will be $6.4 million, as shown in Attachment 5, Table E-1; the gas fund balance at year end 2014 is estimated to be a deficit of $2.6 million, as shown in Attachment 6, Table G-1.

Other considerations regarding funding sources include:

1. ISO-NE Capacity Market Revenue

Consistent with the PUC's Standards, the EE Procurement Plan, and PUC decisions regarding energy efficiency program plans since 2008, the Company and the Parties recommend that kW-demand savings achieved via the electric energy efficiency programs continue to be reported by the Company to ISO-NE as Other Demand Resources and revenue received. The Parties fully agree that the Company should recover all prudently incurred FCM expenses from ISO-NE capacity-payment revenue generated by the demand savings from efficiency programs represented by the Company. The Company expects that capacity payments received from the ISO-NE will exceed its administrative and Measurement and Verification (M&V) compliance costs of participation in the FCM and will result in additional funds being made available to fund efficiency programs for customers. If these participation costs exceed the capacity payments, the Parties agree that the Company may recover its prudently incurred costs from the energy efficiency program fund. The Parties reserve the right to examine the actions and expenses of the Company to ensure that only prudently incurred expenses are deducted from ISO-NE capacity payments or the energy efficiency program fund.

In addition, as part of the FCM, all qualified auction participants are required to post Financial Assurance to provide security that the promised resource will deliver the promised MW at the promised time. If, as a result of circumstances

beyond the control of the Company,[10] the Company is unable to provide all or a portion of the megawatts of capacity proposed in its qualification packages and capacity auction bids, some or all of the financial assurance monies would be forfeited.

2. Regional Greenhouse Gas Initiative, Inc. Funds

The Plan includes proceeds from the auction of Regional Greenhouse Gas Initiative (RGGI) allowances pursuant to § 23-82.6 of the General Laws and consistent with the 2014 Plan for the Allocation and Distribution of RGGI Auction Proceeds.[11] The Company has included $3.6 million in Attachment 5 Table E-1. The parties agree that the funds will be used to support the portfolio of energy efficiency services, thereby reducing the energy efficiency customer charge from what it otherwise would have been.

3. Exceptions to the Natural Gas Energy Efficiency Program Charge

Similar to the 2014 Plan, all natural gas used for distributed generation projects approved in 2014 and subsequent years will be subject to the gas energy efficiency surcharge.[12]

The 2006 Act allows the PUC to exempt natural gas used for manufacturing processes from the energy efficiency surcharge where the customer has established a self-directed program to invest in and achieve best effective energy efficiency in accordance with a plan approved by the PUC and subject to periodic review and approval by the PUC. Consistent with prior PUC decisions, the Parties have developed recommendations for a process whereby a manufacturer who so chooses may submit its self-directed program and the required annual reports for approval. The Parties recognize that this process may need to be reviewed and modified after the PUC has accumulated sufficient experience with these programs. Any customer that receives this exemption from the natural gas energy efficiency program charge will not be eligible to receive energy efficiency program services.

[10] Such circumstances may include legislative action to alter the EE charge or discontinue the Company's authority to implement the energy efficiency programs underlying the Qualifications Package or a PUC decision limiting the Company's role in bidding the demand savings acquired through program efforts into the FCM.

[11] The Plan is available at:
http://www.energy.ri.gov/documents/rggi/2014%20Plan%20Items/2014%20RGGI%20Allocation%20Plan%20Final.pdf

[12] Natural gas used for distributed generation (excluding natural gas used by emergency generators) for distributed generation projects approved under the energy efficiency programs in 2013 and prior years - independent of the date those facilities become commercially operable – are not subject to the energy efficiency surcharge when natural gas used for that purpose can be clearly identified through uniquely metered use and when so requested in writing by the customer.

B. Budgets

The Parties agree that the portfolio of energy efficiency programs and services for 2015 will have an overall budget of approximately $86.6 million for electric programs and $24.5 million for natural gas programs. The Parties agree to segment the budget into three sectors: residential low-income, residential non-low-income, and C&I. Proposed sector and program budgets are provided in Attachment 5, Table E-2 and Attachment 6, Table G-2. The derivations of the spending budget and implementation expenses are illustrated in Attachment 5, Table E-3 and Attachment 6, Table G-3. A comparison of these proposed budgets to the 2014 budget is provided in Attachment 5, Table E-4 and Attachment 6, Table G-4.

The Parties agree that the Company should make every attempt to spend or commit all the funds available for energy efficiency during the program year, including any increases in the fund balance due to increased sales or other factors. While this Plan includes a projection of the fund balance expected at year end 2014 as a funding source (or deficit) to carry into 2015, it is likely that the actual year end 2014 fund balance will be more or less than that amount. Within 30 days after the filing of the 2014 Year End Report, the Company will calculate the difference between the actual year end fund balance and the projected year end fund balance included in this Plan, and will notify and consult with the Collaborative and Division regarding its intended use of the excess funds, if any. Such uses may include moving the excess funds into financing mechanisms for the sectors in which the excess occurs, supporting possible overspending during the year, reducing the energy efficiency program charge, or carrying the excess funds over into the next program year. After consensus approval by the Collaborative, the Company will notify the PUC and the EERMC of the actual year end 2014 fund balance, and the intended use for the disposition of the funds. If the use of the funds supports overspending of current year program budgets, then, in addition to the above requirements, the Company will follow the provisions for overspending in Section D, below. Use of excess funds for financing mechanisms will not be considered as overspending.

The Parties also agree to review the status of budgets regularly to assess whether they are likely to come to a successful completion. If not, the Parties agree to review the advisability of transferring funds to other programs where the money could be more effectively used. Fund transfer guidelines are presented in Section C, below.

The Company proposes to continue the practice of funding commitments that was established in the 2014 Plan, Docket 4451. Namely, the Company will continue to make commitments for projects with a projected incentive in excess

of $3 million.[13] For all other projects, except those with incentives greater than $3 million, there would be no commitment budget and the Company will fund and pay all incentives in the year in which they are completed.

C. Transferring of Funds

The Parties will regularly review the amount of funds needed and available for each program (as well as any changes to the overall fund balance, as discussed in Section III.A above) and will transfer monies as needed. The Parties propose to use the same methodology as was used in 2014 for the transfer of funds from one program to another, or from one sector to another. Transfers during the program year may occur as follows:

1. Transfers within a Sector:
   - A. For transfers of less than 10% of the originating program's budget, the Company can transfer funds from one program to another program within the same sector without prior approval of the Division. However, the Company shall provide a summary of such transfers to the Division and EERMC quarterly.
   - B. For transfers of 10% or more of the originating program's budget, the Company can transfer funds from one program to another program within the same sector with prior approval of the Division. Upon seeking such approval from the Division, the Company shall simultaneously notify the EERMC.
   - C. For transfers in the C&I Sector between large C&I programs and small business programs of more than 5% of the originating program's budget, Division approval is required. Upon seeking such approval from the Division the Company shall simultaneously notify the EERMC. In addition, if a transfer reduces the originating program's budget by more than 20% in aggregate over the course of the program year, the transfer will require PUC approval as well with weight given to the EERMC's recommendation to the PUC on the issue.
   - D. For all transfers within a sector, the Company will reflect changes in the quarterly report(s) following the transfer and the year end report.

[13] As noted below in Section D, the Company will be required to notify the PUC of all incentive offers in excess of $3 million. Such notifications will also include a description of how the Company intends to fund the incentive. No such offers are anticipated in 2015.

2. Transfers between Sectors. The Company can transfer funds from one sector to another sector with prior approval of the Division and the EERMC (or its appointed representatives). If a transfer reduces the originating sector's budget by more than 20% in aggregate over the course of the program year, the transfer will require PUC approval as well.
For all transfers between sectors, the Company will reflect changes in the quarterly report(s) following the transfer and the year end report.

3. Transfers among residential retrofit programs. The Company can transfer among EnergyWise, EnergyWise Multifamily, Income Eligible Multifamily, and C&I Multifamily (which are in different sectors) programs in order to achieve the overall savings goals of all programs. Although these are listed as separate lines in the program tables, they are essentially one program from an implementation standpoint. For all transfers between residential retrofit programs, the Company will reflect changes in the quarterly report(s) following the transfer and the year end report.

4. For transfers requiring Division and/or EERMC, but not PUC approval, the Parties will inform the PUC of the transfers, both between sectors and within sectors, in a timely fashion.

5. The Company will not be permitted to adjust its goals or incentive target calculations as a result of any transfers between sector budgets. However, after any budget transfers between sectors are made, the sector spending budgets will be recalculated for the purposes of the shareholder incentive calculation.

D. Budget Management

By October 15, 2015 the Company shall file an Energy Efficiency Program Plan for 2016. It is possible that there could be deviations from the planned budget for 2015 that could occur during the program year. Three scenarios are contemplated and it is agreed that they will be addressed as follows:

(1) The Company's expenditures and commitments for 2015 may exceed total budget by up to 10% so long as a written explanation is provided to the EERMC and the PUC for any deviation and the expenditures and commitments are reasonably consistent with the original 2015 plan.

(2) The Company agrees that, during 2015, if the Company anticipates that continued operation of its programs is likely to result in actual expenditures and

commitments exceeding the total program budget by more than 10%, the Company will seek a vote of approval from the EERMC at its next meeting. Following EERMC action, the Company will be required to obtain approval from the PUC for expenditures in excess of 10% higher than the total program budget, which would be collected through reconciliation in the next year's Energy Efficiency Program Charge.

(3) If the Company did not anticipate, during the program year, that its actual expenditures and commitments would exceed the total budget by more than 10%, but actual expenditures and commitments do exceed such threshold, the Company will bear the burden of demonstrating the reasonableness of its actions, including an explanation of why the over-spending occurred and how the expenditures and commitments are reasonably consistent with the original plan. Such demonstration would be required to be part of the 2015 Year End Report, if not sooner.

In each of these three instances, the PUC retains its traditional ratemaking authority to review the prudency and reasonableness of the actions of the Company in such instance.

In addition, the Company will file a written notification with the PUC of any energy efficiency incentive offer in excess of $3 million. The project, the incentive and any other related proposals will be authorized to proceed after thirty days from the notice filing, unless the PUC suspends the filing and/or issues an order within such 30-day period to extend the time for purposes of further review.

If the dollar value of a proposed incentive for a single project is such that it would cause a program to exceed the overall energy efficiency plan budget for the current program year, the Company will follow the provisions related to overspending, per the rules established above.

V. Cost-Effectiveness

The Company has projected cost-effectiveness for the proposed 2015 programs using the TRC Test. The use of the TRC Test was required by the PUC Standards, as established in 2008 and revised by the EERMC, as approved by the PUC at the Open Meeting on June 10, 2014 in Docket 4443. The TRC Test requires that the total lifetime savings from the efficiency measures will exceed the total costs of the measures (i.e., program and customers' costs).

As provided for under the Standards, benefits include primary fuel energy savings (electricity and natural gas), the value of other resource (fuel and water) benefits, price effects, and non-energy impacts (NEIs). New for 2015 and in accordance with the

recently revised Standards, the TRC test also includes the costs associated with reasonably anticipated future federal greenhouse gas regulations. Costs include all projects costs, as well as program planning and administration, sales, technical assistance and training, and evaluation. To illustrate the detailed components of the TRC as well as the sources of the values, the Company has provided Attachment 4.

Two key supporting documents for cost effectiveness are the Technical Reference Manual and the Avoided Cost Study. For the 2015 EE Program Plan, the Company developed the 2015 Rhode Island Technical Reference Manual (TRM) which documents the savings or savings algorithms for measures proposed to be offered through its programs in 2015. The TRM identifies the sources for the savings estimates: evaluation studies, engineering analyses, and/or other research. This TRM is a public document and was provided to the EERMC and its consultants to support and facilitate the determination of the Plan's cost-effectiveness. It will be available at https://www.nationalgridus.com/EnergyEfficiencyReports.asp. The TRM is reviewed and updated annually to reflect changes in technology, baselines, and evaluation results. Per the PUC's decision in Docket 4443, the Company will include cost calculations and sources as part of the TRM beginning with a supplemental filing by March 31, 2015.

The cost-effectiveness analyses of the proposed programs use avoided energy supply costs that were developed by Synapse Energy Economics as part of the Avoided Cost Study, "Avoided Energy Supply Costs in New England: 2013 Report," that was sponsored by all the electric and gas efficiency program administrators in New England and was designed to be used for cost effectiveness screening in 2014 and 2015. See http://www.synapse-energy.com/project/avoided-energy-supply-costs-new-england The avoided costs reflect current and expected market conditions and are highly influenced by the cost of fossil fuels and expectations about ISO-NE's emerging forward capacity market. Company-specific transmission and distribution capacity values are also included. The avoided costs from the report used for 2015 are shown in Attachment 5, Table E-8 and Attachment 6, Table G-8.

Attachment 5, Table E-5 and Attachment 6, Table G-5 provide the calculations of 2015 program year cost-effectiveness. Attachment 5, Table E-6 and Attachment 6, Table G-6 show the energy savings goals based on the proposed budgets. Attachment 5, Table E-7 and Attachment 6, Table G-7 show a comparison of the goals with the approved program goals from 2014. Attachment 5, Table E-5 shows that the proposed portfolio of electric programs is expected to have a benefit/cost ratio of 2.45, which means that approximately $2.45 in benefits is expected to be created for each $1 invested in the programs. Attachment 6, Table G-5 shows that the proposed portfolio of gas programs is expected to have a benefit/cost ratio of 1.97, which means that $1.97 in benefits is expected to be created for each $1 invested in the programs. This increase in efficiency investment moves closer to acquiring all energy efficiency resources that are cost-effective and lower cost than supply.

VI. Measurement and Verification Plan

In order to verify the impacts that programs are having on energy savings, the Company hires independent consulting firms to regularly conduct program evaluations as part of its measurement and verification process. These evaluations include engineering analysis, metering analysis, billing analysis, site visits, surveys, and market studies to realize the actual energy savings that particular measures are having. Every year, the results of the surveys are used to update the TRC test calculations during planning. Attachment 3 lists the evaluations that have occurred since 2007 and their influence on program planning.[14] The executive summaries of recently completed evaluations are submitted electronically to the Commission; executive summaries of evaluations completed in prior years are available in the dockets for previous years, or upon request.

Additionally, the M&V Plan for 2015 is presented in Attachment 3, and includes brief descriptions of each of the proposed studies. The areas proposed for study in 2015 have been chosen based on a number of factors: the relative amount of savings in that program or end use, the vintage of the most recent evaluation study, the relative precision of the recent evaluation study, and the available evaluation budget. In addition, some new program areas are designated for both impact and process evaluations. This list may be added to as the year progresses and different evaluation priorities are identified. In particular, the parties will consider the value of using evaluations from other jurisdictions as well as adding Rhode Island-specific impact or process evaluations, as appropriate, that will help inform the Company's efforts towards achieving the goals of least cost procurement.

VII. Reporting Obligations

1. During 2015, the Company will provide quarterly reports to the EERMC, the Division, the Collaborative Subcommittee, and the PUC on the most currently available program performance for both natural gas and electric efficiency programs. These reports will include a comparison of budgets and goals by program to actual expenses and savings on a year-to-date basis, and a status report on the C&I revolving loan funds. The reports will also include a brief summary of program progress and will highlight issues by sector for EERMC, Division, and Collaborative Subcommittee attention. Within the C&I sector, there will be separate highlighting of large and small customer program progress and issues.
2. During 2015, for months for which quarterly reports are not produced, the Company will provide to the EERMC, the Division, and the

[14] The information in the Attachment is also intended to meet the specific requirement from the 2014 EE Program Plan to provide "a summary of evaluation results obtained since October 1, 2013, together with an attachment summarizing the impact of those results in planning the Company's 2015 programs."

Collaborative Subcommittee monthly summaries of year-to-date spending and results by sector, as well as a forecast of expected results.

3. The Company will provide to the Parties and file with the PUC its 2015 Year-End Report no later than May 1, 2016. This report will include achieved natural gas and electric energy savings in 2015 and earned incentives for 2015.
4. The Company will provide to the Parties a summary of evaluation results obtained since October 1, 2014, including a description of the impact of those results in planning the Company's 2016 programs, in the 2016 Plan to be filed by October 15, 2015.

VIII. Incentive

Consistent with the Three-Year Plan, the proposed shareholder incentive mechanism for 2015 will be based on the same metric applicable to the 2014 Plan. Under the current incentive structure, the Company can earn a target based-incentive rate equal to 5.0% of the eligible spending budget in a program year for achieving electric and gas energy savings goals.

However, in order to also promote the achievement of demand savings goals, the Company proposes to set aside 30% of the current incentive rate for achieving MW savings goals. This would allow the Company to earn a target-based incentive rate equal to 3.5% of the eligible annual spending budget for achieving MWh savings goals and 1.5% of the annual spending budget for achieving MW savings goals.

For gas, where there is no demand savings component, the Company proposes to maintain a target-based incentive rate equal to 5.0% of the eligible annual spending budget for achieving MMBtu savings goals. The proposed incentive structure would not increase the incentive rate; it only distributes the current rate across energy and demand savings.

The mechanism for calculating how much of the above target incentive the Company can earn will remain the same as in 2014 and will be applied to both energy and demand savings. As in 2014, the proposed incentive mechanism establishes an incentive of 1.25% of the annual spending budget for achieving 75% of the savings goals in a sector. This would increase linearly to 5% of the annual spending budget for achieving 100% and increase linearly from that point to 6.25% of the annual spending budget for achieving 125% of the savings goals.

Expressed mathematically, the shareholder incentive would be calculated as follows for both energy and demand savings, where SB is the Annual Spending Budget in the sector:

- From 75% of savings to 100% of savings:
    - Incentive = SB x (0.15 x % of savings achieved – 0.10)

        - x 0.7 for electric energy savings
        - x 0.3 for electric demand savings
        - x 1.0 for natural gas savings
- From 100% of savings to 125% of savings:
    - Incentive = SB x (0.05 x % of savings achieved)

The Company believes this structure will incent the Company to achieve savings that approach or exceed 100% of the annual goals. It does so by setting the threshold for savings required to earn an incentive at 75% of the annual savings goals, by creating a steep slope to earn a greater incentive in the range of 75% of savings to 100% of savings, by establishing the target incentive at 5.0% of the annual spending budget, and by offering a higher incentive for exceeding 100% of the annual goals.

The threshold performance level for energy savings by sector will be set at 75% of the annual energy and demand savings goal for the sector. The Company must attain at least this threshold level of savings in the sector before it can earn an incentive. The Company will have the ability to earn an incentive for each MWh, MW or MMBtu saved, once threshold savings for the sector are achieved. The cap for the target incentive amount of energy savings will remain at 125%.

The ability to earn up to 125% of the target incentive is worthwhile because Rhode Island customers will realize additional energy and cost savings if the Company achieves a high level of energy savings performance. Given budget control requirements, this feature will provide the Company with an incentive to improve the efficiency of its program implementation efforts while providing Rhode Island customers with value in excess of the incremental incentive that may be earned by the Company. That is, the Company will have an incentive to increase customers' savings and customers will realize an overwhelming majority of the savings.

The savings goals are based on a set of assumptions of savings per measure and other impact factors in each program as well as the proposed budget. The determination of achieved savings will be based on the same set of savings and impact assumptions as is used to develop the savings goal in this EE Program Plan. These assumptions have been reviewed and accepted by the Parties.

Attachment 5, Tables E-3 and Attachment 6, Table G-3 provide the derivations of the eligible electric spending budget that are used to determine the incentive amounts that the Company may earn if it is successful in achieving its goals for energy savings. Attachment 5, Table E-9 and Attachment 6, Table G-9 provide a summary of the incentives related to annual energy-savings goals by sector. These goals by sector reflect the expected cost of savings in each sector informed by evaluation studies, and these goals have been adjusted to take into account changing rebate policies and the changing market being served. These goals have been carefully reviewed by the

Collaborative Subcommittee and EERMC representatives to ensure that they represent reasonable and challenging goals for the year.

For electric energy efficiency programs, the proposed target base-incentive rate in 2015 is equal to 5.0% of the eligible spending budget for 2015. The projected electric eligible spending budget for 2015 is approximately $77.3 million (see Attachment 5, Table E-3). The total electric target incentive for 2015 is 5.0% of the proposed spending budget, or approximately $3.9 million (see Attachment 5, Table E-9).

For natural gas efficiency programs, the proposed target base incentive is equal to 5.0% of the eligible budget. The projected natural gas eligible spending budget for 2015 is approximately $22.4 million (see Attachment 6, Table G-3). The total natural gas target incentive for 2015 is 5.0% of the proposed spending budget, or approximately $1.2 million (see Attachment 6, Table G-9).

In addition, in order to promote cost efficiency in spending in the achievement of the energy savings goals, an adjustment will be made under certain circumstances to MWh and MMBtu savings goals in the shareholder incentive calculation. If the actual implementation expenses in a sector at year end are less than the planned implementation expenses for that sector by more than five percent, and if achieved savings in the sector exceed 100% of the target savings goal, the savings goal for that sector will be adjusted by the ratio of actual implementation expenses to the planned implementation expenses. Conversely, if the actual implementation expenses[15] in a sector at year end are greater than the planned implementation expenses by more than five percent, and if achieved savings in the sector are less than 100% of the target savings goal, the savings goal for that sector will be adjusted by the ratio of actual implementation expenses to the planned implementation expenses.

The Company will report final program results and earned incentive in its Year-End Report regarding 2015 Energy Efficiency Program efforts.

IX. Miscellaneous Provisions

A. Other than as expressly stated herein, this Settlement establishes no principles and shall not be deemed to foreclose any party from making any contention in future proceeding or investigation.

B. This Settlement is the product of settlement negotiations. The content of those negotiations is privileged and all offers of settlement shall be without prejudice to the position of any party.

[15] Expenses related to overspending for deliverable fuels will be excluded from implementation expenses in this calculation.

C. Other than as expressly stated herein, the approval of this Settlement by the PUC shall not in any respect constitute a determination as to the merits of any issue in any other proceeding.

D. The Parties agree that the Subcommittee shall meet no less than six times in 2015 to review the status and performance of the Company's 2015 energy efficiency programs and advise on potential energy efficiency programs for 2015.

The Parties respectfully request the PUC approve this Stipulation and Settlement as a final resolution of all issues in this proceeding.

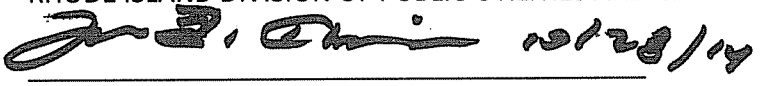
Respectfully submitted,
THE NARRAGANSETT ELECTRIC COMPANY D/B/A NATIONAL GRID

10/28/2014

_____

By its Attorney Date
Jennifer Brooks Hutchinson, Esq.

RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS



By its Attorney Date
Jon Hagopian, Senior Legal Counsel

THE ENERGY COUNCIL OF RHODE ISLAND

Douglas W. Gablinske 10/29/2014

By its Executive Director Date
Douglas Gablinske

ENVIRONMENT NORTHEAST

10/27/2014

Mark LeBel, Staff Attorney Date

THE RHODE ISLAND ENERGY EFFICIENCY AND RESOURCES MANAGEMENT COUNCIL

Oct. 28, 2014

By its Counsel Date
R. Daniel Prentiss

PEOPLE'S POWER & LIGHT

10/27/14

By its Executive Director Date
Larry Chretien

OFFICE OF ENERGY RESOURCES

10/28/14

By its Commissioner
Marion Gold

Date

ATTACHMENT 1

2015 Residential Energy Efficiency Solutions

The Company's 2015 Residential portfolio includes a comprehensive set of energy efficiency solutions focused on reaching customers in their communities and simplifying participation. As the first year in the 2015 – 2017 three-year energy efficiency planning cycle, the Residential offerings will support the themes of the three-year plan. These themes are:

- Promoting cost-efficiency
- Empowering communities and markets to embrace energy efficiency
- Innovating to capture untapped savings
- Developing opportunities for system-level savings and integration

Specific details about the changes are detailed below within each offering.

The Company had a successful program year in 2014 and will build upon those successes to reach more customers in 2015. In 2014, the Company had robust customer outreach through the Rhode Island Energy Challenge: Find Your Four!, as well as a co-sponsorship of The Energy Expo at the RI Home Show. Awareness of National Grid's Energy Efficiency opportunities is at an all-time high among consumers (64% in 2014), as Rhode Islanders actively seek to reduce energy bills. In 2015, The Company will be expanding its strategic alliances with RI partners to both extend customer outreach while reducing costs. In addition, a greater focus will be placed on developing and implementing strategies to help mitigate winter energy price spikes due to high increases in the winter demand for natural gas.

Below is a summary of how the residential text section is organized.

1. Whole House Programs
2. Behavior and Products Programs
3. Initiatives
4. Marketing
5. Rhode Island Partnerships
6. Winter Natural Gas Peak Demand

Whole House Programs

Energy*Wise* Single Family (Electric and Gas)

Overview

Energy*Wise* is the flagship in-home program for all Rhode Islanders in single family residences. By sending energy efficiency auditors directly to the home, customers receive personalized education about making their home more energy efficient, as well as instant energy savings products that are installed during the visit. With more knowledge about their residence and an energy action plan in hand for additional improvements, a customer is better prepared to make energy investment decisions. 2015 is forecast to be the largest program year for Energy*Wise* both in savings and number of customers served.

By embodying the themes of the three-year plan, Energy*Wise* can make a meaningful impact for Rhode Islanders and the community by reducing energy consumption while improving a resident's comfort. The planning for **enhanced cost-efficiency** began in 2014 with Energy*Wise* and the Income Eligible Services program entering into a competitive pricing RFP with the Massachusetts Program Administrators for lighting that is directly installed in customers' homes. By leveraging the volume of lighting installed between the two states, customers benefit by receiving high quality lighting at an attractive price. Similarly, there was also an RFP initiated in 2014 for wireless communicating thermostat bulk pricing that is also driving down the price of these items in a direct install setting. Customers will still have opportunities to select between several price points of wireless thermostat products. Actions like these can lead to market transformation. By making the efficient product more affordable to customers, more products will be sold which will in turn bring manufacturing efficiency to the product marketplace. When the price drops and product availability increases, energy efficiency incentives can be gradually reduced and ultimately removed and transformation of the market has occurred. Finally, the Company will continue to offer tiers of audits based on the customer's potential for energy savings within their home.

Empowering communities and markets to embrace energy efficiency is a key result of the one-on-one communication that occurs through Energy*Wise*. In 2015, Energy*Wise* will be the gateway to partnerships with the State through Solarize RI, Property Assessed Clean Energy (PACE), and Commerce RI's Renewable Energy Fund. Working groups have developed customer flows to incorporate solar siting during all home energy assessments. PACE will be mentioned as one of the financing opportunities available to home owners. Likewise, when customers begin their energy savings journey with a solar contractor, at OER, or via Commerce RI, energy efficiency opportunities will also be highlighted as a cost effective way to reduce system size, increase efficiency, and reduce overall costs. Additionally, the program is working with Alliance for Healthy Homes to leverage workforce and outreach opportunities.

The Partnerships target action within communities and support the word-of-mouth and satisfaction that result from Energy*Wise* in-home audits.

Both the cost containment strategies and partnerships encompass **Innovation to capture untapped savings**. Additionally, each residence that receives weatherization contributes to **system-level savings**. Furthermore, by encouraging the adoption of wireless thermostats, the Company is creating an opportunity to create a demand response program for residential customers, if needed, to mitigate winter demand.

Delivery

The program is delivered in three steps: home energy assessments, installation, and quality assurance/quality control. The Company currently uses a Lead Vendor energy assessment model. This model is one of many approved by the Environmental Protection Agency (EPA) and Department of Energy (DOE) for the Home Performance with ENERGY STAR® national initiative. This model minimizes administrative costs, and guarantees customer equity and consistency. The Lead Vendor will be responsible for conducting energy assessments of single family homes (1 – 4 units) and coordinating all work resulting in additional energy efficiency measures offered through the program and all the central administrative functions.

Any single family, market rate customer that requests a home energy assessment is eligible for this no-cost service if their household has not received an assessment within the past three years. Auditors will visually inspect the home's major heating and water heating systems to assess the potential for cost effective upgrades. A home's insulation level is determined by verifying current attic, wall, and basement levels. The auditors will also be installing energy efficient lighting, water saving devices, and advanced power strips. Most importantly, the home owner participates in the home energy assessment and accompanies the auditor around their home to learn more about their residence and opportunities for even more efficiency. At the completion of the home energy assessment, customers receive an Energy*Wise* Action Plan that provides a road map for additional energy improvements, associated costs, and financing opportunities. The auditor also educates the customer about other efficiency opportunities, such as efficient heating and cooling systems, refrigerator recycling, efficient lighting as well as financing options. Opportunities for incentives on these items are included in a folder of materials that remain with the customer. Income eligible customers receive their assessment through Community Action Program agencies (CAPs) that specialize in combining state and federal opportunities in one visit.

Energy*Wise*, through the RI HEAT Loan, provides 0% interest financing to eligible single family customers to support customer adoption of energy efficiency products and services that are recommended during the assessment, as well as efficient heating and water heating systems. The HEAT Loan has one lender that works with consumers with lower credit scores so financing opportunities are available for most

consumers. The program will also promote PACE, when available, for consumers interested in larger scale improvements that may not be covered by the RI HEAT Loan. Other favorable financing products that may arise will also be added if they provide value to Rhode Island customers.

During the previous three years, Energy*Wise* has had a community of independent insulation contractors providing RI customers' insulation and weatherization needs. All Energy*Wise* post-assessment work is delivered by this independent, third party Building Performance Institute (BPI) qualified weatherization contractors know as Independent Insulation Contractors (IICs). All IICs are subcontractors to the Lead Vendor. Insulation and weatherization work will be distributed via a merit based process to the approved list of qualified contractors. Weatherization contractors who bring customers to the program can also "tag" a customer thereby designating themselves as the weatherization provider after the assessment. Post-assessment work can include heating and cooling system testing and tune ups, duct sealing, air sealing, and insulation. In 2013, there were twelve Home Performance with ENERGY STAR Century Award recipients in RI. The Century Award contractors performed 100 or more whole-home improvements during 2013.

The last step in the Energy*Wise* process is the quality assurance and quality control component. All weatherization work performed by IICs is inspected by the Lead Vendor. An independent Company also provides quality control on up to 10% of all work performed including home energy assessments and weatherization.

Meeting 2015 Goals

Previous years' marketing efforts - including the GetHouseFit campaign, direct customer outreach at the Energy Expo, community events, word-of-mouth, direct mailings, cross promotion through home energy reports and an overall increased interest by consumers on energy costs after a cold winter - resulted in an extraordinary customer demand in 2014. Requests for Home Energy Assessments are projected to exceed the planned goal of 7,800 audits by at least 15%. Perhaps even more impressive is the fact that customers who received the no-cost home energy assessment have contracted for weatherization services at an unprecedented rate of over 45%. All of this interest is a good situation to have in 2015, but one that has to be managed for costs and throughput. With cost containment in mind, innovation will be strategically focused on providing results for customers. Opportunities that do not enhance savings may not be pursued. Some of the innovation in 2015 may explore DOE's Home Energy Score or similar building labeling products, as well as opportunities to ensure moderate income customers (60-100% of Rhode Island median household income) have equal opportunities to participate in EnergyWise.

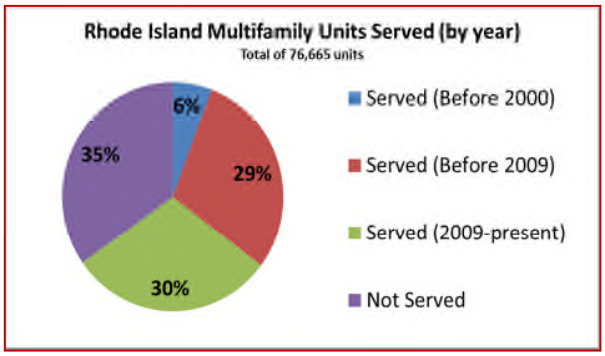
The Company will continue with customer segmentation and targeting efforts. By combining internal and external data sources, the Company can identify higher potential customers with greater than average opportunities to save and encourage participation in the program, as well as hard-to-reach customers that may require modified program outreach and design.

Partnerships and streamlining the customer experience will also be a focus in 2015. By working with OER and Commerce RI to provide a consistent customer flow, customers will receive similar messaging on how to make their homes more efficient regardless of their entry point and area of interest. The consistent customer flow will provide more direction and less confusion when a customer is presented with all the opportunities to save energy.

EnergyWise Multifamily (Electric and Gas)

Overview

As noted in the 2015-2017 Energy Efficiency Plan, the Company has identified the multifamily sector as a major priority and it aims to continually enrich its portfolio of energy efficiency offerings and services. Although the Company has historically delivered comprehensive electric and gas efficiency services to a significant number of its multifamily customers and is projected to meet or exceed its 2014 savings goal, there remains vast potential for deep savings in the form of more projects, new technologies (i.e. LED's and low-flow showerheads), more streamlined program delivery services, enhanced market segmentation and customer targeting, and building energy benchmarking (benchmarking). The chart below illustrates the historical delivery of multifamily services by the Company, while also highlighting the savings potential housed in those properties which have not received service or have not received service since 2009 (the Company allows a new assessment every 5 years for multifamily customers).



The Company is committed to allocating sufficient resources to more effectively offer a simplified, cost-effective, and all-inclusive multifamily services platform for customers, aimed not only at helping bring efficiency benefits to more Rhode Island ratepayers, but to also generate additional energy savings to help achieve portfolio goals. Cost efficiency is a major driver for multifamily services as the program has traditionally existed as a more expensive enterprise than other efficiency programs.

In 2014, the Company helped form a "Multifamily Working Group" (Working Group) that consisted of representatives from the Company, the Demand Side Management Collaborative (Collaborative), the Energy Efficiency Resource Management Council (EERMC) and the Office of Energy Resources (OER) –

designed to identify barriers, challenges, and opportunities for the multifamily sector for the 2015-2017 Energy Efficiency Program Plan. The Working Group also actively engaged with national experts in multifamily program design to assure access to industry best practices, covering issues ranging from optimized incentive levels, non-energy benefits and the many items described more fully below. The Working Group will continue to engage in such discussions in 2015 with the mission of helping design and deliver a top-notch multifamily services program, as well as spearheading the development of the aforementioned deeper savings strategies.

Delivery

Multifamily buildings (participants) are defined as the following[1]:

- Buildings with 5 or more units
- Properties consisting of four or more 1-4 unit buildings that meet both of the following requirements[2]:
    - Are connected or neighboring to each other, or to a 5+ unit building, and
    - Are owned by the same individual or firm.

Both market-rate and income-eligible/affordable multifamily properties are subject to the above-outlined multifamily eligibility requirements for coordinated services. For the income-eligible properties, 100% of co-payments for energy efficiency services and measures may be waived. The income-eligible multifamily sector is defined by properties that meet one of the following criteria:

- Owned by public housing authorities or community development corporations
- Receive affordable housing tax credits or any type of low-income funds/subsides from the state or federal government
- Consist of building units where a majority of customers qualify as income-eligible customers (receive utility service on the A-60 Low-Income rate and/or have a household income of less than 60% of the Area Median Income)

Energy efficiency in multifamily buildings is most effectively addressed through working with property owners/landlords/building management companies – the individuals or businesses that hold the authority to make decisions for the whole property. Therefore, any improved approaches discussed and implemented for the multifamily sector will work with these important decision makers. However, even if these decision makers refrain from utilizing the program offerings and services, *all* sub-metered

[1] The Company will in 2015 explore the expansion of the definition to help better serve the needs of the RI housing market. An example is to better guide the program participation process for RI Community Development Corporations.

[2] Stand-alone 1-4 unit buildings that do not meet these requirements are considered "single-family" and are served traditionally through EnergyWise Single Family or Income Eligible Services Single Family programs, as appropriate.

multifamily building tenants with electric and/or gas utility accounts can still directly receive energy efficiency benefits. An example is through the Home Energy Reports program via the Web Portal, where customers can receive information about their energy usage, how it compares to other similar households, and what behavior changes they can make to help reduce consumption. And while these customers are also eligible to receive rebates for energy efficient lighting and products, the Company will investigate better ways to integrate tailored direct install practices for those who rent if the property decision maker does not elect to move forward with efficiency recommendations.

For program implementation, the Company utilizes a Lead Vendor – the entity that engages directly with the customer. Both the Lead Vendor and the Company have designated multifamily program managers that provide a single point person for multifamily customers to work with regarding clarification around services and incentives, determining project eligibility, scheduling meetings, etc.

Each multifamily property is unique, and thus services will be coordinated as appropriate based on the building's physical structure, rate code(s), and occupancy status. The existing suite of energy efficiency offerings is able to comprehensively address the whole building, with improved savings and comfort for living spaces (in-unit), common areas, and exterior lighting. Incentives are available for weatherization (air sealing, insulation), heating and domestic hot water, cooling, lighting, and appliances. Furthermore, a multifamily property may be eligible for services and incentives under both residential and commercial programs. For example, a building with 20 units that is electrically sub-metered (20 residential accounts) with a commercial electric account for common areas and one commercial gas account serving a central heating/hot water system will likely qualify for incentives through EnergyWise Multifamily and the Commercial & Industrial Multifamily programs. While this adds a layer of complexity for the Company, it is critical that the Company maintain accounting via these various program budgets in order to ensure equity for all customers funding energy efficiency through the energy efficiency program charge. However, the customer will not encounter this complexity, and will instead receive a consolidated incentive for all efficiency work completed at the site.

Meeting 2015 Goals

The Company will explore all of the following program enhancements in 2015, with potential full-scale implementation occurring in the latter half of the year.

Building Energy Benchmarking

Benchmarking is the practice of acquiring, tracking, and assessing the energy usage of a building or a portfolio of buildings over time and as it compares to similar buildings. It is used to help owners and managers better understand the breakdown of energy usage in their building(s), as well as help track the effect of building improvements. In the fall of 2014, the Company coordinated the development of a benchmarking pilot for affordable multifamily housing properties, in collaboration with Rhode Island Housing. The State was the recipient of multiple multifamily technical expert studies and consultations

from national organizations, one of which included direct funding for affordable housing energy benchmarking. The Company, in matching those funds with 2014 program dollars, will in early 2015 evaluate the results of this pilot that benchmarked about 400 affordable multifamily housing properties. Lessons learned will help inform the potential expansion of benchmarking services to additional multifamily customers. Benchmarking will also be utilized as a tool for more advanced project targeting and to help increase program cost-effectiveness.

Customer Segmentation and Targeting

The Company will investigate strategies that provide the opportunity for a more cost-effective and simplified delivery of efficiency services. By building on the results from the aforementioned benchmarking pilot, the Company, as part of the Working Group, will seek ways to better understand potential program participants before any services are delivered such that the most electric and/or gas savings are captured for the least amount of program expense. For example, if a multifamily building is known to have been originally built with an efficient envelope but does not utilize efficient lighting, the Lead Vendor could coordinate direct install of lighting at the time of the first visit, thereby saving program administration dollars. A specific focus will be put on making these program components and process steps easy to understand for customers. The Company will also explore segmentation for providing customer in-unit services in the event that the entire building does not elect to conduct an assessment or follow through on any of the recommended improvements.

Outreach to Important Stakeholders

The Company fulfilled its firm commitment in the 2014 Energy Efficiency Program Plan to enhance and develop relationships with important multifamily stakeholders, such as Rhode Island Housing and Community Development Corporations (CDCs), and will expand these efforts in 2015. By developing strong, working relationships with important stakeholders, the Company can achieve a solid pipeline of program participants, while also establishing credibility for the program that is then disseminated by the stakeholders to other parties. Additional stakeholders of interest in 2015 will include groups such as Public Housing Authorities and the major market-rate multifamily property owners and managers.

Financing Tools

The ability to finance large multifamily efficiency improvements is widely seen as a key to long-term success in this sector. While the Company offers established financing services for its commercial customers, as well as for single family residential customers, the multifamily sector is not currently eligible for such benefits. As a result, the Company will analyze the various financing mechanisms and will work to craft an offering that is of the most value for Rhode Island multifamily customers.

Residential New Construction (Electric and Gas)

Overview

In 2015, the Company is focused on setting a more direct course for residential new construction (RNC) and major renovation projects to exceed code requirements for energy efficiency, to gain access to solar incentives based on energy efficiency, and to become certified as Zero Energy Ready Homes (ZERH).

While residential new construction permits declined every year from 2005 - 2012, they increased slightly in 2013 and remained level in 2014, with market rate housing starts outnumbering affordable housing starts. Renovations of mill buildings in 2013 and 2014 helped to improve the market and they will continue to add volume in the next couple of years.

The recent change in building code[3] has prompted the need for awareness around code changes and compliance strategies. This market need is being strongly met by the technical assistance outreach and code compliance training opportunities per the Company's Energy Code Technical Support initiative, as described in the Commercial section of this filing.

The Rhode Island Residential New Construction Program (the Program) supports a comprehensive approach to designing, building and testing homes to realize energy efficiency, cost savings, thermal comfort and durability. The Program has a collaborative approach for working with designers, builders, code officials, clients and tradespeople on strategies to develop the most efficient and cost effective homes in order to advance residential building performance throughout the state.

The Program is fuel neutral and provides participating builders with technical and marketing assistance – tools to help disseminate better building practices to construction industry members. Financial incentives are a key component of the program and are offered in a tiered structure to encourage both higher energy efficient homes and greater participation. In addition, additional technical and financial incentives for homes that achieve the Energy Star Certification.

Since energy efficiency is the baseline of several other residential building certifications, the Program provides assistance to builders seeking such certifications. These certifications assist in building energy efficiency awareness, pushing Rhode Island new construction toward zero-energy homes, and aligning well with the goals and mission of the overall Program.

[3] In October 2013, Rhode Island began enforcing the 2012 International Energy Conservation Code.

Projects enrolled in the Program can also be recognized through the following residential programs and standards:

- ENERGY STAR® Version 3.0
- Passive House US
- LEED for Homes
- National Association of Home Builders' National Green Building Standard

Delivery

The Program is administered through a Lead Vendor which manages the day-to-day operations of the Program and is the main point of entry into the Program for all participants. The Lead Vendor is responsible for the intake of projects, tracking and reporting Program results to the Company, performing field verifications and testing, conducting training for building professionals, and advising the Company of Program enhancement opportunities.

In 2015, the Company will continue to offer four tiers of high-performance energy efficient new construction incentives for both new construction and renovation/rehabilitation projects. In addition, opportunities for offering a Zero-Energy/Zero-Energy Ready Home will be pursued.

Tier Level	% More Efficient Than Baseline
Tier 1	15% - 24%
Tier 2	25% - 44%
Tier 3	45% or more
Energy Star Certification	

All tiers are offered with the following no-cost services: advanced energy consulting and design review, a HERS (Home Energy Rating System) Index rating, third party blower door and duct blasting testing, installation of high-efficiency lighting (CFLs and LEDs) and efficient showerheads. The Company will continually assess the potential for offering more LEDs to Program participants in 2015, balancing the benefits with incremental Program costs. Historically, the extent of no-cost offerings has served as the initial incentive to get builders into the Program as it provides a free service that can ultimately open the door to performance-based financial incentives for their company, energy savings for their clients (new homeowners), and a marketing advantage that can be used to distinguish themselves from competition.

In addition to the financial incentives for a high-performance building, incentives for high-efficiency heating and cooling equipment are also provided. Including equipment incentives in the same program

as high-performance building provides a greater likelihood that high-efficiency equipment will be installed in the efficient home. It also provides the most efficient customer experience as all incentives and services can be requested through one application.

To produce the most efficient homes, the Program is committed to working with new and existing builders to offer technical and code trainings as well as technical/hands-on assistance to broaden expertise and confidence in energy efficient design and construction. To help drive actual implementation of energy efficient design and construction, in 2015 the Company will assess opportunities to "challenge" project teams throughout the Rhode Island to achieve Tier 2, Tier 3 and Energy Star Homes. Possible outcomes of a "challenge" could include an increase in energy efficient residential stock, the number of builders who gain experience with building energy efficient homes, and promotional opportunities for project teams as well as educational opportunities to demonstrate that higher levels of energy efficiency are feasible and beneficial.

In 2015, the Company will explore opportunities to collaborate with the Rhode Island Office of Energy Resources and Commerce RI to align solar incentives with energy efficiency incentives. Alignment of incentives could help to could bring new customers to both the energy efficiency and solar markets, increase both the number of higher efficiency homes and solar projects, and move the market closer to Zero-Energy Homes.

As Zero-Energy Homes, or Zero-Energy Ready Homes (those that do not have renewable energy), are becoming recognized in the market, there is a growing interest and capability in developing such homes. The Department of Energy has renamed their "DOE Challenge Home" to the "DOE Zero Energy Ready Home" in an effort to look at a "…new level of home performance, with rigorous requirements that ensure outstanding levels of energy savings, comfort, health, and durability". In 2015, the Company will create a working group to evaluate the options to support a Zero-Energy Home, or Zero-Energy Ready Home Program.

The Company is committed to working with the State in developing and delivering high-performance homes and ultimately Zero-Energy Ready Homes, a goal that delivers significant financial and comfort benefits for Rhode Islanders.

Renovation/Rehabilitation/Additions: The renovation/rehabilitation offering is a critical piece to the growth of the Program. In 2013 and 2014 the Program observed a significant number of renovation projects involving old industrial mill buildings, many of which were converted to multifamily apartments. These types of projects hold great savings potential for the Program, and capitalizing on the opportunity to work on such projects is a priority for the Program in 2015.

Meeting 2015 Goals

The Program's 2015 mission is to continue to achieve deeper energy savings and broaden market penetration in an effort to move the construction market toward better building practices and Zero-Energy Ready Homes. The Company is confident in the Program's ability to reach more builders and projects, especially through the Renovation/Rehabilitation offering.

New strategies, ideas, and items of exploration for the Program in 2015 include:

- Assessing opportunities to "challenge" project teams throughout Rhode Island to achieve Tier 2, Tier 3, Energy Star and Zero-Energy Ready Homes.
- Exploring collaboration with RI Office of Energy Resources and Commerce RI to develop opportunities to align Energy Efficiency incentives and Solar Incentives.
- Developing a working group to create a preliminary structure for the development of Zero Energy-Ready Home Program. Structure could include developing a definition of ZERH, considering new incentives (i.e., plug load, metering, glazing, enclosure massing, etc.), and post occupancy studies.
- Capturing more renovation projects, specifically mill building conversions. In some cases, these buildings have hundreds of units, providing a significant opportunity for energy savings and meaningful market transformation.
- Developing new relationships with builders, developers, and code officials of the large renovation projects, as well as the residential construction professionals in Rhode Island.
- Measuring performance and incentive thresholds to help continue moving the market toward better building practices and to better improve the Program's cost-effectiveness and overall success.
- Expanding Program services into the mid-high rise building sector. Currently, the mechanical systems of mid-high rise buildings are served by the Company's C&I energy efficiency programs, but opportunity remains for improvement in the envelopes of mid-high rise buildings. The Company will continue to identify cross-sector integration and work to deliver the best solution for the customer.
- Considering the potential inclusion of additional Program incentives for high performance insulation, both in new construction and renovation/rehabilitation projects. For example additional insulation to create a thermal break in alignment with nationally recognized best practices (i.e., Building America Solutions Center).
- Communicating Program success stories and better building practices provide more useful data and insightful best practices for residential builders and designers. Communication channels could include comprehensive Program marketing and publications, an energy-efficiency building challenge, and project case studies.
- Coordinating with the Company's Code Compliance Enhancement Initiative (as discussed in the Commercial section) to help boost energy code compliance rates in residential buildings.

Income Eligible Services (Electric and Gas)

Overview

National Grid's Income Eligible Services (IES) Program helps customers reduce their electric and heating bills, save energy, improve thermal comfort in the home and learn about energy efficiency. Program services and offerings are at no cost to the customer and include a home energy assessment, appliance replacement, installation of energy-saving measures including insulation, air sealing, duct sealing heating equipment, appliances, domestic hot water systems and lighting.

Income Eligible Program services are available to households that qualify for Low Income Heating Assistance Program (LIHEAP[4]), also known as "fuel assistance," and who live in 1-4 unit residences within the Company's Rhode Island territory[5].

The IES Program offers services through both the ratepayer-funded Appliance Management Program (AMP) and the federally-funded Weatherization Assistance Program (WAP). The Appliance Management Program provides services to measure the energy efficiency of appliances, review utility bills, replace appliances if they are deemed inefficient or unsafe, replace incandescent light bulbs with compact fluorescent or LED light bulbs, and install water efficient showerheads. The Weatherization Assistance Program provides a whole house audit and energy efficiency evaluation, installation of weatherization measures (insulation and air sealing), and replacement of inefficient heating equipment to improve the efficiency and comfort of the home. Both the AMP and the WAP offer all services and products at no cost to the customer.

The IES Program is similar to the market rate EnergyWise program in that customers benefit from no-cost home energy assessments, installation of efficient lighting and showerheads, and quality assurance/quality control. The IES Program identifies the opportunities for energy efficiency and will complete weatherization services (insulation, air and duct sealing) and provide appliance and heating system replacement (for inefficient systems) at no charge to the customer. The EnergyWise Program

[4] The federal government has set an income level, tied to the median income of each state, which defines the uppermost income boundary for LIHEAP participation. Individual states have some flexibility in defining income eligibility as long as it is not set above the federally defined maximum. Eligibility in this program will track the eligibility for LIHEAP set by the State of Rhode Island.

[5] These eligibility requirements are subject to change as a result of any regulatory directives, or as deemed necessary by the Company to enhance participation and/or savings.

provides the customer with recommendations for improving energy efficiency and the related weatherization and equipment incentives and the customer then chooses which measures they will install.

Delivery

The IES Program is administered through a Lead Vendor that manages the day-to-day operations of the Program. The Lead Vendor works directly with the seven Rhode Island territorial-based Community Action Program agencies (CAPs) which serve as the main point of entry into the Income Eligible Services Program.

The Lead Vendor establishes and maintains consistency among the CAPs by providing ongoing technical and best practices training for the CAPs home auditors and building professionals. The Vendor also performs field verifications and testing as well as advises the Company of Program enhancement opportunities.

Each of the seven CAPs plays an important role in their communities, and National Grid supports their local presence. Each CAP maintains an intake process for the IES Program and provides the AMP and WAP services. The CAP serves as the primary interface with the customer.

The current model with the Lead Vendor overseeing the delivery of the Program has proven to be a successful management structure. The Program has become more effective in its delivery of services and more customers were served in 2014 as compared to 2013 and 2012.

Since 2012, the Company has been collaborating with Green & Healthy Homes Initiative (GHHI) and will continue to work with GHHI through the Income Eligible Services program in 2015, as well as the cross-agency Rhode Island Alliance for Healthy Homes (RIAHH). These collaborative relationships support integrated housing interventions that support health and energy efficiency improvements in all Rhode Island housing units.

Meeting 2015 Goals

Planned strategies for 2015 include:

- Enhancing communications efforts to build awareness about energy savings benefits from the AMP and WAP services.
- Aligning with RIAHH – leverage resources and programs. The goal would be to provide coordinated housing interventions for customers to provide energy efficiency services and healthy home services.
- Reviewing intake and service processes for residential 3 – 4 unit buildings, commonly referred to as “triple-deckers” that represent a significant portion of Rhode Island’s housing stock, especially in urban areas. The Company will consider developing a definition and process for improving the energy efficiency of these common housing properties where only one resident may be eligible for AMP and WAP services.
- Collaborating with Community Development Corporations to capture data about existing income eligible properties that could benefit from energy efficiency upgrades.

- Researching nationwide Income Eligible programs to gain insight on the eligibility thresholds.
- Updating guidelines/best practices for the WAP and AMP services to reflect changes in national and local standards.
- Weatherization for mobile homes will be assessed as to the demand and the potential savings. Weatherization services, consistent with the measures offered by federally funded WAP program, will be reviewed for effectiveness.
- Creating decision trees for CAPs for situations where the solution regarding equipment replacement may not be clear.
- Installing cold climate heat pumps in electrically heated homes.
- Training and Development – The Lead Vendor will hold Best Practices meetings with the CAPs to provide regular opportunities to learn from their peers and to promote consistent practices between CAPs. Additionally, ongoing training will be available for CAPs, providing professional development opportunities. Training will encompass Department of Energy Weatherization Assistance Program requirements.
- Multifamily Coordination – The Lead Vendor will work with CAPs and the Company's Multifamily Program Manager to coordinate services for properties designated as multifamily that are eligible for the program. Please see the EnergyWise Multifamily section of this document for more information. All multifamily income eligible work will be served through the Multifamily program.
- Measures – The Company will increase services that deliver significant energy savings including the quantity of LED lighting installed in each home, heat pump water heaters, high efficiency heat pumps, and replacement room ACs.

Behavior and Products Programs

Home Energy Reports (Electric and Gas)

Overview

The Home Energy Reports program is the Company's prime example of achieving energy savings through changes in customer behavior. Since its launch in April of 2013, this program has delivered inexpensive electric and gas savings, helping the Company to achieve ambitious portfolio goals while also maintaining cost efficiency. While the program has existed solely for residential customers, the

Company in 2015 will begin, through a pilot, to provide energy reports for its small and medium business customers.[6]

The Home Energy Reports program, unlike in any other state in the country, is a completely statewide offering that provides benefits for all Rhode Island ratepayers. While over 315,000 customers receive home energy reports by way of mail and/or e-mail, all ratepayers have access to the program's Web Portal. Since the program's inception in April of 2013, Rhode Island ratepayers have saved over $6 million on electric and gas utility bills.[7]

In 2015, the Company will seek to improve the Home Energy Reports program by further maximizing potential savings, developing personalized "energy saving campaigns" for customers, integrating the reports into the comprehensive full year marketing calendar to leverage cross-promotions and messaging, and enhancing the Rewards platform – a former pilot offering that allowed customers to earn points for saving energy that could be redeemed for modest gift cards and/or charitable donations. Because the program can deliver significant savings, can be delivered at a low cost per unit of energy savings, and is well-received by customers[8], the Company is committed to sustaining success in 2015 and beyond.

Delivery

The program is administered by a Lead Vendor who was responsible for the creation and delivery of the initial home energy reports in the country. The Company has worked with the Lead Vendor since 2009, and since 2013, in all three of its jurisdictions (Massachusetts, New York, and Rhode Island). The Lead Vendor is responsible for crafting and delivering the reports, managing the Web Portal, and documenting energy savings. The Lead Vendor also works with the Company to introduce additional program enhancements throughout the year.

The home energy reports are an effective conduit to the Company's suite of residential energy efficiency solutions, and the Company has capitalized on this feature by proactively leveraging the reports for cross-promotion and portfolio integration, and will continue to do so in 2015.

Program savings derive from the sending or emailing of reports with personalized energy insights, normative messages, efficiency tips and recommendations, promotional messages for efficiency programs, and coupons for energy saving products. The program uses experimental design to measure energy savings between a treatment and control group, using both pre and post-treatment data.

---

[6] Please refer to the Commercial section for more information on the Small and Medium Business (SMB) Energy Reports pilot program.

[7] Bill savings are calculated by multiplying 2013 final savings and 2014 projected savings by the cost of energy.

[8] Per multiple surveys, Rhode Island ratepayers have shown a high liking of the reports, measurably more than that seen in New York and Massachusetts where the Company also offers the Home Energy Reports program.

The aforementioned Web Portal, advertised on both the reports and the Company's website, is a landing page where customers can receive personalized information about their energy usage, how it compares to other similar households, and what behavior changes they can make to help reduce consumption. Furthermore, the Web Portal includes an interactive audit tool that customers can complete in about 10 minutes; and then immediately receive recommendations on ways to improve the efficiency of the home. The Web Portal also provides viewers with a direct link to all of the Company's efficiency services and offerings. For example, a customer can log-on to the Web Portal and upon discovering through the online audit tool that their home may benefit from an actual home energy assessment through the EnergyWise program, the customer can click through to the online sign-up page for the assessment. This creates a simplified and enjoyable customer experience that succinctly integrates all of the efficiency opportunities available to Rhode Island ratepayers.

Meeting 2015 Goals

The Company projects that potential savings in 2015 will exceed those achieved in 2014, due primarily to two reasons. First, past nationwide evaluations of the Home Energy Reports show that the realization of savings for customers who receive the reports increases as familiarity with the reports also increases, eventually plateauing after multiple years in market. 2015 will mark the third calendar year of the reports in market, and as such the Company projects an increase in realized savings. Second, the Company in 2015 will deliver enhanced features of the program, resulting in higher customer engagement, thereby translating into amplified energy savings. These enhanced features include:

Energy Savings Campaigns

The Company will offer to a subset of customers the experience of an energy saving campaign – a three to four month journey whereby the reports will seek to help the customer improve their neighbor rank (a representation of how efficient the home is compared to similar homes within a fixed radius). This will include targeted recommendations for the home, in addition to a fun and engaging delivery that is designed to boost customer participation and desire to increase one's neighborhood ranking. The Company will work with the Lead Vendor to design the various campaign strategies and delivery methods, including the possibility of integrating campaigns with more frequent customer communication through Wi-Fi thermostat technology.

New Movers

In the fall of 2014, the Company began using the home energy reports to deliver a unique experience for customers who recently moved into a new home or apartment. The first of its kind in the country, the new movers feature is specifically designed to engage customers at one of the most opportune times for energy efficiency – the move-in. By targeting these customers with personalized and feasible efficiency recommendations, these new movers become immediately aware of the Company's efficiency programs, and more importantly can start receiving the benefits even before they are fully "settled into"

their new home or apartment. The Company looks forward to expanding this feature in 2015 and is projecting meaningful savings from this effort.

Rewards

Another first of its kind within the Home Energy Reports program, the Rewards feature offers customers the opportunity to earn redeemable points for every kWh of electricity or therm of gas saved. While the Rewards feature, since its inception in 2013, has yielded verifiable energy savings, the offering has also achieved exemplary customer engagement metrics. The rewards-related communications (email, letter, etc.) are opened, and the included links are clicked-on more than any other communication that the Company releases to customers regarding energy efficiency. In fact, the 'open rate' and 'click-through rate' are significantly above industry averages for such communications. Because of this past engagement success, the Company is committed to exploring further how engagement can be translated into action and into subsequent energy savings.

Behavioral Demand Response

The Company will investigate the opportunity of merging behavioral messaging, as seen on the Home Energy Reports, with the Company's increased focus on leveraging the benefits of Wi-Fi thermostats. This strategy has potential to help alleviate the effects of winter peak demand for natural gas and summer peak demand for electricity, and is being considered across multiple states in the Northeast for implementation in the coming years.

ENERGY STAR® Lighting (Electric)

Overview

ENERGY STAR® Lighting is arguably the most recognizable energy efficiency product since it is frequently used nationally as a symbol of being green. The ENERGY STAR lighting program supports the national EPA and DOE ENERGY STAR program that qualifies manufacturer's products and promotes the Change the World. Start with ENERGY STAR campaign. Locally, efficient lighting touches a large number of Rhode Island customers by providing a simple and cost-effective product. In 2015, there will be growing support of light emitting diode (LED) products while sustaining the inexpensive demand for compact fluorescent lamps (CFL). The Company is continuously assessing the cost versus quality of all lighting products and rebalances the ratio of LEDs to CFLs as pricing changes. Products that have been replaced by better performing lighting may be removed from the program. In 2015, the program will specifically address the removal dimmable and candelabra CFLs.

Even though lighting is simple to use, the overall decision making process has added layers of complexity over the past few years. Previously, consumers need only consider the wattage of a bulb. Today a lighting purchase could involve light distribution, lumen output, and light color. Educating customers so they can select a quality product that meets their needs is an important goal of the ENERGY STAR® lighting efforts. This program collaborates with the Massachusetts Program Administrators to leverage retailer and manufacturer relationships and vendor outreach throughout the North East. In 2014, the EPA awarded the Northeast Energy Efficiency Partnerships (NEEP) with the 2014 ENERGY STAR Partner of the Year – Sustained Excellence Award in recognition of its "continued leadership in protecting our environment through energy efficiency". National Grid is one of the Program Administrators involved in the NEEP efforts that received this award.

Customers are able to purchase ENERGY STAR® bulbs and fixtures through buy-downs, markdowns and discounts. The program makes it affordable for customers to purchase the most cost effective, energy efficient products, including compact fluorescent lamps (CFLs) and LED lighting. The Company will continue to pursue new technologies and cost-effective lighting products to add to the portfolio.

Program resources are leveraged between ENERGY STAR® Lighting and Residential Consumer Products to provide the customer with comprehensive, holistic offerings at reduced costs. Similar marketing channels, retailers, and vendors allow the programs to provide economies of scale.

Delivery

Collaboration with vendors and regional and national stakeholders is essential in delivering a seamless program. A Lead Vendor coordinates manufacturer and retailer outreach, recruits retail partners, conducts retail trainings, oversees point-of-purchase placement, supports special events, and coordinates the buy-down and markdown contracts. Currently the program has 125 participating stores and dozens of manufacturers.

A rebate fulfillment vendor is responsible for collecting and verifying sales data from retail partners, fulfilling midstream (retailer) or upstream (manufacturer) rebates, and providing documentation for internal tracking systems.

Online and catalog purchases are managed by a sales channel vendor. Special events may draw upon a vendor that provides retail sales expertise and a marketing vendor coordinates Rhode Island promotions with the broader National ENERGY STAR® efforts.

The Company will continue to utilize a mobile retailer to promote ENERGY STAR lighting products. This vendor will set up portable informational displays at malls, community, and corporate events. They will sell products at deep discounts while educating the customer on a one-on-one basis. In 2014, the twelve-pack of efficient lights was one of the most popular items at the RI Home Show.

The Company will also continue with the school fundraiser, which helps schools and youth non-profits raise money by selling lighting products. 100% of the sales stays with the non-profit organization and begins with an educational kickoff event that introduces saving energy in the home. The lighting program also supports the National Energy Education Development Project (NEED) by funding training of local educators in the curriculum as well as providing educational materials to teachers and students.

Meeting 2015 Goals

The 2015 Residential Lighting program will continue to grow in terms of lighting products receiving incentives. This will in turn be balanced by downward pressure on savings as the baseline standard bulbs continue to increase in efficiency due to federal lamp efficiency standards. The biggest change over the past several years is the entry of LED lighting. Customers are embracing LED lighting and as prices continue to decline, the percentage of LED products installed should continue to increase. LED lighting also provides additional savings over standard CFL counterparts.

Some of the recent outreach activities that will continue in 2015 include the support of the Gloria Gemma Foundation. During the month of October, pink LEDs are sold with a portion of the sales going to the Gloria Gemma Foundation. National Grid will also continue to reach non-English speaking customers by including Hispanic language signage, advertising, and Spanish speaking vendors at some events.

Residential Consumer Products (Electric)

Overview

This program supports the Environmental Protection Agency's ENERGY STAR® brand by encouraging the purchase of ENERGY STAR qualified major appliances and electronics, which include, but are not limited to clothes washers, dehumidifiers, room air cleaners, clothes dryers, advanced power strips, pool pumps, and televisions. Product categories that are not currently part of the ENERGY STAR program are also considered. Recycling of refrigerators and freezers have contributed significant savings in the past and is projected to continue to do so in 2015.

This program is managed and marketed in conjunction with the ENERGY STAR® Lighting program and also received the 2014 ENERGY STAR Partner of the Year – Sustained Excellence. The Residential Consumer Products program partners with the MA Program Administrators to create economies of scale. In coordination with other program administrators, the Company provides retailer support, training, advertising, consumer education, codes and standards review and advocacy, as well as manufacturer labeling.

Delivery

Manufacturers build their products to meet or exceed energy efficiency performance specifications established by the ENERGY STAR® label. Together with manufacturers, local retailers, and the EPA, the Company works to help identify and promote the purchase of these high efficiency products to its customers. The Company uses a range of incentives depending on the type of product and amount of anticipated customer engagement. For large white goods, a mail-in rebate is frequently used. This process allows the customer to consider the value of purchasing a more energy efficient model given the potential of receiving a rebate after the purchase. For electronic items that have numerous models and different rebates based upon size and savings, a mid-stream incentive is frequently used. This incentive is given to the retailer based on the sale of specific products. Mark downs with manufacturers are used for some products to signal the desire for continued production of energy efficient items.

An important part of the program is educating customers about the ENERGY STAR® label. As retail stores are an integral channel for promoting the label, the Company designs, prints, and distributes a wide variety of point-of-purchase materials and signs for display in retail stores. The Company also develops media stories and public relations opportunities about ENERGY STAR®. In addition, the Company hires an outreach vendor to put up signage, train retail staff, and help label products. The company will continue to utilize a mobile retailer to educate consumers at community and corporate events, as well as at mall kiosks, on the benefit and proper usage of advanced power strips (APS).

Meeting 2015 Goals

In 2014 the Company tested a higher incentive for refrigerator and freezer recycling during the beginning of the year, a period of time when households may not be interested in having vendors go through their home and remove a major appliance. The results of the enhanced incentive were positive and the Company anticipates a similar promotion for a select period in 2015. For retail consumer products, the Company will look for additional savings by supporting ENERGY STAR Most Efficient products. Previously the Company also promoted Top Ten, an independent labeling organization that identifies the ten most efficient ENERGY STAR products in multiple product categories. At this time, there has been no determination if support of Top Ten will continue through 2015.

In 2014 the program added clothes washers and dehumidifiers as offerings and will continue to promote these items in 2015. Additionally, retailers were excited that the Company supported high efficiency dryers although the product was a specialty on-line purchase. An ENERGY STAR specification for efficient clothes dryers will be in effect in 2015 and the Company will investigate support of these items as well as new heat pump dryer technology. The Company will also continue to offer online submissions and will expand instant rebates; both processes were piloted in 2014.

High-Efficiency Heating and Cooling (Electric and Gas)

Overview

Since 2004, the Company has offered the High Efficiency Heating and Cooling Program to promote higher efficiency heating, cooling and water heating equipment and improve installation practices throughout Rhode Island. The Company has worked jointly with the regional CoolSmart collaborative group to better advocate and advertise for the Program.

The High Efficiency Heating and Cooling Program exists to promote awareness of benefits of high-efficiency heating, water heating, cooling, and system controls. In addition, it aims to facilitate the purchase of energy efficient equipment by offering rebates to offset the premium equipment's higher cost. The program offers an array of rebates for equipment ranging from ductless mini-splits to Wi-Fi thermostats to boiler reset controls. The Program provides training services and quality control inspections, ensuring that equipment is properly sized, installed, sealed, insulated and performing optimally. All rebates and services are provided with the overall goal of providing a seamless customer experience that seeks direct energy efficiency improvements.

In 2014 the Company witnessed a second consecutive year of increased demand for the Gas High Efficiency Heating program offerings, especially for high-efficiency boilers, condensing boilers, and Wi-Fi thermostats. The demand is assumed to be customers' desire to reduce energy bills based on the cold winters in the prior year and anticipated in the upcoming year. In an effort to sustain the program and continue to provide Program offerings to customers, Rhode Island Gas High Efficiency Heating program offerings were modified in mid-2014 and will remain the same through 2015 barring any unexpected growth. The Program modifications included eliminating incentives for lower tier equipment and reducing incentive amounts for remaining equipment.

In 2015 there will be several new standards for heating, cooling and water heating equipment that will go into effect, essentially strengthening the baseline for these units. Increased standards for equipment become the point from which energy savings is calculated. Stronger, or higher, baselines cause replacement of relatively new equipment with the new baseline equipment to most likely have a small amount of savings. However replacing older inefficient equipment with one that complies with the new (higher) standards, the savings will be large.

Delivery

The High Efficiency Heating and Cooling Programs are administered by one Lead Vendor which supports the delivery of cost-effective and efficient implementation of the Program as well seamless service offerings for Rhode Island customers.

While the Lead Vendor is the face of the Program, contractors continue to serve as the Program's primary delivery mechanism. The Lead Vendor works closely with the contractor community to provide trainings and outreach to ensure accurate and efficient delivery of Program services to customers, while also improving contractors' skills and capabilities. Topics covered during contractor outreach events will include suggestions and guides for proper sizing and installation of equipment, awareness of current code requirements, and best ways to assist customers with rebate submissions.

The High Efficiency Heating and Cooling Program also utilizes an outside rebate processing vendor which streamlines the collection, processing, and issuance of customer rebate applications, all within a timely manner. The Company implemented the offering of online submissions for the Program in 2014 which provided customers and contractors an additional, and often preferable, method of rebate submission.

Meeting 2015 Goals

Planned strategies for 2015 include the following:

- Providing a unified customer experience through The High Efficiency Heating and Cooling Programs will ensure that customers can view, understand, and discuss heating and cooling options simultaneously. If a customer chooses to install high efficiency heating equipment, it would be prudent on the part of the contractor and the Company to also explain available rebates for cooling equipment. In addition, Contractors are encouraged to promote the EnergyWise Home Energy Assessments to encourage load reduction, as timing allows. Other examples of program integration include consistent marketing via Company's website and Customer Support.
- Continuing to assess opportunities to utilize Wi-Fi Thermostats for demand response. The Wi-Fi thermostat is a programmable thermostat that can be accessed remotely via computer or smart phone and has advanced programming capabilities.
- Exploring upstream options for high efficiency heating, cooling, and water heating equipment. This option could result in increased cost efficiency for customers.
- Evaluating the savings potential of high efficiency heat pumps. This technology is a good fit for Rhode Islanders who heat with electric resistance or delivered fuels (i.e., oil, propane, etc.), and is a complement to the Company's current offering of traditional air source heat pumps. Northeast Energy Efficient Partnerships (NEEP) is currently designing standardized metrics for Air Source Heat Pumps which will serve as a key factor as we work to advance implementation of the technology.
- Implementing, if appropriate, the renewal of the Early Boiler Replacement (EBR) offering. EBR achieves tremendous energy savings by offering incentives to upgrade boilers that are both functional and 30+ years old. Better information on customers' heating system garnered from both within and outside the Program will help EBR better target potential participants.

- Use target marketing and a strong call to action to promote high efficiency heating systems and programmable thermostats to reduce winter peaks. Outreach to contractors and retailers via newsletters and emails to explain the benefits of energy efficiency and to provide updates on the winter demand.
- Continued coordination with the Company's Gas Conversion team. See the *Gas Conversion* section for more details.

Gas Conversion

With increasing home heating oil costs, the Company continues to receive high demand from residential customers to convert to natural gas heating options. In Rhode Island, the Company is currently responding to this market shift, allocating more resources to natural gas conversions, as well as piloting new implementation strategies, such as the Rhode Island Gas Expansion Pilot Program. A high volume of natural gas conversions presents a strong opportunity for energy efficiency, especially with regards to the new heating equipment that is installed. In 2015, the Company will prioritize the coordination between energy efficiency and gas conversion, working to ensure that high efficiency heating systems are installed in appropriate residential and commercial conversions. Furthermore, the Company will utilize these conversions as opportunities to leverage its other energy efficiency offerings, such as the EnergyWise Home Energy Assessment and the HEAT Loan's 0% financing, delivering even a better and more cost-effective product for the customer. This seamless integration will provide the maximum value for the customer at the time of conversion – when energy efficiency improvements make the most sense.

Initiatives

Community Initiative

Overview

Over the last five years, the Company has placed considerable focus on building up energy efficiency awareness and action at the community level. Beginning in 2010 with a geo-targeted community initiative on Aquidneck Island and Jamestown to help provide relief in load-constrained areas, the Company has demonstrated its commitment to promoting efficiency solutions outside of traditional marketing channels (radio, email, etc.).

Since May of 2013, the Company has delivered a robust statewide community initiative called the Rhode Island Energy Challenge: Find Your Four! (the Challenge). Designed to promote the Company's energy efficiency services and solutions by asking Rhode Islanders to pledge to be more efficient by finding four

ways to save at home ('Find Your Four'), the Challenge leverages existing and new community relationships with entities such as municipalities, businesses, and faith-based groups. Furthermore, the Challenge organizes and manages friendly 12-16 week competitions in order to spur participation from residents, employees, or congregation members, creating a 'call-to-action' for energy efficiency. The Challenge leverages 'energy champions' in these entities to help increase local awareness for efficiency and to help push for greater community participation in the relevant competition, both of which result in a more exciting promotional method of energy efficiency and the Company's portfolio of energy saving solutions. As of mid-September 2014, the Challenge has helped over 4,500 Rhode Islanders pledge to 'Find Your Four', and has created direct public event interaction with over 7,500 customers.

By employing this innovative grassroots approach, customers will hear the important energy efficiency message from local trusted community leaders, which will support and amplify the Company's marketing efforts in the marketplace. The Company will continue the Challenge in 2015 and will seek to leverage its grassroots approach to bring efficiency awareness and services to historically hard-to-reach customers.

Delivery

Since its initial launch in May of 2013, the Challenge has established several municipality-based competitions, helping Rhode Island towns and cities to get 5% of their respective resident base to take the pledge to be more efficient by finding four ways to save energy at home. Winners of the Challenge have included North Smithfield, Newport, and Warwick, all of whom were provided with 'Energy Champion' street signs, as well as a grant from National Grid of $7,500 for efficiency improvements in any town building (via participation in the RI Public Energy Partnership program[9]). The Company has also engaged with several Rhode Island businesses and faith-based groups through the Challenge, helping them to get 10% of their employee base or congregation to commit to 'Find Your Four'. Successful businesses have included Blue Cross Blue Shield, Banneker Industries, Arpin Van Lines, and G-TECH, while nearly half a dozen of Rhode Island places of worship have achieved the 10% mark, obtained with the help of the Rhode Island chapter of Interfaith Power and Light. For these progressive faith-based groups, National Grid presented them with a prize of $500 for efficiency improvements within the respective place of worship.

In addition to the friendly competitions via the 'Find Your Four', the Challenge has also served as an effective cross-promoter of the Company's many efficiency services and offerings. By working alongside or representing the Company at various community events (PawSox games, WaterFire, town BBQ's, etc.), the Challenge is able to successfully generate awareness for energy efficiency, and more important provides direction to customers on immediate ways to save at home, such as calling to schedule a no-cost home energy assessment or buying efficient light bulbs at a local retail center.

[9] See Commercial section for more information on the RI Public Energy Partnership program.

2015 Enhancements

In 2015, the Company will seek to enhance its community initiative, the Rhode Island Energy Challenge: Find Your Four!, through the following strategies:

- Expand the Challenge to customers in new markets, such as income-eligible communities and renters. Traditionally seen as harder-to-reach customer groups for program participation, the Company will leverage the grassroots approach of the Challenge to more effectively deliver efficiency awareness and services.
- Build on pass success with Rhode Island businesses. Since April of 2013, the Challenge has engaged with several Rhode Island businesses, many of which have utilized the Challenge as an employee engagement tool and a fun way to provide them with important information about energy efficiency. The Company recognizes the long-term value of this collaboration with Rhode Island businesses, and will continue to use the Challenge as an effective program lead-generation tool for participation in its residential and commercial efficiency programs.
- Integrate with the Office of Energy Resources and CommerceRI's Solarize RI campaign. Beginning in the fall of 2014, Solarize RI is seeking to utilize the grassroots community approach to help encourage solar installations in load-constrained across the State, and will be contracting with the same vendor as that used by the Company's community initiative. As the Company and the vendor both recognize the important connection between energy efficiency and renewable energy, as expressed by the Company's commitment via the 2015-2017 Energy Efficiency Program Plan to prioritize system integration efforts, the energy efficiency message of the Challenge will extend to the Solarize RI outreach effort such that customers understand the value of implementing energy efficiency before looking to install renewable energy systems.

Residential Pilots

Overview

The residential electric and gas pilots will pursue technologies in 2015 that the Company feels will provide increased energy savings possibilities for our customers. In addition to that, the technologies selected will need to provide safe operation, reliability and a great customer experience.

We intend to pursue technologies that may or may not be deployed in our markets. For technologies already being installed in our programs, the program manager is looking at deploying a technology in a different manner to allow for increased gas/electric savings.

Technologies which are planned to be considered for pilots during the program year include the following: Ducted Variable Speed Heat Pumps, Connected Home Devices and Metering/Customer Insight Messaging in a simplified easy to install manner.

Delivery

National Grid will implement the program using Rhode Island contractors as well as internal and external subject matter experts to provide a positive customer experience. We will work with manufacturers, NEEP, CEE and other collaborative stakeholder groups to develop and install technologies using the most current technologies and best practices.

During previous years, we have conducted very successful pilots which brought emerging technologies to the market. In 2014, we will have completed the implementation of 3 pilots. Automatic Temperature Control, Energy Monitoring (Using a thermostat and bill estimation) and a Behavioral Thermostat pilot. The products were well received by the market.

We consider the market potential of a specific product, and how that product might fit in our portfolio before initiating a pilot. Our main objective is to develop products that can be used by the mass market within a relatively short period (1-3 years). We also learn what potential barriers contractors and vendors will encounter, we can then better design programs to address these issues.

Meeting 2015 Goals

The program will strive to roll out all of the technologies being proposed. Products will be thoroughly lab tested before installing in customer homes. National Grid will only install products that meet our highest standards with the intent of providing products and services to Rhode Islanders that will provide future energy savings, and quality of life benefits.

Marketing

Overview

The goals of the Company's marketing efforts are to build awareness, educate customers, and drive participation in the Company's efficiency offerings and services. The Company uses an integrated approach with general awareness tactics (i.e. print ads and radio) as well as digital and direct one-to-one tactics (such as e-mail and direct mail) at the program level to generate interest.

Delivery and 2014 Success

In 2014, the Company's overall awareness campaign centered on the theme of 'Rhode Islanders Know'. This campaign was critical to driving energy efficiency awareness (which reached 64%) and significantly impacted program participation. The creative concept used in the *Rhode Islanders Know* campaign was unique in its ability to tap into the inherent pride Rhode Islanders have for their state. By utilizing local state facts in the campaign tactics, the creative achieved its goal of being engaging and memorable to

capture customer attention while informing them about the energy efficiency programs and services offered by the Company. Additionally, the *Rhode Islanders Know* campaign received the bronze award from Chartwell's Best Practices Award for Marketing.

At the program level, innovative marketing approaches have also been taken. Below are examples for two key residential efficiency programs.

Lighting and Products
Through the Residential Lighting and Consumer Product Programs, offering short-term social shopping promotions to residential customers has proven to be a highly successful strategy. Through the Company's Facebook page and an online storefront, heavily discounted energy-saving products are sold over a period of about 10 days. Products have included CFLs, LEDs, advanced power strips, low-flow showerheads, and room air cleaners. Customers who purchase these introductory products are likely predisposed to participate in other energy efficiency programs, as they have expressed an interest in saving money and energy. The Company includes a flyer detailing additional savings opportunities in the package containing the customer's product(s).

EnergyWise Home Energy Assessment - GetHouseFit
Because energy efficiency is not always easy to understand or relate to, *GetHouseFit* sought to create a connection between how customers think about their bodies and how they consider energy use their homes. Many people seek to "take care of their bodies" by working out, eating well, or getting enough rest. Those actions result in greater energy, better health and improved quality of life. These aspirations are widely shared and broadly understood. With *GetHouseFit*, the Company equated personal health with home efficiency. *GetHouseFit* presented efficiency improvements as ways to "get your home in shape," the result of which would improve overall quality of life for customers by saving them money and increasing home comfort. The campaign created an emotional connection between individuals and their homes by encouraging customers to think of their homes as living, breathing entities. This unique, emotion-based message was coupled with a progressive and detailed connections plan to communicate with customers in the right place and at the right time. The comprehensive plan included a mix of awareness, digital and event based channels as follows: Awareness: Print & Vehicle Wraps; Digital: Geo-Targeted Paid Search, Banners Ads, Facebook Ads, Pre-Roll Video; Presence at Community Events; RI Home Show and WaterFire Providence.

Overall, the Company looks to optimize marketing performance by reviewing responses to marketing channels and testing new and innovative channels, as well as creative and messaging executions. The Company then continues with the tactics, messaging and creative which proves most effective in terms of responses and generating leads. Digital channels have proven most effective to date, with pre-roll video (advertisements which run before content on Hulu, YouTube, and other online video providers);

rich media banner ads; traditional online banner ads; search engine marketing through Google, Yahoo, and Bing; and social media content and advertising.

Another way to optimize results is through targeting marketing efforts to likely program participants. The Company continues to test the propensity models for each program, whereby the Company markets to customers who have similar demographics and characteristics to past participants. An increase in response rates has been seen in direct marketing to channels among those customers with a higher likelihood or propensity to participate. The Company will continue to update the propensity models and test the response rates and lead generation to keep improving response and participation rates.

Meeting 2015 Goals

In 2015, the Company will be launching a new umbrella creative campaign for awareness and promoting participation in energy efficiency services. The strategy will be to use one overarching creative execution, messaging, and connections strategy for high-level awareness campaigns as well as program-specific promotions – similar to the Home Depot model. Research indicates there is a specific customer journey to participating in an energy efficiency program: the customer is unaware of opportunities > becomes aware of savings programs > decides "I want it" > realizes it's attainable > and then participates. The Company must first make people aware of the programs; educate them on how these programs can help make their life better while saving money and energy; and then serve up a combination of direct and digital tactics to move them along the path of participation. Taking this step should further increase overall awareness in Rhode Island and optimize results. The Company is currently developing and testing different strategies for a consistent look and feel and messaging to use for energy efficiency. The new messaging strategy and creative execution is currently under a comprehensive review using customer research to gain their input, direction, and feedback before launching in market during Q1 2015.

Partnerships

Overview

Although the Company is the administrator of Rhode Island's energy efficiency programs, sustained success is only achieved by effectively working with other companies, organizations, and agencies. By investing in these collaborative relationships every year, the Company is able to expand outreach of its residential efficiency offerings and services. Whether it is the Office of Energy Resources regarding the integration of energy efficiency and renewable energy projects, or non-profit companies through various community initiatives, partnerships are critical in building awareness and understanding of energy

efficiency, but also in helping Rhode Islanders better access and participate in the many energy efficiency programs. Several of the current residential partners include:

- Rhode Island DSM Energy Efficiency Collaborative (Office of Energy Resources, Energy Efficiency Resource Management Council, Division of Public Utilities and Carriers)
- Commerce RI
- Rhode Island Housing
- The RI Alliance for Healthy Homes, led by Green and Healthy Homes Initiative
- RI Interfaith Power and Light
- RI Building Code Commission
- RI Builders Association

In 2015, the Company will continue to invest in these existing partnerships, while also seeking to identify and develop new ones.

Winter Natural Gas Peak Demand

The Company recognizes the financial impact on customers due to increases in winter electricity prices during periods of high demand for natural gas. Due to this rise in costs for electricity and the increased consumption of natural gas for winter heating purposes, the Company is committed to identifying and implementing a number of strategies that can help customers better manage consumption at these times of peak demand, thereby decreasing the overall financial impact. While a number of the strategies have been described in more detail in the above program descriptions, below is a summary of those proposed mitigation strategies:

1. Increase the number of efficient light bulbs (i.e. LED's) purchased and installed through enhancements in the direct install programs and in mobile lighting events.
2. Increase the volume of electric and gas-heated Rhode Island homes that implement air sealing and insulation measures.
3. Target high electricity consuming and electric resistance-heated homes to help drive down total electric use.
4. Leverage the RI Energy Challenge: Find Your Four! initiative to spread awareness about the positive impacts of behavior change and energy efficiency during times of peak demand.
5. Develop and introduce messaging to prepare customers for high bills and how energy efficiency can alleviate potential cost pressures.
6. Leverage the wide dissemination of the Home Energy Reports to drive additional awareness and education around winter peak demand for natural gas.

7. Collaborate with the Company's billing department on appropriate bill inserts that call attention to peak demand issues and mitigation strategies.
8. Inform HVAC contractors of peak demand issues so they can appropriately explain the need for energy efficiency to customers.
9. Increase the number of Wi-Fi thermostats installed in customer homes, thereby providing a potential opportunity for demand response capabilities in future winters.
10. Develop and disseminate newsletters to help retailers understand peak demand issues and encourage them to educate customers accordingly.
11. Develop targeted messaging, outreach campaigns, and program strategies for moderate-income Rhode Island households (60-100% of the Rhode Island median household income), who may be disproportionally stressed by winter electric prices.

ATTACHMENT 2

2015 Commercial and Industrial (C&I) Energy Efficiency Programs and Initiatives

Introduction

In the Company's three year plan that was recently approved (2015-2017), four central principles are outlined which encompass an advanced and innovative approach to serving commercial and industrial customers and the building industry at large. The Company believes that these four principles are apparent in all aspects of the 2015 plan and incorporates the planning process which included many listening and brainstorming sessions from internal teams to external stakeholders. The four guiding principles are as follows:

- **Promoting cost efficiency**: Through financing options going beyond incentives, and other cost effective ways of delivering energy efficiency like upstream products, codes and standards, education and awareness for customers.

- **Empowering communities and markets to be energy efficient**: Collective energy efficiency through cities and towns, interactions and networking with vendors, suppliers and distributers to serve all sizes of customers, provide tools to customers to manage their energy usage and develop strategies and technologies based on market sectors.

- **Innovation to capture untapped savings**: Offering solid state street lighting upgrades, laying the foundation for Zero Energy Ready buildings, and continuing to explore and test new technologies to provide deeper savings to Commercial and Industrial (C&I) customers.

- **Developing opportunities for system level savings and integration:** These are new efforts that will consist of research and development of demand response programs for future implementation, an active outreach for CHP technology, and interactions with renewable energy stakeholders to promote better integration with renewable energy.

The C&I section of the 2015 plan is laid out as follows:

The plan begins with describing the four main distillates (titled "**Central Themes**" below) that are necessary in order to reach the Company's energy savings goals, and to deliver on the overarching themes of the 2015-2017 plan mentioned above. The Company believes that these broad concepts of the 2014 program year will continue in 2015 with many enhancements and additions to these themes:

- A better Customer Experience
- Market Sector Approach

- Affordability and Financing
- Education, Awareness and Trainings

Next, the C&I section divides the description and details of the plan into three main parts, focusing on the three types of programs (Titled **"C&I Energy Efficiency Programs"** later in this section):

- A Large C&I New Construction program that focuses on offerings that target ground up new construction, major renovations, tenant fit-outs and end of life replacement equipment.
- A Large C&I Retrofit program that focuses on all services and technologies towards retrofits needed for existing buildings.
- A Small C&I Direct Install program that focuses on a program that provides turn-key solutions to all small businesses.

Central Themes for Efficiency Programs

The following section describes the four broad areas mentioned previously and how they will connect with all the Commercial and Industrial (C&I) Efficiency Programs and strategies: Large Commercial New Construction, Large Commercial Retrofit and Small Business Direct Install, described in the following sections of this document.

Better Customer Experience

Streamlined Transactions and Technical Review Process

The Company is committed to continue providing our customers with a more efficient project enrollment and application (transactional) experience. The introduction of a Customer Relationship Management System in 2013 has helped the Company track time spent in application transactions and has enabled reductions in turnaround times. In 2014, the Company formed an internal Process Excellence Team which will work to assist various internal organizations, including Energy Efficiency. The primary role of this team is to review current processes and then provide solutions to improvise and expedite. Specific to energy efficiency, the focus will be on improvising the applications process, transactions, and building Technical Assistance (TA) review process.

A few steps in 2014 have already been taken regarding the TA reviews. The first step in customer engagement for projects is that the Company offers engineering service providers (TA vendors) to supply scoping studies (energy assessments) to help target gas and electric energy efficiency opportunities at no charge to the customer. In 2014, the Company refreshed our list

of TA vendors, removed redundancies and categorized the vendors into generalists and specialists, and shortened the review cycle of projects. This will help streamline the TA process significantly.

Data Analytics & Virtual Audit Tools

The Company has been exploring many paths to Data Analytics that we believe is a key component in getting deeper insights into our customers' energy use. These innovative tools integrate analytics with building energy reporting platforms to enable remote energy performance insight into buildings, reducing the need for costly on-site assessments.

The Company, through its Analytics, Modeling & Forecasting group, has been working jointly with the DOE's National Renewable Energy Lab (NREL) to develop a comprehensive suite of tools designed to determine and analyze the potential energy efficiency savings at the individual building level (by individual energy efficiency measure). The process is designed to minimize the time and expense associated with conducting intensive site visits by making use of an extensive array of data and advanced "artificial intelligence" technology. With this set of tools, the Company can achieve comparable results to a Level 1 building audit without necessitating a site visit and incurring incremental costs.

This is the first stage of a multi-staged process that will form the foundation of National Grid's ground up approach to addressing the energy efficiency potential in commercial buildings through which we expect to be able to i) determine customer/building-specific energy savings opportunities ii) optimize marketing and sales efforts through customer targeting and prioritization, iii) assess overall market potential

At the heart of this work is a significant amount of advanced technology development, modeling, analysis, research, internal data, and external data that will serve to enable the building level analysis to be understood from multiple facets such as technical, economic and achievable potential:

It is anticipated that this suite of tools will be available in late 2015 or early 2016 and will become the means for the Company's sales representatives to work with commercial customers to identify the potential for energy efficiency investments and savings. In the meantime, the Company will continue to use its existing tools like past participation, customer annual usage, marketing & outreach, and on-site audits.

Tools for Customers' Management of Energy Usage

The Company intends to help customers access their energy data to allow for greater awareness of energy consumption. The Company will seek to achieve this through various methods described below:

Automated Benchmarking Systems: The Company is beginning to make progress into offering automated connections of utility data with Energy Star's Portfolio Manager. Originally conceived as a way to streamline RI Public Energy Partnership's (RIPEP's) benchmarking effort, the EnergySmart Grocer initiative and multifamily projects benchmarking, our current efforts focus on having this channel be available to all commercial customers who desire to take advantage of the tool. The Company is committed to having a working version of this tool in 2015.

Green Button: National Grid currently provides customers the ability to view and download their energy usage information. Customers can view up to two years of their usage data under their "My Accounts" page in an XLS format. Customers can also compare their current usage and cost to the previous year's usage and cost, along with outdoor air temperature, in a graph format. This information can be viewed once you log into your account, under "My usage and cost graphs" page. In addition to this, National Grid plans to launch the Green Button by the end of 2014 for all its customers in Rhode Island. The Green Button initiative is an industry-led effort that responds to a White House call-to-action to provide utility customers with easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format. The Green Button will allow customers to securely download thirteen months of their usage data, in an XML format. Customers can then use this data to analyze their usage on their own or use third party tools to benchmark their usage. Once the EPA "Portfolio Manager" automated services are available to all customers, they will have Portfolio Manager and Green Button as options to manage their data.

Building Asset Rating: The Company will work with Rhode Island stakeholders including RI-OER and NEEP to identify a strategy for building asset rating in commercial real estate sectors in Rhode Island. Building Asset Rating will provide greater transparency into the energy performance of a given building. In 2015, the Company will review the results and data of a pilot initiative that is already underway in MA and will then work with the stakeholders to propose a similar effort in RI.

Market Sector Approach

The Company spent a major part of 2012 and 2013 strategizing on appropriate market sectors to target going forward, along with a preferred delivery mechanism associated with each sector. Based on a combination of internal and contracted studies done in those years, the Company

identified dedicated verticals in 2013, continued in 2014 with enhancements and will again continue these in 2015, with further enhancements. These sectors include:

- Grocery/supermarkets
- Industrial/manufacturing
- Municipal & State
- Hospitality (restaurants & lodging)
- Specialty buildings like data centers, nursing homes, farm/agriculture
- Hospitals
- Colleges and universities
- Multifamily

The Company will also seek to identify additional underserved, or hard-to-reach, sectors, and will develop appropriate means of providing EE services for them. Sections below provide details on each of the current market sectors.

Dedicated Approach to Large and Mid-Sized Customers

The sales and operations teams of the Company are structured to address unique needs of customers depending on their annual usage, peak demands and market segmentation. Customers with annual average demand of 500 kW or greater and 50,000 Therms or greater gas usage are managed by individual sales representatives. In the first quarter of 2014, the Company restructured this sales team to align them with the market sectors identified in 2014 and mentioned above.

In addition, in the second quarter of 2014, the Company identified a specific sales team that will be responsible to meet the needs of mid-sized customers with annual average demand between 200 to 500 kW and less than 50,000 therms of gas. This group referred to as channel sales will be responsible for addressing the needs of these customers based on market sectors which includes healthcare (assisted living/nursing homes), offices, retail, industrial, real estate and hospitality. This group will also be responsible for one-on-one interactions with trade allies that specialize in end uses that make up a majority of the electric and gas savings in the Company's portfolio. In addition, this group will also have interactions with vendors, distributors, installers and suppliers. Channels include: lighting; HVAC; CHP; refrigeration; compressed air and domestic hot water.

Grocery Sector

The Company will continue to provide targeted energy savings opportunities to Rhode Island's grocery sector through the EnergySmart Grocer (ESG) Initiative. Since 2013, the ESG third party contractor has been working with grocers to identify retrofit and new construction measures and has gained a lot of momentum and generated a pipeline of projects for 2014 and 2015 with expected delivery in 2014 at 100% of goal. In 2013, this initiative helped save grocers approx. 2.3

million kWh of electric savings, followed by 4 million kWh potential savings in 2014, and is expected to save 5 million kWh in 2015.

The customers served by this Initiative include facilities with commercial refrigeration engaged in retail food sales. They may consist of local, regional and national retail facilities that include, but are not limited to, smaller grocery stores, supermarkets, big-box stores, and pharmacies with a peak demand of 60kW and above. ESG provides unitized incentives for the most common refrigeration measures. This gives customers an upfront and easy to understand incentive offering which leads to easier project planning and investment decisions. In 2014, this Initiative has also created ENERGY STAR Benchmarking profiles for 29 customers. This allows these customers to make more informed decisions about their buildings.

The measure mix in 2014 included: Night covers, LED case lighting, LED shelf or end-cap lighting, adding doors to open refrigerated cases, refrigeration controls (floating head pressure control and floating suction pressure control), appropriate LED fixtures or solutions for walk in refrigeration/freezer areas, exterior LED parking lot lighting, and EC Motors in refrigerated walk-ins and cases. ESG ran promotions for both adding doors and floating controls which increased uptake on these measures as well as promoted exterior LED lighting applications. If a customer requires any lamps that are covered by our Upstream lighting initiatives such incandescent replacements, the customer or their installation contractor would acquire these lamps at a discount from their lighting distributor. In 2015 ESG plans to launch an expedited pathway for Hybrid condensers, a combination air and evaporative cooled system that boost efficiency and increases capacity over traditional air cooled condensers. ESG is also looking at uncontrolled ventilation hoods as an area for targeted marketing and increasing customer uptake in 2015.

Over the course of the last couple of years of implementing ESG, the Company believes that marketplace understanding has grown tremendously through targeted outreach (for example Rhode Island Food Dealers Association and others). In addition, the Company learned that face-to-face interaction with customers is key to success within this market sector. The Company also learned that greater integration across other offerings like the Small Business Direct Install program could lead to better customer service and more successful projects. As a result, in 2015, the Company will incorporate ESG services for all small grocery customers as well.

ESG plans to launch a marketing and outreach campaign to Rhode Island grocery customers promoting the retro-commissioning (RCx) pathway to savings. RCx is the process of reviewing existing equipment and systems within a building to ensure that they are working as efficiently as possible and operating as intended.

Municipal and State Buildings

The Municipal Initiative continues to be refined as the Company gains more information about what is most effective in motivating these customers, as well as vendors. The Company will also continue to provide staff time, technical analysis support, and customer incentives in the

context of its in-kind services and support role to achieve overall Project Objectives of RIPEP (Rhode Island Public Energy Partnership, managed by OER).

Even though numerous projects and applications (approx. 200 of them) were generated through this initiative in this year alone with huge energy savings for the customers, it has been challenging for the projects to meet the 20% "total" energy reduction requirement set forth by the RIPEP initiative, and to meet the 100 buildings challenge by end of 2015. The Company realizes the first cost barriers and availability of initial capital that municipal customers face to implement energy efficiency upgrades in this sector. In addition, state projects can run into multiple years and it would be helpful to state planning groups to have a sense of exact amount of incentives available for a longer period of time, going beyond one calendar year.

Together with the RIPEP team headed by OER, the Company is working to prioritize those projects that can realistically achieve the 20% mark by the end of 2015. In addition, some of the strategies that may be explored and employed in 2015 include the following:

- **Addition of Street Lighting in RIPEP tracking**: The RIPEP team may include street lighting upgrades by municipalities (for customer owned lights) as part of this initiative. (More details on street lighting in the "C&I New Construction Program" section of this filing). The Company's sales and technical team will work with State owned lighting facilities to identify energy savings goals for 2015-2017 through high level audits and evaluations. Based on these audits and evaluations a streamlined custom option will be provided to the customers.

- **Automated Benchmarking Services (ABS**): Refer to section above "Tools for Customer Management Tools for details on this topic.

- **Energy Manager Support:** The Company may consider providing incentives to facilities to cover the costs for their energy managers who will then identify energy efficiency opportunities for the municipal buildings and manage the implementation as well. The state has already issued an RFP and has awarded engineers to act as the owner's agent or engineer. The Company may support a portion of these costs.
- **Financing:** The Company will continue to work on expanding On Bill Repayment to gas measures. In addition, the Company will engage with third party financing companies to develop cash flow neutral project financing solutions for these customers.
- **State buildings specific training to facilities staff**: Improve operations and maintenance through specific state and municipal facilities staff trainings in addition to the Building Operators Certification trainings that we currently offer.

Manufacturing/Industrial

The Industrial Initiative that started in 2013 has gained a good deal of momentum with our large industrial customers. This had a slow start in 2013, but has ramped up in 2014, currently enrolling seven of our large manufacturing customers. Some of the highlights of this initiative include:

- An industrial specific technical expert team (TA Vendor), Leidos Inc., provides support to our sales team and provides technical solutions to our industrial customers. These solutions include process energy related solutions, management change recommendations and other HVAC and lighting related options.
- An incentives package that meets customer payback criteria
- A detailed TA study at 50% co-pay, with 50% co-pay, which will be absorbed by the Company if customers implement >50% of measures.

The Project Management Incentive, where we provide financial incentives to customers to hire Project Management (PM) services, is based on 20% of each measure's annual KWh cost savings. The intent of this incentive is to overcome the lack of sufficient customer staff time to move projects forward. The PM incentive is only paid if the project is completed. This initiative has surpassed its goals by enrolling seven customers, with estimated savings of approx. 800,000 Therms and 7.5 Million kWh savings. In addition, this has assisted us in building a trusting relationship with our top industrial customers in RI.

In 2015, the Company will expand participation to all large industrial customers, continue to maintain the key features of this initiative, and continue with the same TA vendor, along with the following enhancements:

- Customer needs assessment: The sales team and TA vendor will conduct customer needs assessments in order to provide the best approach for the customers. For example, some customers may not be ready for a scoping study initially and may need more assistance in management of their energy before they can identify the need for scoping studies. We will categorize customers based on levels of needs and develop different implementation paths depending upon their needs.
- We will identify a few large customers where we will pursue an SEM/continuous energy improvement approach. For these customers, we will play the role of energy advisors, go deeper into their facilities, and identify long-term energy efficiency strategies. In addition, we will form 'energy teams' with the customer's organization emphasizing staff trainings and determining Key Performance Indicators (KPIs) for the customer. These strategies can help facilitate a culture change within the organization and can ensure continued attention to energy efficiency, operations and maintenance.

For the small and medium sized industrial/manufacturing facilities, the Company now has a single point of contact internally who will be responsible for identifying opportunities in the New

England region and will work closely with vendors and trade allies to support energy efficiency upgrades in these industrial facilities. This may include CHP opportunities in addition to other energy efficiency strategies.

Hospitality

As mentioned earlier, the Company's sales organization is now structured by vertical markets. There is one sales representative from the larger accounts, and two representatives from mid-sized accounts that focus on the Hospitality sector in RI and MA. Working in conjunction with the Rhode Island Hospitality Association, the Company will focus on efforts to provide energy efficiency solutions to this audience. This includes attending association events, contributing to the association's newsletters, and offering webinars for the Hospitality audience.

In 2015, research will take place to expand the commercial refrigerator recycling program to include commercial refrigerators and freezers. There is a significant market for second hand commercial kitchen equipment. By taking this equipment off the grid, energy savings can be achieved that would otherwise be wasted in the form of less efficient equipment operating on the system compared to newer units.

The Company has observed a high level of participation by Hospitality customers in the Upstream Lighting Initiative in both RI and MA. As a result, the Hospitality sector has been identified as an opportunity to go deeper with savings beyond Upstream Lighting. National Grid is working with outside contractors to provide recommendations and turn key installation of electric saving measures beyond lighting that will make it easy for the customer to incorporate into their installation plans. This may include enhanced incentives.

In addition, the Company is in the process of reviewing a technical and cost proposal with our partner Southern California Edison (SCE) for a concept called "Sustainable Hospitality Design". National Grid and SCE seek a series of templates that hotels, motels and other lodging facilities may use to design and control lighting, plug loads and mechanical systems in guest rooms.

Specialty Buildings:

1. Nursing Homes/Assisted Living

National Grid is investigating the benefits of utilizing energy managers in nursing homes, assisted living and rehabilitation facilities. The Company has interviewed numerous utilities in the United States and Canada and has concluded that supporting an energy manager to be shared across several facilities could be an effective way to obtain both operational savings and bring in capital projects, especially gas. In addition to this effort, the Company now has a

dedicated sales representative responsible for outreach to this type of facilities (as indicated in above section).

2. Data Centers /Computer Rooms

Data Centers, smaller computer rooms and large banks of servers remain an area of interest to the Company due to their energy consumption, energy intensity, load shape (use remains high during both summer and winter peaks). In the 2014 plan the Company laid out a few things it was going to do to better understand, connect, and pursue projects with this important group of customers. National Grid has had some successes and some learning experiences from Q3 2013 until the present day that will inform our actions in 2015.

Learning Experiences: One, it is well recognized across the industry that it is harder to locate small and mid-sized operations than large data centers as they are not confined to traditional locations such as government, bank, and insurance companies. National Grid tried to assess the locations and opportunity size through the use of an algorithm designed by a group that claimed to understand the data center world. The Company quickly found that this algorithm had had flawed assumptions and frequently produced both false negatives and positives. This will not stop the Company from trying to find these opportunities, but now understands the limitations of some methods of identification and assessment of potential.

Two, National Grid learned that some vendors had the ability to pique the interest of IT professionals, but lacked the ability to close the project because they lacked the knowledge to correctly estimate costs or predict other problems a data center might run into in the execution of such a project. National Grid now knows that an ideal partner will need to have better costing methodology as well as stronger after application support such as equipment specification and experience coordinating construction or space redesign.

The Future: Despite the challenges above National Grid is positive about future opportunities.

- National Grid feels that it has separated the “wheat from the chaff” in terms of vendor partners.
- As code advances it is producing positive effects. Until recently, the largest manufacturer of equipment for data centers did not make an economizer version for their most popular line. Now it does. Utilizing the colder outside air New England has at least five months of the year, can save substantial amounts kWh and reduce demand during winter peak.
- VFD fan retrofits are becoming popular and are an opportunity in nearly every data center environment.

3. Farm/Agriculture

In 2014, the Company began to work with RI OER to serve agricultural and farm delivered fuel customers with RGGI money set aside for this purpose. National Grid and RI OER are currently working out a process to audit (with a highly specialized farm auditor) and take action on 5-10 larger opportunities while training an auditor from Rise Engineering.

In 2015, National Grid is hoping that this auditor will perform a regular small business audit as well as looking for specific items related to delivered fuels. The Company hopes that many of the thermal measures identified for delivered fuels will also now be available for gas customers, especially related to greenhouses. The company has a good deal of experience in promoting energy efficiency within the agriculture community including a dedicated technical assistance firm with expertise in appropriate technologies and energy savings systems for farms.

Multifamily Sector

The Multifamily Initiative has been running effectively since 2013 and will continue to serve integrated residential and commercial multifamily services per the 2014 plan. In 2015, a new gas measure, boiler reset controls, will be added to the mix of gas offerings to these customers. For further details regarding the Multifamily Initiative, refer to the Residential Section of this Plan.

Approach to Other Market Sectors

Hospitals: The Company will continue to pursue RI's five largest hospitals (all under one partnership) through the multiyear Strategic Energy Management Planning (SEMP) initiative (refer to the SEMP section for more details). In addition, as previously stated, the medium sized healthcare facilities will be addressed through the channel sales group.

Universities: Universities are ideal candidates to be addressed under the Company's SEMP initiative. With a master-metered portfolio of buildings within the campus, most universities are tied to sustainability goals and climate action plans to reduce their greenhouse gas emissions. The Company's SEMP initiative allows enrolled university customers to engage in multi-year campus energy planning and assists them in identifying comprehensive and long-term energy efficiency opportunities. Two universities have already signed up for the SEMP initiative and the Company is working with a third university for a possible partnership in 2015. Refer to section "SEMP" under "Large Retrofit Program" below. Other colleges and universities in RI will continue to be served by a dedicated sales team through the Company's new construction and retrofit programs.

Offices: The office sector remains one of the greatest efficiency opportunities. Many of the office spaces are part of the Commercial Real Estate sector which has many challenges and barriers to participation in the programs, mainly due to the split incentive between owners and tenants. In 2014, the Company launched the "Sustainable Office Design" initiative that addresses Class A type office spaces, described in detail under the "New Construction" section below.

Trade Ally Engagement (TRAEN)

In order to encourage our customers and contractors and to expedite/reduce time in filling out application forms, the Massachusetts Retrofit Program introduced a 48 hour pre-inspection service trial in 2014 Contractors call the vendor (assigned just for this service) to schedule a pre-inspection of their commercial prescriptive electric projects. The vendor provides the pre-inspection within 48 hours and the pre-approval of the project within the following 48 hours. The vendor handles the application process and hands off the project to National Grid after sending a pre-approval letter to the customer and contractor. In 2015, we will expand this service offering to include Rhode Island. The Company will work closely with the vendor who will work through internal systems to prevent duplicate applications from being created. Since the vendor now has experience working directly with National Grid in Massachusetts, this experience will translate to a more efficient process for Rhode Island contractors and customers.

Education and Training

National Grid is committed to promoting leadership in the community, the various market sectors, and trade organizations and associations by providing and sponsoring initiatives and outreach efforts for education and training.

The Company, as in previous program years, will continue to support opportunities to inform customers and trade allies/vendors/contractors that serve the various market sectors, about existing and new or emerging energy efficient technologies, building systems and design, building energy codes and standards, improved installation practices, and up-to-date operation and maintenance (O&M) procedures. By integrating local, regional and national educational and training initiatives throughout National Grid's various C&I programs, the Company hopes to build awareness about the benefits of energy efficient technologies, market National Grid's Energy Efficiency programs, as well providing expertise and experience on the need for integrated design, and improved construction and installation practices for an existing or new construction building project. Deeper energy savings, as well as other non-energy benefits, can be achieved for any given customer project when the customer, designer/engineer, or contractor/installer is able to express or share knowledge about an energy efficient technology, the associated costs, and energy savings potential.

Affordability and Financing

In recent years, there has been significant investigation and discussion regarding the need for financing in RI to support a wider reach for energy efficiency. The EERMC has hired an expert to develop a white paper on financing and the role the Company plays on a related financing subgroup of the Council to better understand the role financing could play in RI's least-cost-procurement resource acquisition strategy and overall clean energy implementation plans. The final deliverable to the Council will be provided in November 2014 so that insights can be factored into 2015 program design and implementation and the following years.

In addition to this, the Company will continue to build upon on-bill repayment options (OBR). National Grid will continue to work with stakeholders to determine the appropriate level of new funding to be injected into the small and large commercial revolving loan funds and will continue its commitment to providing residential customers with financing options. In addition, the Company will examine the potential for new and innovative financing vehicles for customers and possibly expand the existing revolving loan fund with an On Bill Repayment mechanism to include gas measures.

C&I Energy Efficiency Programs

The C&I Energy Efficiency programs are organized in the same way as the built environment – customers are making decisions around their investment in higher performing new construction and existing buildings. Depending on the needs and size of the customer within each of the segments, customers can participate in one of three energy efficiency programs:

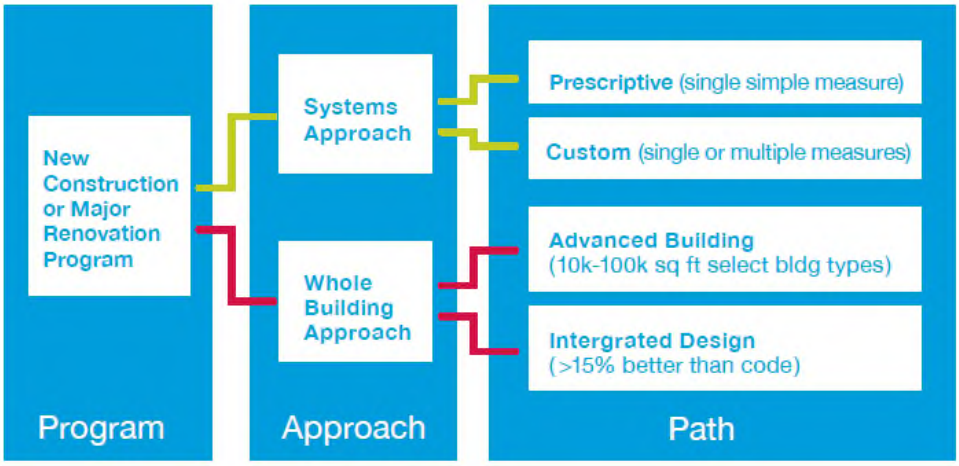
- The Large Commercial and Industrial New Construction Program
- The Large Commercial Retrofit Program
- The Small Business Direct Install (SMB/DI) Program

Although there are three programs in the C&I sector for 2015, all C&I customers are eligible to participate in the Large Commercial and Industrial New Construction Program and the Large Commercial Retrofit Program. However, the Small Business Direct Install (SMB/DI) Program is restricted to customers with 200 kW or less average monthly peak demand. However, larger and more complicated measures not offered by the SMB/DI vendor may need to go through the New Construction or Retrofit Programs. The following sections describe the various offerings under these three programs.

Large Commercial and Industrial New Construction Program

In 2014, the Company incorporated several enhancements for ground up new construction and major renovation projects. A participant handbook was created in the 2nd quarter of 2014 that provides details for all the aspects of these services. The services offered are designed to promote and support high performance building design, equipment selection, and building operation. This program offers both technical assistance and financial incentives based on projected energy savings performance to incentivize building beyond the current energy code baselines. Technical assistance ranges from simple plan review and efficiency upgrade recommendations to complete technical reviews of energy models. The program offers two approaches for ground up new construction or major renovation projects:

- **Systems Approach**: The System Approach is designed for individual measures and for those projects applying later in the design process, generally focused on one or two energy systems to increase efficiency. The graphic below describes the various paths available to the projects.
- **Whole Building Approach**: The Whole Building Approach takes into account a comprehensive analysis of all building measures together and requires collaboration between National Grid and the Design Team from the conceptual design phase through project completion. It encompasses consideration of all energy saving opportunities, including shell, fenestration, equipment and system interactions.



The program enhancements address most of the barriers that were highlighted during a series of stakeholder engagement forums in late 2012 and early 2013. These specifically include: a single point of contact to work with, a clearer definition of all offerings, a participant handbook, an incentive structure based on cost per savings instead of percent of project incremental costs, and the addition of a design team incentive to enable the design teams to be actively engaged in the energy efficiency process.

In 2015, the Company will continue to take the new and improved approach to the marketplace. In addition, the Company will explore better ways to generate leads that may result in actual projects. In addition, the Company will work towards producing economic/pro forma tools for the design teams that will assist them to make a case for energy efficiency to their clients that could potentially result in program participation.

Pathways to Meet Program Requirements

1. Under the **"Systems Approach",** there are two main pathways in the new construction program that customers can use to access high performance equipment and systems to integrate into their building practices.

1a. Prescriptive Path: The prescriptive path is a standard approach for energy efficiency incentive delivery. There are specific requirements for equipment available under National Grid's prescriptive offerings, and each specific prescriptive application clearly identifies the qualification requirements and the incentive dollars associated with each specific measure.

In 2015, the Company will continue to offer prescriptive gas space and water heating equipment and numerous electric measures (for more details on measure descriptions refer to the 2015 Technical Reference Manual).

Prescriptive List for Gas Measures in 2015:

Condensing Boilers
Water Heating
Infrared Heating
Heating controls
Commercial cooking equipment

Prescriptive List for Electric Measures in 2015:

Range of High performance Lighting
Lighting controls: Network; Localized; Outdoor
Variable Frequency Drives
Variable refrigerant Flow systems
Commercial cooking equipment
Chillers

1b. Custom Express Path: There are a few new Custom Express tools that are now available for gas measures. A Custom Express tool can be used for certain projects on a case by case basis. The Custom Express tool is used when more analysis is required than using an average saving amount as is done with prescriptive deemed savings measures. This results in the customer receiving a custom incentive on a timely basis without the need to go through the rigor of a custom project. This happens more often under large Retrofit projects but can be used for New Construction projects as well**.**

1c. Custom Path: In addition to the Prescriptive pathway, the Company provides customers the opportunity to achieve deeper and broader savings with the Custom pathway - this path is often accessed by customers that wish to investigate more complex HVAC equipment and systems with enhanced engineering investigations. Through this pathway, the use of a cost-effective screening tool determines the value of the EE savings and costs associated with these systems.

Custom incentives are offered to support these investigations and purchases for any qualifying cost-effective efficiency opportunity, based on the unique energy savings and cost criteria of a project. These incentives fall outside the scope of standard prescriptive measures. Custom incentives for Large Commercial and Industrial New Construction projects are designed to cover up to 75% of the incremental cost between standard and premium efficiency equipment.

Beginning in 2014, the sales team has flexibility in offering incentives that can be negotiated with the customers based on their financial criteria. The Company has determined an internal lower and upper range of incentives per savings unit. Depending upon the customer's financial needs, the internal sales team determines an incentive that will work best for the customer to

move forward. This method of determining incentives assists the Company to maintain cost control within the program budgets.

In 2015, the company will continue to offer custom gas and electric measures options. (for more details on measure descriptions refer to attachment 2015 Technical Reference Manual)

Custom List for Measures in 2015:

Building envelope measures: windows, insulation
Energy recovery ventilation (ERV)
HVAC Units
Variable refrigerant Flow systems
Commercial cooking equipment
Gas engine Air Source Heat Pumps for Water Heating
HVAC units with heat wheels and/or heat pipes to recover energy from AC
Demand control ventilation (DCV) for kitchen exhaust or make up air unit
Dedicated direct outside air designs

Testing New Technologies in 2014/2015: New technologies (given below) are being explored in 2014, and will be added to the list of potential measures/technologies in 2015 (these could either be handled via prescriptive path or custom path, to be determined during testing stages).Some of these technologies may be applicable for new construction and retrofit projects:

- Air Source and Water Source Gas Engine Driven Heat Pumps
- Nextaire, Intellichoice Gas Fired Heat Pump with Variable Refrigerant Flow
- Removal Jackets for valves, fittings and specialty piping fixtures in boiler rooms and other mechanical spaces.
- Radiator Labs – Adds climate control, safety and efficiency to steam heat.
- EcoVent – Smart HVAC monitoring and control system that reduces temperature imbalances and saves energy.
- Dragon Fire vent hood filters – This technology is being evaluated by RISE in 2014 in South Boston.
- Advanced Rooftop Unit controllers. These are good for big box stores.
- Energy Recovery Ventilation (ERV): Any HVAC distributor can use this – heat wheel, air to air heat exchangers, heat pipes, enthalpy wheels.
- Pipe, Valve and tank Insulation tool is used to calculate savings for insulating steam or hot water piping, valves and tanks for customers with less than 50,000 Therms per year.
- Direct Control Ventilation (DCV) for kitchen exhaust tool
- On-Premise Laundry Solutions

- Xeros Commercial Alternative Laundry systems that use 50% less gas, 50% less detergent, and 70% less water than standard washers
- DrySmart gas dryers
- Advanced technology motors to replace induction motors
- HVAC smart chip for small customers to delay fan running time.
- High frequency battery chargers for fork-lifts for use in warehouses and industrial applications

2. Under the "**Whole Building Approach**"**,** there are two main pathways for customers who choose to do comprehensive and integrated designs for their projects.

2a. Advanced Buildings® (AB) is the name given to a comprehensive set of prescriptive criteria for commercial new construction built around delivering the New Building Institute's national Advanced Buildings program. This is designed for a range of building types, including offices, schools, retail, and public assembly in the 10,000 to 100,000 square foot range. An AB Guide Book lists a set of criteria that need to be met in order to participate in this path. Project teams can choose between three tiers, depending on how deep they want to go in terms of energy efficiency, which is based upon a percentage requirement above IECC code. Fixed incentives based on square foot are provided to project team for support of incremental costs. A fixed incentive to design team for attending a design charrette/workshop is also provided.

2b. Integrated Design Approach is most applicable for buildings that are greater than 100,000 square feet or buildings smaller than this size that are not a good fit for the Advanced Buildings path. Both owners and design teams are eligible for incentives or projects that perform 15% better than the energy code. Based on feedback from owner and design teams, the Company has moved away from providing incentives based on the 75% of incremental costs for these types of projects. Instead, the Company has now structured the incentives to better align with the language of which the project teams are familiar. As a result, incentives are now based on a cost per savings unit: $0.35/kWh and $1.70/therm. In addition, because this path requires significant amount of effort from the design teams, incentives based on costs/savings are also provided to design teams: $0.07/kWh and $0.34/therm. In addition, a fixed incentive is offered to design teams for attending a design charrette/workshop that will enable them to incorporate energy efficiency early on within the project stages.

Operational Verification

To ensure that energy savings projects are installed and operated as designed, the Company will continue to provide operational verification service in 2015 as in previous program years. This service will continue to be served by independent third-party vendors for verification of complex building systems, including HVAC projects involving energy management systems or other controls, are properly installed and operating as designed. National Grid requires all projects which receive an incentive over $100,000 to undergo operational verification. This service (also termed as 'commissioning' in building industry terms) is also promoted for any projects where

the savings are dependent on control measures or operational improvements. Typically National Grid provides these services at no cost.

Initiatives specific to New Construction

Specific initiatives are listed below within the new construction portfolio that address unique needs of the new construction market sector:

1. Solid State Street Lighting

Customer Owned
As of August 1, 2014, municipal customers in Rhode Island are now able to purchase their own street lights. Under the S-05 rate, there are four scheduling options for street lights or area lighting: continuous, dusk-to-dawn, dimming 70% and part night. For those municipalities that express interest in purchasing the existing National Grid owned street lights and converting the existing lighting to energy efficient solid state street lighting, the Company will provide support. As is true for other energy efficiency programs, incentives for qualifying energy efficiency technologies will be provided to customers as funding allows. National Grid staff will work closely with the OER and RIPEP.

Company Owned
The Company will continue investigating whether it is able to offer a rate for company owned LED street lights where the net cost to the customer is lower than the existing street lighting rates.

2. Products Through Upstream

Upstream Lighting

On February 1, 2012 the Company launched its upstream lighting initiative officially titled "Bright Opportunities Rhode Island."

Since its launch the initiative has expanded from four (4) LED lamp types to ten (10) types of LED lamps and four (4) types of fluorescent lamps. The Company recently added two (2) types of fixtures (LED recessed lights and stairwell fixtures) to the product mix. The Company projects that this initiative will have saved more than 50,000 net MWh by the end of 2014.

In 2015, National Grid will continue to add products that the Company's feel are best distributed through this method and serves the needs of the customer.

Upstream HVAC

The success of the Upstream Lighting initiative encouraged National Grid to explore other areas where the Upstream model could be used successfully. After some research, the Company decided to issue a joint RFP with the Massachusetts Program Administrators (under the "Mass Save" umbrella) for a company to run and initiative that will allow upstream Unitary HVAC and Heat Pumps up to 25 tons.

The Company and its partners selected EFI/CSG as a partner in this initiative. The Rhode Island portal for submission was opened on September 16, 2013. This initiative has produced roughly the same amount of savings that the "Cool Choice" initiative that it replaced. The Company has determined that there are several reasons that a lift from the traditional model did not occur and is working to remedy them.

Upstream Gas Equipment

National Grid is in the beginning stages of investigating various gas hot water measures that may be appropriate for the Upstream model. As always, we will work with our MA partners to make sure we have the best information and deploy a program that is easy to understand and causes the minimal amount of confusion to our employees and vendors.

3. Compressed Air

The Company intends to continue pursuing two general paths for compressed air savings in 2015. One group of solutions can be applied to customers of all sizes and the other will be through our industrial initiative which will work to address energy and process concerns of National Grid's largest and most complex customers.

Path One (Customers below 500kW)

1. The Company will continue to offer prescriptive compressed air measures such as energy efficient compressors, dryers, zero loss condensate drains, storage and low pressure drop filters.
2. National Grid will continue to offer a leak detection and correction initiative.
3. Account Development, Outside Sales and Channel Sales will continue to offer Technical Assistance studies to customers who could benefit from a more comprehensive look at their compressed air systems.

Path Two

As described in other parts of this plan, the company has engaged seven (7) industrial companies as part of our Industrial Initiative in 2014. Each of these companies received, in their Technical Assistance (TA) studies recommendations to improve their compressed air system(s), if appropriate. Six (6) of these seven (7) companies are actively pursuing compressed air projects.

National Grid is actively recruiting up to ten (10) more customers for Industrial Initiative in the 2015 program year. Based on what we seen in 2014, it is likely that these companies will also have compressed air savings opportunities and choose to pursue them.

4. Building Energy Code and Appliance Standards

The Codes and Standards program (C&S) is an innovative efficiency offering that saves energy on behalf of ratepayers by creating: 1) an environment that achieves greater compliance with existing and any new building energy codes, and 2) strengthens and promotes energy efficient appliance standards and accompanying consumer purchasing incentives.

The "Energy Code Technical Support" the 'on-the-ground' name for National Grid's "Code Compliance Enhancement Initiative" (CCEI) is a focal point of the C&S program, will be entering its second full year in 2015. This consists of in-person classroom and hands-on trainings, webinar presentations, project-specific technical assistance circuit riding, and dissemination of documentation tools such as monthly code-related bulletins. There are, and will continue to be, associated energy savings attributable to the Company for its efforts in helping to improve Rhode Island's energy code compliance levels. This support will continue focus on both new and existing residential and commercial buildings with the desired end goal of reaching 90%+ code compliance in both sectors.

Energy Code Technical Support will continue to move forward in 2015, building upon the successes of 2014. As of mid-August 2014, there have been about 350 attendees at the various classroom trainings. In July of 2014, the first "live" webinar was launched. This initiative has also fostered partnerships with several entities throughout the state to assist with training session space, networking, etc. These entities include Rhode Island Builders Association, U.S. Green Building Council, and American Institute of Architects. We have also collaborated with the Aperion Institute for assistance in helping to deliver the hands-on training sessions.

Training began in October 2013 to coincide with Rhode Island's formal adoption of the new energy code the 2012 International Energy Conservation Code. Residential and commercial code trainings will continue to be delivered throughout 2015. The Company is planning to deliver around 25 classroom trainings and 8 location-based trainings in 2015, as well as offer several live webinars. These trainings will be geographically dispersed around the State and will be marketed to local code officials, designers, builders, contractors, etc.

Residential classroom training sessions include the following: residential code overview; envelope and building science; and HVAC / IAQ. Commercial classroom training sessions include: commercial code overview; envelope and building science; lighting and lighting controls; and HVAC. Topic-specific training sessions will be conducted early in 2015, and are targeted towards the building envelope, HVAC, and electrical sections of the code, and also on the use of code compliance software. We will also schedule and deliver in-field, on-site

demonstration trainings as a means to complement classroom training and visually relate topics discussed directly to real-world situations. Webinars, scheduled for one hour or less, will be conducted on the residential and commercial topics covered in the classroom sessions. These webinars are more general in nature but will enable attendees to receive continuing education units (CEU's).

Technical assistance pertaining to energy codes and related matters will be provided via energy code circuit riders. In 2015, circuit riders will seek to conduct more on-site visits to assist in clarifying any confusion or misunderstandings that building design and construction professionals may have about energy codes, and to ultimately support their efforts to better understand and execute code compliant building designs.

The Company will continue to work with the RI Building Code Commission to accommodate third party energy code specialists as optional energy related building inspectors for applicable projects undergoing the permitting process. Third party energy code specialists will be encouraged to attend the technical energy code trainings delivered through this initiative. There will also be trainings that incorporate material specifically for these individuals and will focus on how to use their technical expertise in a code compliance environment, on administrative matters, and on procedural matters, rather than on technical aspects of the code and its enforcement mechanisms.

In 2015, this initiative will also continue to refine documentation tools created in 2013 and 2014, such as energy code checklists, technical bulletins, and FAQ's. These refinements will be based on feedback from code officials and other stakeholders. The checklists and code protocols allow for a simpler permit submittal process by building design teams and simpler subsequent plan review by building department staff.

Savings / Attribution / Evaluation:

The Company will continue to claim energy savings in 2015 from the Energy Code Technical Support. Savings will be realized in both the residential and the commercial sectors. For this particular initiative, the gross savings are defined as the savings realized from an expected increase in the compliance rate with appropriate building code requirements. The difference between baseline studies and the achieved target code compliance rate is the gross savings that can be claimed.

Attribution is the amount of savings achieved that can be value linked to the efforts of the Company. Evaluation studies will need to be conducted to verify the savings and attribution numbers. Evaluation studies are done at the beginning of a code period and at the end of a code period to determine the performance differences during a code cycle of various factors due to an established set of parameters.

The "Codes/Standards Working Group" that was previously formed with representatives from the EERMC Consultants, Rhode Island Code Commission and Northeast Energy Efficiency Partnerships will continue in 2015. The mission of this working group is to: 1) Provide oversight to the Codes/Standards Initiative at large; 2) Create a list of tracking and performance metrics for each code compliance activity, 3) Review and provide feedback to the Company on energy savings estimates and attribution to the Company for its code compliance effort, and 4) Establish a methodology for attribution rate for subsequent years.

Appliance Standards:

In 2015, National Grid will continue to work with state officials to increase overall appliance standards in the state through advocacy and support for higher appliance efficiency standards. The goal of this initiative is to accelerate the development and adoption of selected new appliance standards, thereby increasing the efficiency of appliance sold and used in the state of Rhode Island. The Company will continue to advocate for proposed state appliance legislation as well as provide technical support regarding such parameters as market potential, energy savings, and life-cycle cost analysis. The Company will also work with associated stakeholders to examine and evaluate various appliances for eligible attributable savings. The Company will work with associated stakeholders to identify a target list of potential appliances.

4. Sustainable Office Design (SOD)

Previously called Office of the Future during its pilot stages, this initiative was formally launched in the 2nd quarter of 2014 and renamed as Sustainable Office Design (SOD). This promotes high-performance office lighting and controls for quick turnaround tenant fit-outs. This is an easy to use, performance-based design approach that benefits owners or tenants with energy cost savings depending upon the lease arrangements. A fixed incentive per square foot along with a pre-set design criteria and lighting designer incentives will provide easy participation for the tenant fit out projects. The Company hopes to ramp up participation rates for these buildings in 2015.

5. Zero Energy Ready (ZER)

In the past couple of years there has been a growing interest in Zero Energy Ready (ZER) buildings in the New England region. The Company has just begun its research and development efforts on the feasibility and marketability of such buildings in Rhode Island. The overall aim of this initiative is to establish a framework of supporting ZER buildings within our energy efficiency portfolio and increase implementation of ZER buildings through market accepted strategies. Specifically in 2015, the Company will be involved in the following activities:

- Technical Specs for demonstration projects: The focus here will be to define the ZER pilot for select new construction projects in RI. Design criteria, technical specifications and incentives package will be developed in 2015. Technical research may include topics

such as building components and measures that contribute to an energy use intensity that leads to ZER, ways to overcome incremental costs and cost effectiveness related issues, energy modeling base case and constraints imposed by a ZER design process. Towards the end of 2015, the Company will identify projects that will be suitable to participate in this pilot for following years.

- Development of Task Force/Advisory Council: The Company will lead the development of a ZNE Buildings Task Force, made up of energy and building industry professionals, State/government entities like the Office of Energy Resources, Commerce RI, Building code commission etc. The main purpose of this task force will be to determine the parameters of what qualifies as a ZNE building, identify short term and long term strategies that will address the following aspects of Zero Net Energy: building components contributing to ZER, state policies for renewable energy, net metering, zoning policies, and financing.

Large Commercial Retrofit Program

The Large Commercial Retrofit Program serves the needs of existing buildings in their pursuit lower energy consumption. . This is often done by installing controls to existing equipment or by replacing components of existing systems, such as lighting.

Pathways to Meet Program Requirements

As with the Large Commercial and Industrial New Construction Program, two pathways (prescriptive and custom) are available to customers and are described below.

Prescriptive Pathway

Prescriptive incentives are available for the Large Commercial Retrofit Program for some of the more commonly installed applications. Standard incentive levels are offered. Beginning in January 2014, prescriptive gas incentives were offered on-line. In 2015 we will explore offering on-line incentive applications for electric prescriptive measures

In 2015, the company will continue to offer prescriptive gas and electric measures options. (for more details on measure descriptions refer to attachment 2015 Technical Reference Manual)

Prescriptive List for 2015:

Pre-rinse spray valve
Gas heating controls
Motors
Steam traps
Energy Management Systems (EMS)

Custom Pathway

The company offers custom incentives to drive the purchase of high performance equipment and systems that are outside the scope of standard prescriptive equipment. These incentives are designed to cover up to 50% of the total project cost to move to premium efficiency projects including labor and equipment.

The ability to negotiate custom incentive levels and TA costs for some of the largest customers will also be available for the Large Commercial Retrofit Program. See more details on this in the Large New Construction section above.

In 2015, the company will continue to offer custom gas and electric measures options: (for more details on measure descriptions refer to attachment 2015 Technical Reference Manual).

Custom List for Measures in 2015:

Gas engine Air Source Heat Pumps for water heating
Demand Control Ventilation (DCV)
Energy Recovery Ventilation (ERV)
Piping, tank, valve insulation
Combustion controls
Outdoor air reset
Stack heat recovery
Blowdown heat recovery
Leak repair
Steam traps
Removable jacket insulation
Energy Management System
Advanced RTU controller
Steam to hot water conversions

Testing New Technologies in 2014/2015:
Refer to the "New Construction" section above for more details on testing new technologies.

Initiatives specific to Retrofit Program

Specific initiatives are listed below within the retrofit portfolio that address specific and unique needs of the existing buildings upgrades:

1. Building Tune-Up Initiative: Operations and Maintenance

The Building Tune Up initiative is designed to achieve cost effective electricity and natural gas savings in commercial and industrial facilities through retro-commissioning (RCx). This initiative will provide incentives for low-cost no cost operations and maintenance related energy efficiency strategies. These opportunities are often found in small and medium offices and schools. Savings are realized through the systematic evaluation of facility systems and implementation of low or no cost measures targeted to improve facility operation.

In 2014, the Company pursued this initiative as a pilot and enrolled colleges, schools and court houses in RI. A total of eleven projects participated and are currently undergoing project upgrades and are expected to complete within 2014 calendar year. It was found that a reduction of 5% of these buildings energy consumption could be accomplished with projects that had payback of 1.5 years or less.

RCx is the process of reviewing existing equipment and systems within a building to ensure that they are working as efficiently as possible and operating as intended. This consists of two main steps: diagnosis (an onsite audit) and implementation. The Company will offer incentives for the cost of onsite audit and the implementation of the measures that are less than 1.5 years of payback. The Company may also explore adding a training component or tune-up manual to this initiative, in addition to the BOC trainings that we offer to all customers. The Company has selected four vendors to implement this turn-key initiative that includes outreach, on-site audits and implementation. Typical measures for implementation may include:

- Calibration/tune-up of Energy Management System points
- Adjustment of outside air and return dampers
- Resetting the chilled water and hot water supply temperatures
- Optimizing start/stop of air handlers and makeup air units (early shutdown in the evening, late start in the morning)
- Resetting of a chiller's condenser water temperature
- Eliminating simultaneous heating and cooling

2. Boiler Tune-Up Initiative

In the last quarter of 2014, a natural gas boiler tune up pilot will begin in Rhode Island. Three vendors were selected and asked to work with six customers. Eligible boilers include fire tube and water tube boilers with a minimum input rating of 5,000 MBH with no parallel positioning controls or oxygen trim controls. The incentive payments, $1,000 for the first boiler and $500 for each additional boiler, will be paid directly to the vendor with no "out of pocket" costs to the customer. National Grid will ask to review other potential measures on site at the time of the boiler tune up assessment. Based on results of the pilot, this may be extended to an initiative in 2015.

3. Building Operator Certification Training

In 2015, the Company plans to support Building Operator Certification (BOC) training by holding at least three BOC classes in Rhode Island and Massachusetts. The course provides a core foundation across the various building systems and maintenance practices of a typical commercial building. In addition to the knowledge gained by listening to the instructors and completing both in classroom as well as out of classroom projects, the participants benefit from networking and learning from each other's experiences with building maintenance and energy efficiency. During one of the first classes of the Level I course, a portion of the class includes a presentation of the Company's energy efficiency programs for C&I customers.

For the first time, in 2015 we plan to invite alumni of BOC Levels I & II to a meeting where they can compare their energy efficiency experiences and have the opportunity to interact with our

Sales team. This gives us another opportunity to promote our energy efficiency programs and to provide updates since participants may have completed the course.

Also offered in 2015 will be a four-part webinar held four times a year on energy efficient building operation practice. Students can earn continuing education hours by attending the webinars. Both electric and gas energy savings will be claimed by the Company for each Rhode Island National Grid customer that participates in the program. These savings are based on documented studies.

4. Behavior Initiative

In 2015, the Company plans to explore behavior initiatives for large customers, specifically the K-12 schools and college campus market sectors. One such initiative may include partnership with the PowerSave Schools initiative that is a comprehensive program for K-12 schools that uses energy-based lessons correlated to state standards to enhance project-based real-world learning, encourage energy-conserving habits and save school districts money on energy costs. This will also enable us to demonstrate the value of this effort as a utility resource program that can deliver quantifiable, consistent and reliable energy savings. The main goals of this initiative would be:

- Achieve immediate energy and demand savings for participating schools through no-cost behavior and operational changes
- Strengthen student learning by integrating energy topics into K-12 curricula and providing project-based, engaging learning experiences in science, technology, engineering and math (STEM) subjects

In 2015, a similar effort for college campuses, “PowerSave Campus” may be considered for one or two colleges in RI.

5. Strategic Energy Management Planning (SEMP)

Strategic Energy Management Planning (SEMP) Initiative is available to our largest C&I customers who have the potential to go deeper with energy efficiency, and who have a level of in-house sophistication to make organizational changes to plan for multi-year energy planning. A Memorandum of Understanding (MOU) offers a way to document a commitment between the customer and the Company to work together to achieve mutually stated goals through specific actions that are tailored to the customer’s facilities over a multi-year planning horizon. As such, an MOU (though non-binding in this case) can set the stage for achieving deeper and more comprehensive energy efficiency savings, and is more likely to succeed than a “one measure” or “one year” approach. Typically, MOUs include participation and a commitment by upper management, the establishment of specific, very aggressive energy efficiency saving targets, and measurement and verification strategies to document savings throughout the target facilities. This offering goes much beyond energy efficiency and into sustainability and branding support to the customer. For example, this includes the Company’s support (technical, financial or both) for sustainable transportation, water saving strategies, behavior impacts, education etc.

Since 2012 the Company has established multiyear MOU agreements with two universities and RI's 5 largest hospitals. The Company will continue to work with these customers to help achieve the goals of their MOUs. In the latter part of 2014 and 2015, the Company is looking to expand our resources so we can address more SEMP MOUs in the future and expand our partnerships to other large customers in RI in the coming years.

The SEMP has the following features:

- Lays out specific multi-year energy savings goals, based on a blend of the customer's financial criteria (like life-cycle cost, hurdle rate, Net Present Value, Return on Investment etc)
- Pre-determined financial incentives package for signed customers
- Additional assistance based on customer needs like O&M trainings, marketing/case studies, coordination with other building labeling program etc
- Establishes a road map with the customer that has a robust financial model and guidelines for technical and operational aspects of facilities related to energy so as to guide the customer towards a long-term strategic planning of their portfolio of projects

6. Winter Peak Demand Strategies for 2014-2015

National Grid is acutely aware of the financial impacts that rising natural gas commodity prices during winter peak times will have on our commercial electric and gas customers. This is especially important to our Rhode Island customers as the economy continues to grow at a tepid pace and unemployment remains higher than desired. This increase is due to many factors such as world commodity price shifts, the increased use of gas as a heating fuel, and gas' increased role as a cleaner burning electricity generation fuel have contributed to this complex problem.

The Company has several strategies to help individual customers and, therefore, reduce overall demand during these times. First, it must be said that National Grid will continue to aggressively pursue electric and gas projects with our both our SEMP and industrial customers where we feel large pockets of savings exist. In addition, the company has six strategies (outlined below) that we feel will have the potential to mitigate the impact of these commodity price increases to all our small medium and large customers.

- Wireless temperature controls: These controls provide the benefits of a large commercial HVAC, especially roof-top units for small businesses. The Company will create messaging around the benefits of these controls for electric and gas and how it has a direct response to the expectation of higher energy costs this winter. Selectable settings and the ability to send system information directly to a computer or mobile device enables users to remotely manage multiple rooms and properties thereby improving energy efficiency and occupant comfort.
- Marketing campaign for best practices tips: This campaign, consisting of a list of best practices for reduction in electric and gas usage during winter months, can be

distributed to all C&I customers as early as November of 2014, which can be replicated again during the winter of 2015.

- Pipe Insulation & steam trap surveys are already part of our mix of measures that we offer our customers. As part of the winter campaign both these measures will be marketed through our sales and marketing teams to reinforce the importance of these measures on the winter usage.
- Building (O&M) tune up: The existing 2014 O&M pilot and soon be rolled out '"Building Tune-Pp" initiative in 2015 will be focusing on low-cost no cost measures this winter directly impacting both electric and gas use reduction during the winter months. (More details provided within this document under Building Tune-up Initiative).
- Boiler Tune-Up: The Company had originally planned to enroll six customers for the boiler tune up pilot in the last quarter of 2014. However, the Company can expand this to an additional ten large customers in response to serving the customers for the expected large gas usage this winter. This pilot will then roll into an initiative in 2015)
- Wi-Fi Thermostats: A Wi-Fi thermostat pilot is planned for the winter of 2015 for our small and medium customers. A custom express tool will be developed to expedite the process for the customers, and be processed by our third party vendor. This is a duel fuel measure though savings in a commercial setting may likely yield more electric savings than gas.

7. Combined Heat and Power Initiative

A combined heat and power (CHP) facility is "equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes, through the sequential use of energy."[1]

On June 21, 2012, an amendment to the Least Cost Procurement Statute, R.I.G.L. §39-1-27.7, to support the installation and investment in clean and efficient CHP was signed into law.[2] The CHP provision requires the Company to document this support annually in its energy efficiency program plan by including a plan for identifying and recruiting qualified CHP projects, incentive levels, contract terms and guidelines, and achievable megawatt targets.[3]

For 2015, the Company will continue to offer a Combined Heat and Power (CHP) incentive. In 2015, the Company's emphasis will be on increasing the support for qualifying efficient CHP

[1] CFR Title 18, Part 292, Sub-Part A, 292.101 – Definitions
[2] See R.I.G.L. § 39-1-27.7(c) (6) (ii) through (iv); For the legislative history, see P.L. 2012, Ch. 363, S2792 Sub A (Enacted June 21, 2012).
[3] See R.I.G.L. § 39-1-27.7(c) (6) (iii).

projects through the energy efficiency programs, as intended by the legislation. Because of the high capital cost and technical requirements of installing CHP, there is a very long lead time for a successful installation. With small numbers of projects and wide ranges of possible project sizes, the Company anticipates substantial variability in MW realized in any given year. The Company believes that a project target may be more appropriate than an annual kW target, as the capacity of the systems will depend on customer interest in any given year. For 2015, the Company has set a goal of two installations[4] in Rhode Island and commitment to at least two additional projects for future years.

To qualify for a CHP energy efficiency incentive, the proposed project must meet the following conditions:

- Host customers must be in the franchise service area of the Company.
- Proposed systems must either be (i) thermal leading and sized so the recoverable heat can be used to offset other facility thermal loads and generate electricity as a by-product, or (ii) using waste energy or waste heat to generate electricity.
- The overall minimum total system efficiency of the proposed CHP units must be 55% or greater[5]. System efficiency is calculated as Annual Useful Energy/Annual Gas Input where
    - Annual useful energy = Annual kWh*3,413/100,000 + utilized thermal output (therms)
    - Annual gas input CHP gas input in therms (HHV)
- The equipment to generate electricity may be an internal combustion engine, gas turbine engine, steam turbine, back pressure turbine, or fuel cell and the facility will capture waste heat for use in the facility; waste to energy systems will also qualify.

The Company will undertake the following steps to support qualified CHP projects.

Identification and Recruitment of Qualified CHP Projects

The Company currently works with vendors and customers to identify CHP opportunities at customer locations. The Company promotes CHP systems and outlines the process for qualification and implementation of CHP facilities through the Company's energy efficiency programs. The Company has sales and technical staff who are primary points of contact for customers and vendors with potential CHP projects. The Company will continue to communicate criteria for CHP assessment and communicate it to vendors so that their presentations to customers will be more consistent with Company technical assistance requirements.

[4] The Toray CHP project, with a nameplate of 12 MW is expected to be installed and commissioned in 2014

[5] The RI DEM's Air Quality Regulations (http://www.dem.ri.gov/pubs/regs/regs/air/air43_12.pdf; Page 11) set a minimum system design efficiency of 55% for CHP to be eligible to apply for Emission Credits. As noted in the Incentive Levels section below, a higher energy efficiency incentive is available for systems with efficiencies of 60% or greater.

Scoping Study/Qualification

The Company will offer technical assistance on CHP projects beginning with a preliminary scoping of a potential site. This scoping will be based on an evaluation of:

- Monthly (or hourly, where available) electric, gas, and other fuel usage
- All site-specific forms of thermal energy end uses
- Coincidence of electric and thermal loads
- Proposed project cost

This scoping will determine if further study of the site appears favorable, i.e., provides CHP operating hours and load factors that would be an appropriate application of CHP.

Technical Assistance Study

Assuming a favorable screening, National Grid will co-fund a TA study of CHP with the customer. The TA study will be performed by an independent, qualified engineering firm. This study is to measure thermal loads, appropriate CHP size, compile a budget cost estimate, and identify potential barriers to the technology, etc. National Grid will fund 50% of the cost of any TA study conducted by a preferred vendor selected by the Company, and up to 50% of the TA for other qualifying independent engineering firms. Any TA study by a CHP vendor or its representative which fulfills the CHP TA requirements may be accepted, though no co-funding will be provided. The TA study must be completed, submitted, and approved by the Company prior to implementation.

The TA study must include an assessment of the likely on-peak kW reduction from the facility given its nameplate rating, the net facility output, projected availability based on anticipated site-specific operating characteristics, and performance data on other similar units. (On-peak kW reduction = Net Output x Availability x % Loaded.) This kW load reduction should be used in the benefit-cost screening.

All TA studies should include not just an analysis of the CHP system, but also an analysis of thermal and electric energy efficiency opportunities. These opportunities themselves will be eligible for energy efficiency incentives and will help make sure that the CHP facility is correctly sized for the facility's needs and avoid creating a disincentive for future load reduction at the site. As indicated below, a larger incentive is available for CHP projects that include the implementation of energy efficiency measures at the host facility.

Incentive Levels

If a project has been shown to be cost effective, it will be eligible for an incentive. Incentives will be determined following cost effectiveness screening in consultation with National Grid personnel. The following rules will apply to all CHP projects (regardless of size) in the determination of the incentive. However, the amount of incentive the Company is willing to offer and commit to the customer could depend upon the amount of funds that are budgeted or remaining in the budget of the energy efficiency program.

- For cost effective CHP projects, the target energy efficiency installation incentive ("installation incentive") in 2014 is $900 per net kW, where net is nameplate kW output minus CHP auxiliary kW. For CHP projects with efficiencies of 60% or greater, the target installation incentive in 2014 is $1,000 per net kW.
- For cost effective CHP projects where the host customer also commits to implementing energy efficiency measures representing at least 5% of site energy use or the maximum load reduction identified by a TA Study, whichever is less,[6] the maximum installation incentive in 2014 is up to $1,125 per net kW, and the CHP sizing must incorporate the load reduction. For CHP projects with efficiencies of 60% or greater and that have similar energy efficiency participation, the maximum installation incentive in 2014 is up to $1,250 per net kW. A customer may be treated as having made this commitment to energy efficiency if it has made investments to achieve similar load reductions through energy efficiency within the previous five years.
- All CHP projects are also eligible to receive other incentives, such as the Advanced Gas Technology (AGT) incentive, subject to the incentive package cap described below.
- CHP facilities greater than 1 net MW may be offered an additional performance incentive, as further provided in the section entitled "Special Considerations for Large CHP Systems," below.
- The CHP system costs must include: the cost of all system, auxiliary, and interconnection costs; and CHP maintenance. If the system is receiving a tax credit, it will be treated as a credit against the cost of the CHP project.
- The CHP incentive package cap from the Company will be 70% of the total project cost inclusive of the installation incentive, incentives related to gas service, present value of any performance incentive, system reliability procurement incentive, and any other incentives related to the transaction.
- Retainage of 20% of the energy efficiency incentive payment will be held until commissioning is completed.

Other Contract Terms and Guidelines

In order to ensure proper operation of the CHP facility and persistence of energy savings, the following terms and guidelines will be required:

- Minimum requirements document. As part of the TA study, a minimum requirements document ("MRD") will be developed. This MRD will contain engineering hardware and operational specifications that directly affect the savings estimates developed in the TA study. Compliance with the MRD will be necessary to receive rebate payments.

[6] If CHP facility sizing is determined by electric load (or not constrained by either electric or thermal load), the requirement will be 5% of electric usage; if the facility sizing is determined by thermal load, the requirement will be 5% of thermal energy usage. The energy efficiency measures will themselves be eligible for incentives, and are not part of the CHP incentive package cap described below.

- All systems will require electric, thermal and gas metering for commissioning and monitoring of system efficiencies. Metering hardware and data collection services may be provided at little or no cost to the customer.
- The project must be commissioned. Commissioning is a process following installation whereby a third party verifies that the project is installed and operating as detailed in the TA study and MRD.
- The customer must sign and produce a contract for O&M services for a period of years through the first planned major overhaul of the CHP unit. On-going O&M contracts for a minimum of ten (10) years from project commissioning are recommended.
- The customer must apply for interconnection service as soon as practical and not operate the unit until they receive the authorization to interconnect from the Company. While there may be site-specific interconnection considerations for particular projects, please see the attached link for information on interconnection: http://www.nationalgridus.com/narragansett/business/energyeff/4_interconnect.asp.
- As noted in the EE Program Plan, kW-demand savings achieved via the electric energy efficiency programs, including CHP, will continue to be reported by the Company to ISO-NE as Other Demand Resources ("ODR") and the revenue generated will be used to fund future energy efficiency projects through the Company's programs.

Delivery Service Tariffs Applicable to CHP Installations

Customers receiving an incentive payment for installation of CHP will be billed for delivery service charges on the appropriate general service tariff. The Company's general service tariffs, Rates G-02, G-32 and G-62, include a CHP Minimum Demand Provision that requires CHP installations that receive an energy efficiency incentive pursuant to this Plan to pay the greater of (i) the customer's distribution demand and energy charges under the provision of the applicable general service tariff; or (ii) a minimum charge. This rate treatment is designed to mitigate the cross-subsidies from other customers in the same rate class. The Company believes it is very important to assure that a customer who is receiving incentives through the energy efficiency program continues to pay a fair share of the costs of the distribution system upon which the customer will continue to rely when the CHP unit is off-line.

Special Considerations for Large CHP Projects: A project that is greater than 1 MW of net nameplate capacity shall be defined as a "Large CHP Project" and may be eligible for special considerations that support the development of CHP, while accounting for its unique characteristics.

Qualification:

The cost of the project will be reviewed by a design/build or general contractor experienced with CHP projects and revised as necessary.

Incentive and additional terms and conditions:

If a Large CHP Project passes the benefit cost test described in Attachment 5, the appropriate incentive will be determined, based on the guidelines for all CHP projects set forth in the section entitled "Incentive Levels," above.

An additional performance-based energy efficiency incentive, capped at $20/kW-year ($1.66/kW-month) for a period of up to ten years, will be offered as part of the incentive package for any project greater than 1 net MW. No payments will be made until the unit is in operation and provides demonstrated load reduction, and will be made semi-annually based on actual metered load reduction. Load reduction performance will be based on a comparison of the customer's metered demand prior to CHP installation to monthly metered demand after the installation averaged for the year.

Performance incentives will be subject to budget limitations and, in all cases, will be subject to the 70% total project cost cap applicable to all CHP projects set forth in the section entitled "Incentive Levels," above. The total incentive package will include any incentives related to gas service, and the present value of the above-described performance incentive. For example, a 3 MW CHP project with a system efficiency of 60% that costs $9 million to build could obtain a maximum incentive package of $6.3 million, but would only qualify for $3,750,000 or less of direct installation incentive, with the minimum 5% of other energy use reductions commitment. If the performance incentive and gas service incentive were valued at $800,000, the total incentive offered to this installation would be $4,550,000. This equates to a direct installation incentive of $1,250/kW, and a total incentive package of $1,516/kW.

The customer will have to repay a portion of the incentive to the Company if the project is abandoned, removed from the premises, sold, or otherwise no longer utilized as the primary source of heat and electricity by the customer, within 10 years from the date of final incentive payment authorization. The repayment will be the energy efficiency installation incentive times the number of years remaining until the required ten years of service divided by ten. Other incentives, such as any AGT incentives, may also have similar reclaim provisions.

Options for CHP proposal that fails cost effectiveness testing

If a CHP project does not pass the benefit-cost test, the Company will work with the customer to develop other solutions that may still support the CHP facility. Such other solutions may include one or all of the following:

- Re-analyzing the optimal size of the CHP unit, or the number of generators. A different sized CHP unit might provide better efficiencies and pass the benefit cost test
- Identifying other load reduction opportunities at the facility. Benefits can be garnered from load reduction in lieu of achieving that load reduction through CHP.

Targeted Outreach to Potential CHP Customers: The Company believes that significant savings can be generated with this technology in the coming years. While the Company will continue to

focus on large CHP projects, we will explore opportunities that may exist within the medium and small customer size. In addition to having a specific sales point person for CHP projects, the Company is looking to hire a CHP specific TA vendor to assist us in identifying and executing CHP projects. In 2014, the Company is testing the outreach and technical capabilities of two CHP vendors with select small-medium customers in MA region. If the turn-key CHP package turns out to be successful, the Company will replicate this model to expanding it to more customers. In addition, we may plan more active outreach through CHP forums consisting of a mix of vendors, customers and engineering firms involved with this technology.

Small Business Direct Install Program

Overview

The Small Business Direct Install Program (SMB/DI Program) provides turnkey services to commercial and industrial customers with an average monthly demand of less than or equal to 200kW.

There is no upper limit of gas consumption that disqualifies a customer from receiving the gas measures offered by the SMB/DI program.

The Company has delivered this program for more than two decades through a local vendor ("Regional Program Administrator" or "RPA"), responsible for program management, data entry, and quality control. The RPA is located in Rhode Island, employing local staff, local electricians and energy efficiency lighting materials procured through a competitive bid process. As of 2011, customers served by natural gas are also eligible for direct installation of natural gas EEMs. Customers are provided turnkey services consisting of:

- An Energy Audit
- Direct Installation of Measures
- Company incentive contribution of 70% of total project cost
- On-bill repayment for customers' 30% share of the project costs, either over 24 months at zero (0) percent interest or a lump sum payment with a 15% discount, resulting in most customers' projects having a positive cash flow when they choose the 24 – month repayment option.

Since its inception when the SMB/DI Program focused primarily on lighting and refrigeration direct install measures, it has broadened its scope to include identifying:

- Cost-effective "custom" electric and gas measures, such as EMS systems
- Time dependent opportunities such as replacing roof top HVAC units and heating systems
- Participation in residential programs where the building may have both commercial and residential properties in the same building.

As noted previously, the Company is continuously working with our engineers and technical assistance experts to try and move as many measures from the custom category to prescriptive or "custom express" to streamline the process for customers as much as possible. This should encourage the vendor and the customer to apply these measures more frequently and reduce the technical costs of the program.

In addition to cost-effective custom and time dependent measures mentioned above, the SMB/DI Program offers incentives on the following measures:

- Installation of energy efficient fluorescent ballasts, lamps and fixtures
- Hard wired and screw in compact fluorescent systems
- LED lamps and luminaires
- Occupancy sensors and controls
- Energy Management Systems (EMS)
- Thermostats
- Insulation
- Hot water reset
- Low flow pre-rinse spray valves
- Refrigeration measures such as evaporator fan controls, efficient evaporator fan motors, automatic door closers and door heater control devices for walk in coolers
- Boiler reset control
- Pipe Insulation

While the most common opportunities for energy efficiency in small business customers' facilities continue to be lighting and refrigeration, the SMB/DI comprehensive will identify and custom energy efficient electric and gas measures such as energy management systems and install these measures in customers' facilities.

Offering Changes

In 2015, National Grid will explore expansion of a pilot that was started in MA in Boston and on the Cape that is targeted at the small business customer who has natural gas usage below 40,000 therms per year. Similar to the traditional Direct Install Program, customers will receive a free energy audit which recommends areas to increase energy efficiency for natural gas customers. Recommendations may include replacing faulty steam traps and condensate control, installing boiler/burner combustion controls, installing an EMS system, insulating the building envelope, installing ozone laundry (which can reduce hot water needs in washers by up to 85%), installing air sealing, installing condensing domestic hot water heaters, and installing pipe and tank insulation.

Overall, the Company has a strong foundation of experience delivering this program enabling it to meet program goals and to continue to develop and implement new products and services. The Company intends to build on these successes with the following changes:

1. In 2015 the Company and its Regional Program Administrator (RPA) will add refrigeration recycling to the list of services that it can provide small businesses.

Request for Proposals (RFP) Conclusion and Results

In the 2014 EEP Plan the Company said it had issued three RFPs regarding the SMB/DI program in Rhode Island. The winners of that bid were not public in time for the final draft. National Grid is pleased to announce the winners in this document.

1. The first RFP focused on selecting an RPA (turnkey vendor) who would be responsible for most, if not all the duties of the current RPA. The scope of work indicated the Company's interest in doing more custom type measures. This included envelope measures that were offered under Custom such as insulation and air sealing. The RPA was also asked to help National Grid develop tools to more quickly evaluate customer measures. This contract was awarded to RISE Engineering.

2. The second RFP was searching for a vendor who would be responsible for the "Customer Directed Option" (CDO) portion of the program.
   The "Customer Directed Option" has been available for some time through the RPA serving Rhode Island. This option allows customers to use their own electricians and material vendors. The RPA verifies the audit, enters data into the workflow system, and insures that the product meets required technical guidelines. The number of customers participating in this fashion increases every year. However, the company felt that it was worth investigating whether or not a new vendor or specifically dedicated resources within the RPA would result in a smoother experience or more savings for the program. This contract was awarded to Rise Engineering for both Rhode Island and Massachusetts.

3. The third RFP focused was focused on a vendor that would be responsible for the "Comprehensive Option" portion of the program. The Comprehensive Option was available through the RPA serving Rhode Island. This vendor must be strictly focused on non-lighting measures such as EMS and variable speed drives. In Rhode Island this contract was awarded to Rise Engineering.

Small Business Behavioral Pilot

In last year's plan the Company expressed its intent to launch a behavioral pilot for small business in Rhode Island. National Grid is pleased to announce that thanks to a dedicated team and our partner O-Power the first welcome letters will arrive in mailboxes at the end of September 2014.

Nine thousand (9,000) SMB customers have been selected based on eligibility criteria. Another nine thousand (9,000) SMBs have be SMBs have been identified as "controls" (i.e. they will NOT

receive reports) so that National Grid can perform M&V to determine program savings for the participants.

Energy saving "Tips" have been completed and approved for the Business Energy Reports (hardcopy in the mail) and the accompanying website – which will feature a complete library of Tips that customers can review at their option.

The Company is planning to highlight a participating business. Some work here has been done, but the Company thought it would be prudent to wait until participants received their first few reports to get sense of the 'customer experience'.

If this pilot should produce any savings, they will be calculated using home energy reports calculations consistent with the DOE and SEEARP's nationally established best practices for behavior measurement and verification.

Comprehensive Statewide Marketing Program

In 2014, the Company continued to have an integrated marketing strategy to build awareness of, and amplify the individual program marketing efforts for, Rhode Island's business customers to aid in driving participation. Radio, print and digital mediums were key channels in 2014 for this audience. The awareness and program marketing campaigns were fully integrated in National Grid's brand to provide a holistic approach and make the most effective use of our marketing dollars to deliver the Company's energy efficiency message. As well, various direct marketing efforts were also conducted for business customers.

Additionally, in 2014, the Company continued to demonstrate the importance of listening to our customers to deliver a marketing strategy that will breakthrough with customers. In 2014, focus groups were conducted with Company EE staff who deal directly with customers, a survey of large business customers was conducted to develop benchmarks for awareness, customer satisfaction and National Grid as a trusted advisor as well as have customers evaluate different value propositions (small and large business customers). The top value propositions, for all businesses in general as well key verticals, will be used to drive the messaging going forward. Furthermore, we are developing decision-maker profiles to help determine the most appropriate messaging based on who is being targeted (facilities manager, chief financial officer, etc). We want to make sure to deliver the right message to the right contact at the right time for business customers. Related to this overall strategy, for large and medium business customers, we plan to fully launch a content-based marketing platform. The content will be able to arm our customer's decision makers with the knowledge and understanding of why they should make energy efficiency investments.

To enhance customer marketing, the Company's trade ally marketing aligns professionals who either influence or implement energy decisions for our mutual customers who are potential

participants in our energy savings programs and solutions. These professionals include distributors, architects, builders, construction managers, contractors (HVAC, mechanical, electrical) and installers (electricians, plumbers). National Grid's goals are to increase trade awareness, engagement and satisfaction with Rhode Island energy efficiency opportunities and promote innovation to capture untapped savings for commercial, industrial, institutional and residential market segments. The types of projects include new construction and retrofit; but we also look for ways to develop opportunities for system level savings and integration. Ultimately, National Grid's trade ally program promotes cost and operating efficiency for our electric and gas customers throughout Rhode Island.

Finally, the Company provides the internal Sales Staff with marketing support, including case studies, program collateral and technical marketing pieces to enable discussions with customers on energy efficiency solutions.

ATTACHMENT 3

2014 Measurement and Verification Plan

In 2014, National Grid's Measurement and Verification Plan (M&V) will focus on evaluating Rhode Island specific sites and markets while leveraging as many resources as possible from studies in additional National Grid territories in order to keep costs low. Evaluation budgets are included in Attachment 4, Table E-2 and Attachment 5, Table G-2. The planned studies briefly described below focus on areas of interest to the Rhode Island programs, and build on the deep history of evaluation studies performed by the Company over many years. In order to optimize the use of evaluation resources, where programs are considered to be generally homogeneous with those offered in Massachusetts, the studies will be done in conjunction with the Company's Massachusetts retail affiliate.

A. New Studies Underway or Planned

Commercial and Industrial – Prescriptive Non-Lighting

The Company had been planning to study prescriptive energy management systems. In conjunction with Massachusetts, this study has been expanded to all prescriptive non-lighting end uses and broken into three parts: chillers, EMS, and compressed air. The chiller study launched in August 2014, while the compressed air study is starting in fall 2014 and will continue through 2015The studies involve on-site engineering and end-use metering, and potentially building simulation, of a statistically drawn random sample of participants.

Commercial and Industrial – Free Ridership and Spillover

Free ridership and spillover rates for the RI Energy Initiative, Design2000plus, and Small Business Services Programs will be assessed in a survey based study. Although this study was completed in September 2014, an updated study is contemplated to improve on survey response statistics.

Commercial and Industrial – Custom Gas

This study would update realization rates for the Large Commercial and Industrial Retrofit and New Construction programs that were determined in the 2012 study.

Small Business Direct Install – Lighting impact evaluation

The Small Business Direct Install Lighting study will be a billing analysis of 2010-11 Program participation. This study is RI-specific and will yield an energy realization rate. For coincidence factors, the Company will continue to use values from the NEEP Evaluation, Measurement and Verification Forum. This study is underway and is expected to be completed in 2015

Residential and Commercial - Code Compliance Studies

This study would update the 2012 study to gauge compliance levels with respect to the 2012 code revisions that took effect in 2013. The intent of the study would be to compare compliance levels to the 2012 baseline compliance studies.

Multifamily EnergyWise Impact Evaluation

The Multifamily segment was given increased prominence in the 2014 Program Plan. This study, planned jointly with a similar study in Massachusetts, is designed to look at the savings impacts from installations in this sector.

Residential HVAC – Ductless MiniSplit Evaluation

Massachusetts is conducting an evaluation of cold climate mini split heat pumps that have already been installed, not for the installation of new systems. The Rhode Island Office of Energy Resources and the Company have joined this study to include 15 to 20 Rhode Island sites in order to determine the savings from this technology.

Residential EnergyWise Single Family Process Evaluation

To complement the recently completed impact evaluation, the Company plans to conduct a process evaluation to study customer participation, vendor participation, and overall program processes for this program

Residential Home Energy Reports – phase II

To complement the recently completed impact evaluation, the Company may conduct a follow up study to look at some of the expected dynamics of the program such as behavior response over time, customer moves, and their effect on savings.

Residential Pilots-Process and Impact Evaluations

Studies will continue to evaluate the process and impacts from residential pilots currently in the field, including residential behavior and product pilots. The studies involve a combination of billing analysis, on-site measurement, and customer surveys. Evaluations are planned to begin as new products or pilots are launched.

Job Impacts Analysis

The Rhode Island Job Impacts will determine the business and jobs impact due to energy efficiency programs in 2014, similar to the study of 2013. The study will survey the Company, vendors, distributors, partners and market players to quantify the number of jobs and associated business impacts.

Regional Studies

Through the Companies membership in the Northeast Energy Efficiency Partnerships Evaluation, Measurement and Verification Forum, the Company will be participating in a number of regional evaluation studies. The Forum is currently developing its list of studies for 2015, and it is yet to be approved by the Forums steering committee. The following are studies that are currently underway; other studies are likely to be added once they are approved.

- Small Business Direct Install – Refrigeration impact evaluation The Small Business Direct Install Refrigeration study is a study of savings and saving load shapes and is a metered study of the impacts from refrigeration measures, chiefly in convenience stores. Rhode Island is participating in a regional study that was launched in 2013 and is expected to be completed in 2015*.*
- Incremental Cost Research. The purpose of this project is to develop incremental cost estimates for prescriptive or emerging measures. The deliverable will likely be measure-specific incremental cost estimates.
- Early Replacement Study, Phase II. Phase I was a scoping study. Phase II drills down seeking information relating to specific measures as well as some recommendations regarding methodology.

B. Recently Completed Evaluation Studies

Recently completed studies that have informed 2015 planning are identified below, along with a brief summary of the impact of those results in planning the Company's 2015 programs. (Prior year studies that have been superseded by studies completed since the filing of the 2014 EEPP have been deleted from the list.) The results of these studies were incorporated into the benefit-cost modeling of the 2015 plan. Some of these studies may be regional, or may have included other National Grid jurisdictions. The 2015 EEPP is adopting the results of these studies because the Rhode Island programs are judged to be similar, either in the measures offered, or in terms of structure or program delivery. In these instances, the impact evaluations have been judged by National Grid to be applicable to Rhode Island.

2014	
Study	**Impact Descriptions**
DNV GL, 2014 , Impact Evaluation of National Grid Rhode Island C&I Prescriptive Gas Pre-Rinse Spray Valve Measure	The evaluation examined the gas and water savings associated with the installation of reduced-flow pre-rinse spray valves. The results are based on site measurements from Massachusetts and RI facilities. The final gross gas and water savings are 11.4 MMBtu and 6.410 gallons per spray valve respectively.
DNV GL, 2014 Impact Evaluation of National Grid Rhode Island Custom Refrigerator, Motor and Other Installations	Three custom electric end-uses, Refrigerator, Motor, and Other, were evaluated to provide updated realization rates. The RI results were combined with MA results from a parallel study in order to increase the statistically significance of the final results. The final energy realization rate is 84.8%
DNV GL, 2014 Impact Evaluation of Rhode Island Commercial and Industrial Upstream Lighting Program	This study examined the performance of lighting systems that were discounted at the distribution level. The evaluation included metering at Rhode Island project sites that was combined with the results of metering done in Massachusetts to yield more accurate impacts for lighting offered in this upstream initiative. The final energy realization rate is 80.3% for LEDs and 109.5% for fluorescents.
NMR Group, Inc., Northeast Residential Lighting Hours-of-Use Study	This multi-State study provided updated hours-of-use assumptions for residential lighting programs in various room types.
The Cadmus Group, Impact Evaluation: Rhode Island Income Eligible Services, Volume II The Cadmus Group, National Grid Income Eligible Services Process Evaluation	This RI-specific impact evaluation focused on the electric and gas savings resulting from the participation of these dwellings in in-home retrofit of electrical components and weatherization of electric, gas, and fossil fuel heated homes. It used billing analysis, engineering reviews, and interviews for the process components.
TetraTech. 2013 Commercial and Industrial Programs Free-ridership and Spillover Study	Free ridership and spillover rates for the RI Energy Initiative, Design2000plus, and Small Business Services Programs.
Peregrine Energy Group, Analysis of Job Creation from 2013 Expenditures for Energy Efficiency in Rhode Island by National Grid	A study of the job impacts of National Grid's energy efficiency programs delivered to Rhode Island electricity and natural gas customers in 2013. The study determined that 545 FTE employees, across 814 companies and agencies had work in 2013 as a result of EE Program investments energy efficiency programs in Rhode Island.

Illume Advising and Navigant Consulting, Rhode Island Behavioral Program and Pilots Impact and Process Evaluation	Impact results for the statewide Rhode Island Home Energy Reports Program and the associate rewards and thermostat pilots. There are multiple program components as well as two pilot efforts, including the following: (1) home energy reports (HERs) offered to multiple population segments, (2) an online web portal, (3) a rewards pilot offered to HER participants, (4) a programmable communicating thermostat (PCT) pilot offered to HER participants, and (5) mass media promotional and public relations activities. This evaluation focuses on the first four listed program components. The evaluation effort covers the first year of the program and pilot efforts implemented from April 2013-May 2014.
National Grid, Macroeconomic Impacts of Rhode Island Energy Efficiency Investments REMI Analysis of National Grid's Energy Efficiency Programs	This study quantifies the macroeconomic impacts of National Grid's 2014 Energy Efficiency (EE) Program Plan for Rhode Island and provides updated economic impact multipliers to quantify the benefits of future EE programs in the Rhode Island economy. This updates the multipliers from an economic impact study conducted by Environment Northeast (ENE) in 2009.
2013	
Study	**Impact Descriptions**
KEMA, Inc., Impact Evaluation of 2011 Rhode Island Prescriptive Lighting Installations KEMA, Inc., Impact Evaluation of 2011 Rhode Island Custom Lighting Installations	The Custom and Prescriptive Lighting studies involved the impact evaluation of components of the Large Commercial and Industrial electric efficiency programs. The studies included on-site engineering and end-use metering of a statistically drawn random sample of participants. The custom portion of the study was coupled with the results of the 2013 Massachusetts Custom Lighting study.
Energy Efficiency Messaging, Residential Energy Efficiency Program Communications Focus Groups	The study analyzed customers' perceptions of energy efficiency programs and messaging materials via focus group testing.
Synapse Energy Economics, Avoided Energy Supply Costs in New England: 2013 Report	The biennial regional avoided cost study was updated in 2014 for use in program years 2014 and 2015. As with the past several studies, this study was sponsored by all of the gas and electric program administrators in New England, as the markets for electricity and natural gas are regional. .

KEMA, Inc., Impact Evaluation of 2011 Prescriptive Gas Measures	On-site monitoring and verification of installation provided updated impacts for four major prescriptive gas measures. Programs and measures are similar between National Grid affiliates in MA and RI, and results are applied to RI. The overall realization rate for the four measures was about 102% and the relative precision was about ±15%.
KEMA, Inc, and DMI, Inc., Impact Evaluation of 2011-2012 Prescriptive VSDs	This evaluation provided a new estimate of the impacts of prescriptive variable speed drives, based on pre-post metering of measures installed in 2011 and 2012. Programs and measures are similar between National Grid affiliates in MA and RI, and results are applied to RI. Key findings include an annual kWh realization rate was 94% with a relative precision of +/- 23%, and identification of factors that influenced the realization rate.
The Cadmus Group, Inc., 2012 Residential Heating, Water Heating, and Cooling Equipment Evaluation: Net-to-Gross, Market Effects, and Equipment Replacement Timing	The results of this study yielded updated net-to-gross factors and estimates of the timing of equipment replacement for residential heating and cooling measures. Programs and measures are similar between National Grid affiliates in MA and RI, and results are applied to RI.
KEMA, Inc., Process Evaluation of the 2012 Bright Opportunities Program	This study provided net-to-gross ratios for the Commercial Upstream Lighting initiative offered in Massachusetts and Rhode Island, as well as a process assessment of this generally successful initiative.
KEMA, Inc., Impact Evaluation of 2010 Prescriptive Lighting Installations	The RI Prescriptive lighting study listed above did not examine case lighting separately from other lighting systems. To complement the Rhode Island-specific results, this MA study provided impact updates on case lighting.
Opinion Dynamics (2013). Massachusetts Cross-Cutting Behavioral Program Evaluation Integrated Report.	This study provided an updated realization rate for savings from gas customers who participate in the Opt-out channel of the Home Energy Reports program.

2012	
Study	**Impact Descriptions**
NMR Group, Inc., Rhode Island 2011 Baseline Study of Single-family Residential New Construction	Provides a baseline study of the characteristics of single-family homes recently completed in Rhode Island and permitted under the 2009 International Energy Conservation Code (IECC) that did not participate in the Rhode Island Residential New Construction Program (Program). These can be used to update User Defined Reference Home (UDRH) assumptions used in calculating Program savings.
DNV-KEMA, ERS, and APPRISE, Rhode Island Energy Code Compliance Baseline Study	Provides a baseline estimate of statewide energy code compliance for commercial buildings, provides feedback on patterns of compliance and non-compliance, and identifies opportunities for Rhode Island in the quest to achieve greater compliance with state energy codes.
KEMA, Inc., Impact Evaluation of the 2010 Custom –Industrial Process and Compressed Air impact evaluation, September, 2012	Study produced realization rates for energy, seasonal demand, and percent energy on peak for both programs. The RI results were combined with MA results from a parallel study in order to increase the statistic significance of the final results. The final energy realization rate is 92.7%.
ERS, Rhode Island Large Commercial and Industrial Retrofit and New Construction Program Custom Gas Evaluation, September 2012	The Custom Gas study updated study-based realization rates for the Large Commercial and Industrial Retrofit and New Construction programs. The final therms realization rate for the custom gas program was found to be 75.5%.
TetraTech, Final Report – Commercial and Industrial Non-Energy Impacts Study, (prepared for Massachusetts Program Administrators), June 29, 2012	This report provides a comprehensive set of statistically reliable Non-energy impact (NEI) estimates across the range of C&I prescriptive and custom retrofit programs offered by the Massachusetts electric and gas PAs. The analytical methods used allow this report‘s findings to be applicable to RI.
Cadmus, EnergyWise Single Family Impact Evaluation, October 2012	The study provides impacts specific to the RI program for single family households. It includes electric, gas, and oil savings. The study uses billing analysis and engineering analysis.

2011	
Study	**Impact Descriptions**
NMR Group, Inc., Massachusetts Program Administrators Massachusetts Special and Cross-Sector Studies Area, Residential and Low-Income Non-Energy Impacts (NEI) Evaluation, August, 15, 2011.	Identification and quantification of non-energy impacts for residential and low-income programs.
NMR Group, Inc., The Rhode Island Appliance Turn-In Program Process Evaluation, March 4, 2011.	Combined, these two studies assessed free-ridership rates and savings for the Rhode Island Refrigerator and Freezer Recycling program. In addition, the evaluation found that there were three distinct groups of refrigerators being recycled through the program – primary, secondary – replaced, and secondary – not replaced. The study produced updated free-ridership rates and savings for the three categories of refrigerators and freezers.
NMR Group, Inc., The Rhode Island Appliance Turn-In Program Impact Evaluation, October 2011.	
NMR Group, Inc., Results of the Multistate CFL Modeling Effort, April 15, 2011.	This study examined the 2010 Energy Star® Lighting program. The research effort included participation in a multistate modeling effort which resulted in a revised free-ridership estimate for screw-in CFLs.
The Cadmus Group, Impact Evaluation for Rhode Island Multifamily Gas Program EnergyWise Program, July 12, 2011	A billing analysis was conducted for 2010 Multifamily gas participants. Results showed a realization rate of 121% indicating ex post verified savings as 21% greater than the engineering savings estimate.
Opinion Dynamics Corporation, Evaluation of National Grid's Community Pilot Program Energy Action: Aquidneck and Jamestown, September, 2011.	The evaluation examined participation in all energy efficiency programs through the 2009-2010 Community Initiative, known as Energy Action: Aquidneck and Jamestown. The evaluation found that the initiative was cost-effective with a benefit-cost ratio of 2.25. The evaluation also examined processes and made recommendations for increasing participation in future initiatives.

KEMA, Inc., Impact Evaluation of the 2009 Custom HVAC and 2008-2009 Custom CDA Installations, September 1, 2011	Study produced realization rates for energy, seasonal demand, and percent energy on peak for both programs. The RI results were combined with MA results from a parallel study in order to increase the statistic significance of the final results. The final energy realization rate for Custom HVAC is higher than the PY 2011 realization rate by about 10% (increased from 100.5% to 110.4%). The final energy realization rate for Custom CDA is higher than the PY 2011 realization rate by about 20% (increased from 97.2% to 119.6%).
KEMA, Inc., C&I Lighting Loadshape Project, Prepared for the Regional Evaluation, Measurement, and Verification Forum, June 2011.	A compilation of lighting loadshape data from the Northeast. The study provided updated coincidence factors for the Energy Initiative and Small Business Lighting programs. The Small Business program summer coincidence factor went from 0.80 to 0.79, while the Energy Initiative summer coincidence went from 0.88 to 0.89
KEMA, Inc., C&I Unitary HVAC Loadshape Project Final Report, Prepared for the Regional Evaluation, Measurement, and Verification Forum, June 2011.	From end use metering, the study produced updated diversity and equivalent full load hours for unitary HVAC measures
2010	
Study	**Impact Descriptions**
ADM Associates, Inc., Residential Central AC Regional Evaluation, Final Report, October 2009	KWh and kW savings figures for the installation of efficient residential CAC systems

2009	
Study	**Impact Descriptions**
Nexus Market Research, Residential Lighting Markdown Impact Evaluation, January 20, 2009	Energy and demand savings from the use of lighting markdown products
KEMA, Inc., Design 2000plus Lighting Hours of Use & Load shapes Measurement Study, July 2, 2009	Hours of use, hours of use realization rate, on-peak kWh percentage, load profile, connected demand adjustment factor, summer and winter peak combined coincidence and interactive factors for the prescriptive lighting measures installed by participants of the 2007 National Grid Design2000plus program

2008	
Study	**Impact Descriptions**
Nexus Market Research, Inc., RLW Analytics, Inc., Residential Lighting Measure Life Study, June 4, 2008	Estimation of measure life for lighting products distributed throughout New England
Michael Ozog, Summit Blue, Joint Small Business Services Program Billing Analysis, 2007	Realization rates for lighting measures installed through the Small Business Services program
2007	
Study	**Impact Descriptions**
RLW Analytics, Small Business Services Custom Measure Impact Evaluation, March 23, 2007	Verification of energy savings from custom lighting projects in the Small Business Services program.
RLW Analytics, Impact Evaluation Analysis of the 2005 Custom SBS Program, May 29, 2007	Realization rates for the Small Business Services program

Study name: Analysis of Job Creation from 2013 Expenditures for Energy Efficiency in Rhode Island by National Grid

Type of Study: Economic Impact
Evaluation Conducted by: Peregrine Energy Group
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;
In order to quantify the number of direct workers involved, National Grid commissioned Peregrine Energy Group, Inc. (Peregrine) to conduct a study of the job impacts of National Grid's energy efficiency programs delivered to Rhode Island electricity and natural gas customers in 2013.

Peregrine determined that 544.73 full-time equivalent (FTE) employees had work in 2013 as a result of investments by National Grid in energy efficiency programs provided to its Rhode Island electricity and natural gas customers. Most of the jobs created as a result of energy efficiency investments were local because they were tied to installation of equipment and other materials. The study identified 814 companies and agencies involved in National Grid's 2013 energy efficiency programs, 78% of which were located in Rhode Island.

The study is designed to be conducted annually.

Programs to which the Results of the Study Apply: This is an overall indicator of economic impact, not applied to a specific program.

Evaluation Recommendations and Program Administrator Response: The evaluation study does not include recommendations.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study: N/A

Savings Impact: N/A

Study name: National Grid Rhode Island Income Eligible Services Process Evaluation

Type of Study: Process Evaluation
Evaluation Conducted by: The Cadmus Group
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;
A process evaluation of National Grid's Income Eligible Services (IES) Program in Rhode Island, as implemented between 2011 and 2013. The evaluation sought to document program processes and procedures, determine opportunities for improvements, and assess the success of program transitions instituted by National Grid and the new program implementer, CLEAResult.

Key findings were:

- The majority of program stakeholders expressed satisfaction with CLEAResult's role as lead vendor
- Participants are satisfied with the program
- An immediate need exists for standard program policies and procedures
- CFL installation protocols may impact program savings
- Appliance metering protocols may be insufficiently comprehensive to accurately estimate savings
- Not all CAP agencies distribute energy-saving hot water measures to participants.
- National Grid employs lower-than-average health and safety fund limits, in comparison with other low-income weatherization programs across the country.
- The State's shift to Hancock Software slows IES Program production.
- Issues with technology can frustrate auditors in the field
- Participants are not aware that National Grid sponsors IES Program services.

Programs to which the Results of the Study Apply: Single-family gas and electric income eligible services.

Evaluation Recommendations and Program Administrator Response:

1. Prioritize finalization of the IES program manual and Update the IES program manual on an annual basis.
2. Revise the CFL installation protocols to maximize the IES Program's potential for savings.
3. Standardize CFL installation protocols across all program operations materials.
4. Consider requiring AMP auditors to meter appliances for at least two hours.
5. Consider requiring CAP agencies to install all direct-install measures, standardizing the customer experience
6. Provide high-quality hot water measures.
7. Consider increasing the IES Program's health and safety fund limits.
8. Monitor the CAP agencies' concerns with Hancock to minimize its impact on IES Program production.

9. The CAP agencies' concerns regarding connectivity should continue to be monitored, and the technology used by auditors in the field should be updated as needed.
10. Increase National Grid sponsorship awareness through leave-behind materials.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study:
The Company is working with the program vendor to identify ways to implement the recommendations.

Savings Impact: N/A

Study name: **Impact Evaluation: Rhode Island Income Eligible Services, Volume II**

Type of Study: Impact Evaluation
Evaluation Conducted by: The Cadmus Group
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;
An impact evaluation of National Grid's Income Eligible Services (IES) Program in Rhode Island, as implemented between 2011 and 2012. The evaluation uses a billing analysis and engineering review to determine savings estimates for gas and electric measures.

Key findings were:

The total amount of energy savings achieved through the IES Program depends heavily on the amount of electric savings achieved through installing CFLs. On average, each home participating in the program received over 20 CFLs. Second to CFLs, high-efficiency refrigerator installations deliver the most electricity savings to the program.

Programs to which the Results of the Study Apply: Single-family gas and electric income eligible services.

Evaluated Energy Savings for All Natural Gas Measures

Category	Measure	Natural Gas Savings (therms/year)
Weatherization	Insulation (overall) with Air Sealing and Duct Sealing (program)	188
	Furnace Fan (electric savings due to weatherization)	206 (kWh)
	Cooling (electric savings due to weatherization)	138 (kWh)
Heating System	Furnace/Boiler	184
	Furnace Fan (electric savings due to furnace replacement)	172 (kWh)
Water Heating	Overall (for homes installing at least one measure)	9

Evaluated Energy Savings for All Electric Measures

Category	Measure	Electric Savings (kWh/year)
Weatherization	Overall Insulation with Air Sealing and Duct Sealing*	1,616
Lighting and Appliances	CFLs	21.78
	LEDs	48
	Refrigerator Replacement	384
	Freezer Replacement	484
	Refrigerator/Freezer Removal	1,180
	Smart Strips	75
	Waterbed	872
Water Heating	Overall (homes receiving at least one hot water measure)	134
Other	Tender Loving Care (TLC) Kit	21
	TLC Kit and Education	138

* This row refers to savings from any participant that received air sealing, duct sealing, or attic, wall, or basement/floor insulation.

Evaluated Energy Savings for All Oil Measures (electric program)

Category	Measure	Oil Savings (MMBtu/year)
Weatherization	Overall Insulation with Air Sealing and Duct Sealing*	28.1
	Electric Savings (cooling and fan replacement)	377 (kWh)
Heating System	Furnace/Boiler	18.4
	Electric Savings (furnace fan replacement)	132 (kWh)
Water Heating	Overall – for households the received at least one hot water measure	0.7

* This represents the average savings for a household that received at least one weatherization measure.

Evaluation Recommendations and Program Administrator Response:

- Complete a billing analysis of 2014 participants in early 2016 to assess changes in savings that occur based on program changes
- Continue to complete home verification visits to confirm measure installations, including the number and locations of installed CFLs.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study:
The Company will consider applying these recommendations in the next evaluation.

Savings Impact: Measure level savings increased or decreased based on the results.

Study name: Macroeconomic Impacts of Rhode Island Energy Efficiency Investments: REMI Analysis of National Grid's Energy Efficiency Programs

Type of Study: Economic Impact
Evaluation Conducted by: National Grid
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;
This study quantifies the macroeconomic impacts of National Grid's 2014 Energy Efficiency (EE) Program Plan for Rhode Island and provides updated economic impact multipliers to quantify the benefits of future EE programs in the Rhode Island economy. National Grid and the Energy Efficiency Resource Management Council (EERMC) currently use multipliers from an economic impact study conducted by Environment Northeast (ENE) in 2009.

COMPARISON OF RESULTS TO 2009 ENE STUDY

	Job Years / $ Million			GDP / $		
	Electric	Gas	Total	Electric	Gas	Total
2014 EE Program Plan Study						
Program Spending / Budget	45.1	23.0	39.7	4.2	1.9	3.6
Pgm and Part Spending / Pgm Cost	36.5	18.5	32.1	3.4	1.6	2.9
2009 ENE Study						
Program Spending / Budget	36.2	38.5	37.4	4.0	4.4	4.2
Pgm and Part Spending / Pgm Cost	27.0	25.5	26.3	3.0	2.9	3.0

In addition, a CHP Project Economic Multipliers provide economic impacts for each component of a typical CHP project – spending, benefits and costs. The Total Spending Multipliers of $2.73 provide impacts on total CHP project spending.

Programs to which the Results of the Study Apply: The CHP multiplier is used in benefit cost testing for CHP projects only. The other multipliers are used to illustrate the overall economic impact of energy efficiency program investments, and are not applied to a specific program in benefit cost testing.

Evaluation Recommendations and Program Administrator Response: The study does not include recommendations.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study: N/A

Savings Impact: N/A

Study name: National Grid Rhode Island 2013 Commercial and Industrial Programs Free-ridership and Spillover Study Final Report

Type of Study: Impact
Evaluation Conducted by: Tetra Tech
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;
The purpose of this study was to assess program free-ridership and spillover for the programs. These programs include Custom and Prescriptive programs for both new construction and retrofit projects (gas) and projects completed through the Design 2000plus (electric), Energy Initiative (electric), and Small Business programs (electric and gas), and the upstream lighting program, Bright Opportunities, in 2013.

The final report presents several different slices of survey results. Based on consultation with the evaluation contractor, the following tables present what is recommended for application.

Table 6-8. 2013 Statewide C&I Electric Free-ridership and Spillover Results by Program Type

Program Type	Surveyed	Population	Free-ridership Rate	Participant "Like" Spillover Rate	Nonparticipant "Like" Spillover Rate	Net-to-Gross Ratio
Design 2000plus - Custom	9	34	33.4%	0.0%	0.0%	66.6%
Design 2000plus - Prescriptive	52	155	42.4%	0.0%	14.3%	71.9%
Design 2000plus - Upstream	58	2,888	8.8%	1.3%	0.0%	92.5%
Energy Initiative - Custom	24	98	8.6%	7.3%	0.0%	98.8%
Energy Initiative - Prescriptive	72	294	28.0%	6.8%	0.0%	78.8%
Small Business	147	1,291	10.2%	3.0%	0.0%	92.8%
Total	**362**	**4,760**	**18.1%**	**4.7%**	**0.9%**	**87.5%**

Table 1-3. 2013 C&I Natural Gas Free-ridership and Spillover Results Summary by Program

Program	Surveyed	Population	Free-rider-ship Rate	Partici-pant "Like" Spillover Rate	Nonparti cipant Spillover Rate	Net-to-Gross Rate
Large Commercial New Construction	35	164	28.1%	2.3%	0.7%	74.9%
Large Commercial Retrofit	42	475	22.4%	0.0%	0.2%	77.8%
Small Business Program[7]	25	110	3.4%	0.0%	0.5%	97.0%
Total	**102**	**749**	**23.2%**	**0.4%**	**0.3%**	**77.5%**

The report also presents observation from a small group of customers who indicated that they had installed unlike measures as a result of the program. No quantitative results were presented for this attribute.

On average, the free-ridership rate does not differ between those who are aware of the statewide marketing campaign conducted in 2012-13campaign (21.9 percent free-ridership) or not (20.8 percent free ridership). Therefore, awareness seems not to have influenced free-ridership. However, the study could not say what the free-ridership rate of aware customers would have been absent the campaign.

Responses from customer who participated in the Company's financing programs, suggests the interest-free financing was an important factor in the equipment purchase for almost 70 percent of customers. Further, availability of financing allowed almost one-half of the customers to change the scope (more equipment, higher efficiency, or timing) of their plans.

Programs to which the Results of the Study Apply: Electric and gas commercial and industrial programs

Evaluation Recommendations and Program Administrator Response: See tables above. There were no other specific recommendations

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study: National Grid will use the study results in program planning and reporting in 2015 for the electric programs. For the natural gas programs, the Company desired to apply the results similar to the electric programs – in other words, with one value applied to custom projects and another value to prescriptive projects – because they have different program delivery mechanisms that influence free ridership.
However, although the results are statistically significant at the "delivery level," given the low number of completed surveys, the Company does not feel comfortable applying the delivery level results to the 2015 program. Instead, the Company will continue to use the 2012 study results for natural gas programs.

The Company will conduct a new study of 2014 gas program participants in 2015 and use new techniques to increase study coverage.

Savings Impact: The application of new free-ridership and spillover results for the electric programs impact the savings.

Study name: Northeast Residential Lighting Hours-of-Use Study

Type of Study: Impact
Evaluation Conducted by: Nexus Market Research
Date Evaluation Conducted: 2013-2014

Evaluation Objective and High Level Findings;
The purpose of this study was to provide updated information to the sponsoring energy efficiency program administrators and oversight bodies to assist in the calculations of demand and energy savings for lighting programs. Specifically, this report presents load shapes, coincidence factors (CFs), and daily hours of use (HOU) for residential lighting.

Based on data collected from 4,462 loggers, the evaluators performed a series of regression models to estimate HOU. They concluded that the region comprising Connecticut, Massachusetts, Rhode Island, and Upstate New York had a household daily HOU of 2.7 hours for all bulbs and 3.0 for efficient bulbs, with HOU by room type varying from a low 1.7 in bathrooms to a high of 6.7 on the exterior of homes. Hours of use for Downstate New York varied significantly from the rest of the study area.

The evaluators also provide detailed HOU estimates by room type, home type (i.e., single-family or multifamily), and income level for the region overall and for each individual area included in the analysis. Additionally, the report presents load shapes as well as well as coincidence factors for winter and summer peak period and winter and summer peak hours to aid in load planning and the calculation of peak demand savings.

Other topics addressed include comparisons of HOU for efficient and inefficient bulb types and comparisons to other existing HOU studies both in the Northeast region and throughout the United States.

NMR also provided two Excel-based data viewing tools that the Sponsors can explore on their own or with assistance from NMR. Both tools were designed to be intuitive, and pulling up data breakdowns requires only that the user select the data desired using drop down lists. One tool provides an efficient way to view, edit, and update HOU estimates by room and bulb type. Instructions for the tool are included within the Excel document. The second tool provides an efficient way to view load shape data generated by the study.

Programs to which the Results of the Study Apply: Residential lighting, Energy Wise Single Family, Energy Wise Multifamily, Income eligible Services Single Family, Income Eligible Multifamily, and Residential New Construction. .

Evaluation Recommendations and Program Administrator Response: With minor differences in HOU estimates across Connecticut, Massachusetts, Rhode Island, and Upstate New York and with relatively few differences at the home type and income level, the study recommends that the Sponsors consider adopting the HOU room-by-room estimates from the overall hierarchical model for all households regardless of income or home type.

HOU estimates for efficient bulbs are significantly higher than HOU estimates for inefficient bulbs within each of the eight individual room models.

As with HOU estimates, the study recommends that the Sponsors consider adopting the Overall load curve and resulting coincidence factors across Connecticut, Massachusetts, Rhode Island, and Upstate New York.

The study leaves it up to the Sponsors to decide when it is appropriate to use the winter and summer peak period estimates versus the ISO specific peak hour estimates. Summer on peak average coincidence is 13.0% and winter on peak average coincidence is 16.1%

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study: National Grid has adopted the hours of use estimates and coincidence factor estimates. Because National Grid plans for lighting installations are independent of room type, National Grid is using the aggregate values from the study, rather than the room by room estimates.

Savings Impact: Use of the hours of use estimate affects the kWh savings estimate from the relevant programs with lighting measures. Use of the coincidence factors affects the calculation of demand savings.

Study name: Rhode Island Behavioral Program and Pilots Impact and Process Evaluation

Type of Study: Impact and Process
Evaluation Conducted by: Illume Advising
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;
The Rhode Island Home Energy state-wide gas and electric behavior program launched in 2013. This study evaluated the process and impacts of the program for the first time.

- The HER program saved 20,066,543 kWh during its first 14 months, amounting to 0.98% savings per household across high usage electric only and dual fuel groups.
- The HER program saved 443,264 therms during its first 14 months of the program, amounting to 0.36% savings per household across the gas only and dual fuel groups. The gas savings for the program underperformed due to a number of planning-related challenges.
- The Across fuels, there were very few channeled savings achieved through the HER program (savings due to participation in other program) with 695,735 kWh (3.35% of total HER savings) and 3,005 therms (.67% of total HER savings), generated through other programs.
- The new-movers initiative had small samples sizes at the time of the evaluation and thus statistically insignificant results. New-movers definitions were too broad to inform a targeted outreach strategy.
- There is clear evidence that the rewards portion of the program is effective in generating savings above the HER treatment, though the results are not statistically significant.
- The best estimate of the incremental savings for the thermostat pilot is 2.31% in gas savings and .88% in electric savings per household, amounting to a total of 3,902 therms and 11,592 kWh overall. These values improve in the heating and cooling season.
- Overall, the program has been successful in enhancing customer engagement and satisfaction across the state.

Programs to which the Results of the Study Apply: Home Energy Reports

Evaluation Recommendations and Program Administrator Response:
- The new-movers initiative should be re-evaluated after a longer treatment period with the program implemented as originally designed.
- The program team should consider having implementer-derived savings forecasts reviewed by a third party in the future to avoid similar planning errors.
- The gas savings first year “ramp” should be factored into program decisions on whether or not to continue the program.
- The program vendor should develop a single decision-making document and database to clearly delineate the program design and avoid loss of information over time due to staffing changes.

- Discontinue the use of the Randomized encouragement design (RED) design for the pilot rewards initiatives and using a matched comparison group for evaluation instead.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study:
The Company is adopting the recommendations, where applicable, and is working with the program vendor to identify ways in which to implement them.

Savings Impact: The updated impact factors affect the savings for the 2015 program plan.

Study name: Impact Evaluation of National Grid Rhode Island's Custom Refrigeration, Motor and Other Installations

Type of Study: Impact
Evaluation Conducted by: DNV-GL
Date Evaluation Conducted: 2013-2014

Evaluation Objective and High Level Findings;
The objective of this impact evaluation is to provide verification or re-estimation of electric energy and demand savings estimates for a sample of Rhode Island Custom RMO projects through site-specific inspection, monitoring, and analysis, and to develop new realization rates for the combined Custom RMO populations in Rhode Island. The results of the project studies are combined with the results from a concurrent study of National Grid Custom RMO installations in Massachusetts to determine appropriate population level realization rates for the combined Custom RMO populations in Rhode Island.

Table 4-6 **Summary of Overall MA & RI National Grid Custom RMO Results**

Massachusetts + Rhode Island	Annual MWh	On-Peak MWh	% On-Peak kWh	On-Peak Summer kW	On-Peak Winter kW
Custom RMO					
Total Tracking Savings	20,418	8,441	45%	2,728	2,393
Total Measured Savings	17,320	8,118	51%	2,511	2,176
Realization Rate	**85%**	**96%**	**113%**	**92%**	**91%**
Relative Precision at 90% Confidence	17.1%	16.4%	-	N/A	N/A
Error Bound at 90% Confidence	2,962	1,331	-	N/A	N/A
Relative Precision at 80% Confidence	N/A	N/A	-	15.6%	14.3%
Error Bound at 80% Confidence	N/A	N/A	-	391	311
Error Ratio	0.57	0.59	-	0.66	0.66

The overall quality of the Rhode Island project files was very good. From the state-level results, the Rhode Island realization rates are significantly higher than those estimated for Massachusetts for all savings variables analyzed. At 17.1%, the overall precision on the Annual KWh estimate is reasonable. All of the RI only precisions are better than expected due to the fact that error ratios were lower what was anticipated in the sample design.

From a statistical perspective, which is heavily dependent on Massachusetts results, it appears that the Custom RMO results are stable, and the variation across sample sites is about what was expected. The Rhode Island Custom RMO sites performed very well in comparison to MA. Unless the underlying causes of the variability change, future designs should assume similar error ratio values to determine sample size requirements.

Programs to which the Results of the Study Apply: Electric Commercial and Industrial New Construction and Retrofit programs, custom projects that are classified as Refrigeration, Motor, or Other.

Evaluation Recommendations and Program Administrator Response:

- Continue to collect and retain all relevant project files including applications, TA studies, analysis spreadsheets and specification sheets for all custom measures going forward.
- It is recommended that for measures which tend to have large production swings that National Grid considers doing some pre-installation metering, and also a minimum of 90 days of post-installation metering if evaluated. National Grid may also consider requesting a year of production records to aid in the development of tracking savings estimates.
- Spreadsheet tools used to estimate savings should incorporate the ability to adjust key saving assumptions if more specific information is available from the site.

National Grid already satisfies the data collection recommendation. The Company will attempt, where feasible, to follow the metering and spreadsheet tool recommendations.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study: National Grid will apply the quantitative results of the study, and attempt to adopt the other recommendations it is not already doing.

Savings Impact: The application of the realization rates will affect the savings for these types of projects.

Study name: Impact Evaluation of National Grid Rhode Island Commercial and Industrial Upstream Lighting Program

Type of Study: Impact
Evaluation Conducted by: DNV-GL
Date Evaluation Conducted: 2013-2014

Evaluation Objective and High Level Findings;
The National Grid Rhode Island Upstream Lighting initiative attempts to increase the market penetration of energy-efficient lighting technologies through the use of upstream incentives that are used to buy down the cost of these lighting technologies at the lighting distributor level. The initiative offers upstream incentives on linear fluorescent and LED lighting technologies.

This report documents DNV GL's Impact Evaluation of National Grid Rhode Island's Commercial and Industrial Upstream Lighting initiative. This impact evaluation was completed shortly after the impact evaluation of the Massachusetts Commercial and Industrial Upstream Lighting initiative performed by DNV-GL. This impact evaluation was completed for National Grid and includes combined National Grid Massachusetts and National Grid Rhode Island results. Rhode Island participants in the study participated between February 2012 and February 2013.

The realization rate for LEDs was found to be 80.2% with HVAC interactive effects included. In the case of annual kWh savings, the realization rate for Fluorescent lamps was found to be 109.5% with HVAC interactive effects included. The LED hours of use realization rate was 86%, while the Fluorescent hours of use realization rate was 109%.Other savings parameters were identified as well.

Building types where the upstream lighting purchases were installed were identified. The building type with the most installations was School/University. In terms of sites, this represented 26% of the entire sample, including 26% of the LED sample and 25% of the Fluorescent sample. In schools, LEDs were primarily installed in common areas such as corridors. The "Other" building type contained a mix of buildings that only had a couple of sites in the sample. Additional prominent building types included Retail, Office, Hospital, Multi-Family, Office and Dining: Bar Lounge/Leisure.

This evaluation found that LEDs had an installation rate of 70% and Fluorescent lamps had an installation rate of 85%. These numbers represent the percentage of all lamps that were in operation at the time of the evaluation.

Programs to which the Results of the Study Apply: Electric Commercial New Construction

Evaluation Recommendations and Program Administrator Response:

- Realization rates for connected kW and kWh, and adjusted savings estimates for hours of use should be applied at the category level (LED and FLR) should be applied. This study does not have enough data points to disaggregate results at the building type or LED lamp type level with acceptable estimates of precision.

- Consider the shifting baseline from incandescent to a greater mix of LED and fluorescents in future evaluations.
- A follow-up study should be designed to revisit sites from this study that had a large number of units still in storage or not yet installed.
- The hours of use should be adjusted downward to account for this finding for the near term. Note that the study connected kW and connected kWh realization rates do not include this adjustment for hours, which means that program savings estimates can be updated with the new hours estimates from this study.
- Consider reviewing the Massachusetts Process Evaluation for program improvements from the process evaluation portion of that study, in particular those relating to tracking shipping and installation of lighting.

Explain Whether or Not National Grid Decided to Adopt Recommendations from the Study: National Grids has adopted the quantitative results (realization rates an d hours of use) of the study in planning for 2015. The Company does not currently plan a follow up study of stored lighting. The Company has already instituted some process improvement s in both Massachusetts and Rhode Island to better track installation following shipment from the distributor.

Savings Impact: The realization rates and hours of use from the study will affect savings.

Study name: Impact Evaluation of National Grid Rhode Island C&I Prescriptive Gas Pre-Rinse Spray Valve Measure

Type of Study: Impact
Evaluation Conducted by: DNV-GL
Date Evaluation Conducted: 2014

Evaluation Objective and High Level Findings;

Low-flow Pre-rinse spray valves are offered through National Grid's Large Commercial New Retrofit and Small Business Direct Install Programs. The measure has been popular in restaurants, schools, and healthcare facilities. The evaluation set out to update the per unit savings value for the spray valves by measuring temperatures and flows at customer sites before and after the installation of the spray valves. This robust evaluation method provided new gas and water/sewer savings as well as an updated measure life.

Programs to which the Results of the Study Apply: Gas Large Commercial New Retrofit and Small Business Direct Install

Evaluation Recommendations and Program Administrator Response

- National Grid Rhode Island should consider assessing historical spray valve project data and market information to improve estimates of the measure's remaining potential

Savings Impact: The per-unit gross MMBtu savings have changed from 12.6 to 11.4. The water and sewer savings were reduced from 23,617 gallons per unit to 6,410 gallons per unit. The measure life increased from 5 to 8 years.

ATTACHMENT 4

Total Resource Cost Test Description

Introduction

This section has been prepared pursuant to Section 1.2(A)(ii) of the Least Cost Procurement Standards (Standards) for the procurement of energy efficiency resources, approved by the Rhode Island PUC in Docket 4443 at Open Meeting on June 10, 2014. Much of the material in this section was presented during the Technical Session on May 8, 2014.

While this Attachment is being included in the 2015 EEPP, it is the intent of National Grid that the Total Resource Cost test as described here will be in place until the next review of the Standards in advance of the 2018-2020 Least Cost Procurement Plan. The component values may be updated over the course of the three year period based on the availability of new study results. The source for many of the avoided cost value components is "Avoided Energy Supply Costs in New England: 2013 Report," (2013 AESC Study) prepared by Synapse Energy Economics for the Avoided Energy Supply Component Study Group, July 2013.[1] This report was sponsored by all the electric and gas efficiency program administrators in New England and is designed to be used for cost effectiveness screening in 2014 and 2015.

As specified in the Standards,

a. The Utility shall assess measure, program and portfolio cost-effectiveness according to the Total Resource Cost test (TRC) The Utility shall, after consultation with the Council, propose the specific benefits and costs to be reported and factors to be included in the Rhode Island TRC test and include them in the EE Procurement Plan. These benefits may include resource impacts and non-energy impacts. The accrual of non-energy impacts to only specific programs or technologies, such as income-eligible programs or combined heat and power, may be considered.

b. That test shall include the costs of CO2 mitigation as they are imposed and are projected to be imposed by the Regional Greenhouse Gas Initiative. The test shall also include any other utility system costs associated with reasonably anticipated future greenhouse gas reduction requirements at the state, regional, or federal level for both electric and gas programs. A comparable benefit for greenhouse gas reduction resulting from natural gas or delivered fuel energy efficiency or displacement may be considered.

[1] http://www.synapse-energy.com/project/avoided-energy-supply-costs-new-england

c. Benefits and costs that are projected to occur over the term of each EE Program Plan shall be stated in present value terms in the TRC test calculation, using a discount rate that appropriately reflects the risks of the investment of customer funds in energy efficiency; in other words, a low-risk discount rate which would indicate that energy efficiency is a low-risk resource in terms of cost of capital risk, project risk, and portfolio risk. The discount rate shall be reviewed and updated for each EE Program Plan, as appropriate, to ensure that the applied discount rate is based on the most recent information available.

The Total Resource Cost (TRC) Test Overview

The TRC Test compares the present value of a stream of **net benefits** associated with the **net savings** of an energy efficiency measure or program **over the life** of that measure or program to the total costs necessary to implement the measure or program. The term "resource" focuses this test on the benefits and costs associated with the procurement, or acquisition, of a resource, in this case, energy efficiency. The TRC Test may be applied to any energy efficiency program independent of the primary fuel or resource the effort focuses on.

The TRC test captures the value created by efficiency measures installed in a particular program year over the useful life of the measure. The measure life is based on the technical life of the measure modified to reflect expected measure persistence. Because the TRC test captures the value associated with a stream of benefits over a period of time, the benefits from a measure are present valued so that costs and benefits may be compared.

The benefits calculated in the TRC Test are the avoided resource supply and delivery costs, valued at marginal cost for the periods when there is a load reduction, as well as the monetized value of non-resource savings.

The program costs are those paid by both the utility and by participants plus the increase in supply costs for any period when load is increased. All equipment, installation, O&M, removal, evaluation and administration costs are included.

All savings included in the value calculations are net savings. The expected net savings are typically an engineering estimate of savings modified to reflect the actual realization of savings based on evaluation studies. The expected net savings also reflect market effects due to the program. The TRC test captures the combined effects of a program on both the participating customers and those not participating in a program. From a resource acquisition perspective, if the program induces participants or non-participants

to acquire energy efficiency devices without program expenditures, these effects—known as spillover—should be attributed as program benefits in the TRC Test. The costs incurred by customers to acquire equipment on their own are also counted as costs in the TRC Test.

On the other hand, if a customer accepts program funds to implement an energy efficiency measure they would have done anyway, the savings associated with this practice is known as "free ridership." From the perspective of resource acquisition through utility programs, it is important to distinguish whether the customer would have implemented the efficiency measure without the program. Therefore, savings associated with free-ridership are deducted from program savings.[2]
The benefits and costs considered in Rhode Island are detailed in the next section.

Description of Program Benefits and Costs

The following benefits and costs are included in the TRC test. They are listed here with details after.

1) Electric Energy Benefits
2) Electric Generation Capacity Benefits
3) Electric Transmission Capacity and Distribution Capacity Benefits
4) Natural Gas Benefits
5) Fuel Benefits (including the value of delivered fuel savings from programs that influence delivered fuel consumption)
6) Water and Sewer Benefits
7) Non-Energy impacts
8) Price Effects
9) Combined Heat and Power Benefits
10) Utility Costs
11) Participant Costs

All of the benefits are monetized benefits directly associated with the installation of electricity or natural gas efficiency projects. There are additional effects of energy efficiency felt outside the actual project itself, and not included in the valuation of the project. These are called externalities, or non-embedded values. Per the standards, externalities are not included in the calculation of benefits in the TRC test.

1) Electric Energy Benefits.

[2] Both free-ridership and spillover have been determined from surveys of program participants, non-participants, and other market actors

Avoided electric energy costs are appropriate benefits for inclusion in the TRC Test. When consumers do not have to purchase electric energy because of their investment in energy efficiency, an avoided resource benefit is created.

Electric energy savings are valued using the avoided electric energy costs developed in the 2013 AESC Study, Appendix B[3]. The values in the AESC Study represent wholesale electric energy commodity costs that are avoided when generators produce less electricity because of energy efficiency.[4] They include pool transmission losses incurred from the generator to the point of delivery to the distribution companies, the costs of renewable energy credits borne by generators, and a wholesale risk premium that captures market risk factors typically recovered by generators in their pricing. The avoided energy costs also internalize the expected cost of complying with current or reasonably anticipated future regional or federal greenhouse gas reduction requirements which are borne by generators and passed through in wholesale costs.

The avoided energy costs in the 2013 AESC Study are provided in four different costing periods consistent with ISO-NE definitions. Net energy savings are split up into these periods in the value calculation. The time periods are defined as follows:

- Winter Peak: October – May, 7:00 a.m. – 11:00 p.m., weekdays excluding holidays.
- Winter Off-Peak: October – May; 11:00 p.m. – 7:00 a.m., weekdays. Also including all weekends and ISO defined holidays.
- Summer Peak: June – September, 7:00 a.m. – 11:00 p.m., weekdays excluding holidays.
- Summer Off-Peak: June – September; 11:00 p.m. – 7:00 a.m., weekdays. Also including all weekends and ISO defined holidays.

In the benefits calculation, energy savings are grossed up using factors that represent transmission and distribution losses because a reduction in energy use at the customer means that amount of energy does not have to be generated, plus the extra generation that is needed to cover the losses that occur in the delivery of that energy is not needed.

Net energy savings for a program (or measures aggregated within a program) are allocated to each one of these time periods and multiplied by the appropriate avoided

[3] The values for Rhode Island have also been included as Table E-9 in Appendix 5

[4] Avoided costs may be viewed as a proxy for market costs. However, avoided costs may be different from wholesale market spot costs because avoided costs are based on simulation of market conditions, as opposed to real-time conditions. They may be different from standard offer commodity costs because of time lags and differing opinions on certain key assumptions, such as short term fuel costs.

energy value.[5] The dollar benefits are then grossed up using the appropriate loss factors representing losses from the ISO delivery point to the end use customer.

- Summer Peak Energy Benefit ($) = kWh * $Energy\%_{SummerPk}$ * $SummerPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{SumPk\text{-}kWh}$)
- Summer OffPeak Energy Benefit ($) = kWh * $Energy\%_{SummerOffPk}$ * $SummerOffPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{SummerOffPk\text{-}kWh}$)
- Winter Peak Energy Benefit ($) = kWh * $Energy\%_{WinterPk}$ * $WinterPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{WinterPk\text{-}kWh}$)
- Winter OffPeak Energy Benefit ($) = kWh * $Energy\%_{WinterOffPk}$ * $WinterOffPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{WinterOffPk\text{-}kWh}$)

2) Electric Generation Capacity Benefits.

Avoided electric generation capacity values are appropriate for inclusion in the TRC Test. When generators do not have to build new generation facilities or when construction can be deferred because of consumers' investments in energy efficiency, an avoided resource benefit is created. In the New England capacity market, capacity benefits accrue because demand reduction reduces ISO-NE's installed capacity requirement. The capacity requirement is based on load's contribution to the system peak, which, for ISO-NE, is the summer peak. Therefore, capacity benefits accrue only from summer peak demand reduction; there is currently no winter generation capacity benefit.

Demand savings created through program efforts are valued using the avoided capacity values from the 2013 AESC Study, Appendix B[6]. The values contained in the study reflect the avoided cost of peaking capacity, and incorporate a reserve margin and losses incurred from the generator to the point of delivery to the distribution companies. ISO-New England reserve margins are incorporated into the capacity values, since energy efficiency avoids the back-up reserves for that generation as well as the generation itself. A loss factor representing losses from the ISO delivery point to the end-use customer is used as a multiplier, since those losses are not included in the avoided costs. Demand savings are calculated to be coincident with the ISO-NE definition of peak.

[5] The notation "@Life" in the equation for value for this and other value components is an indication that the avoided value component for each benefit (e.g., electric energy, capacity, natural gas, etc.) is the cumulative net present value (in 2015 dollars) of avoided costs for each year of the planning horizon from the base year over the life of the measure. For example, the avoided value component for a measure with an expected life of ten years for any given benefit component is the sum of the net present value of the annual avoided costs for that component in Year 1, Year 2, Year 3, etc., through Year 10.

[6] The values for Rhode Island have also been included as Table E-9 in Appendix 5

The dollar value of benefits are therefore calculated as

- Generation Capacity Benefit($) = kW_{Summer}*GenerationCapValue$/$kW_{(@Life)}$ * (1 + $\%Losses_{SummerkW}$)

3) Electric Transmission Capacity and Distribution Capacity Benefits.

Avoided transmission and distribution capacity values are appropriate for inclusion in the TRC test. When transmission and distribution facilities do not have to be built or can be deferred because of lower loads as a result of consumers' investments in energy efficiency, an avoided resource benefit is created.

Electric transmission capacity and distribution capacity benefits are valued in the TRC test using avoided transmission and distribution capacity values calculated in a spreadsheet tool that was developed in 2005 by ICF International, Inc., the consultant that performed the biennial avoided cost study for New England's energy efficiency program administrators in that year. The tool calculates an annualized value of statewide avoided transmission and distribution capacity values from company-specific inputs of historic and projected capital expenditures and loads, as well as a carrying charge calculated from applicable tax rates and Federal Energy Regulatory Commission (FERC) Form 1 accounting data.

Capacity loss factors are applied to the avoided T&D capacity costs to account for local transmission and distribution losses from the point of delivery to the distribution company's system to the ultimate customer's facility. Thus, losses will be accounted for from the generator to the end use customer.

T&D benefits could be allocated to summer and winter periods, depending on the relation between summer and winter peaks on the local system. However, the Company's system is summer peaking. Therefore, the T&D benefits will be exclusively associated with summer demand reduction and the dollar value will be calculated as follows:

- Transmission Benefit ($) = ($kW_{Summer}$ * Trans$/$kW_{(@Life)}$ * [1 + ($Losses_{SumkWTrans}$)]
- Distribution Benefit ($) = ($kW_{Summer}$ * Dist$/kWLife_{(@Life)}$ * [1 + ($Losses_{SumkWDist}$)]

4) Natural Gas Benefits

Avoided natural gas consumption is appropriate for inclusion in the TRC Test. When a project in which consumers have invested saves natural gas, an avoided resource benefit is created.

Natural gas benefits in the TRC Test will be valued using avoided natural gas values from the 2013 AESC Study, Appendix C[7]. These costs include commodity, transportation, and retail delivery charges that would be avoided by fuels not consumed by end users. In addition, the costs associated with future anticipated federal CO2 regulations may be avoided by natural gas energy efficiency. Estimates of this value were obtained from Exhibit 4-7 in the "Avoided Energy Supply Costs in New England: 2013 Report". In consultation with the Collaborative, the Company developed a methodology to add the greenhouse gas reduction benefit from reductions in natural gas usage resulting from the Company's energy efficiency programs.

The AESC Study Report presents avoided natural gas value components into end-use categories to match with individual program characteristics. The natural gas categories are:

- Commercial and industrial, non-heating. This assumes savings are constant throughout the year and averages monthly natural gas values over 12 months.
- Commercial and industrial, heating. Averages the monthly values for the months of November through March.
- Residential heating. Averages the monthly values for the months of November through March. As these months have the highest natural gas values, by averaging over a fewer number of months, natural gas savings in this category typically have the highest value.
- Domestic hot water. This assumes savings are constant throughout the year and averages monthly natural gas values over 12 months.

Using each of these end-use value components, the dollar value of fuel benefits is calculated as:

- Natural Gas Benefits ($) = MMBtu Gas Savings * (Gas$/MMBTU$_{(EndUseCategory,@Life)}$ +Greenhouse Gas $/MMBTU$_{(@Life)}$)

5) Delivered Fuel Benefits

Avoided delivered fuel costs (natural gas, propane, or fuel oil) are appropriate for inclusion in the TRC Test. When a project in which consumers have invested saves fuel an avoided resource benefit is created.

Fuel benefits in the TRC Test are valued using avoided fuel values from the 2013 AESC Study, Appendix D. The fuel oil categories are Residential #2, Commercial #2, Commercial #4, and Commercial and Industrial #6.

[7] The values for Rhode Island have also been included as Table G-9 in Appendix 5

Using each of these end-use value components, the dollar value of fuel benefits is calculated as:

- Fuel Benefits ($) = MMBTU_Fuel Savings * Fuel$/MMBTU$_{(EndUseCategory,@Life)}$

6) Water and Sewer Benefits

Water savings created from program efforts should be valued and included in the TRC Test. Water savings can be valued using avoided water and sewer values that are based on average water and sewer rates in Rhode Island. While there are no specific water efficiency measures, when a project in which consumers have invested to save electricity or fuel also affects water consumption—for example, a cooling tower project that reduces makeup water needed—a resource benefit is created. Depending on the project and metering configuration, changes in water consumption may also affect sewerage billings.

Water and sewerage rates were determined from an August 2014 internet survey of rates posted by the City of Providence[8] and the Narragansett Bay Commission[9].

Water and sewer benefits are counted for all projects, where appropriate, and calculated as follows:

- Water and Sewerage Benefits ($) = Water and/or Sewerage Savings * Water and/or Sewer $/Gal$_{(@Life)}$

7) Non-Energy Impacts

Other quantifiable non-resource or non-energy impacts may be created as a direct result of Least Cost Procurement efforts and, are therefore appropriate for inclusion in the TRC Test. Non-energy impacts are typically associated with the number of measures installed, rather than the energy consumption of the equipment. They may be positive or negative. They may be one time benefits or recur annually. These effects will be included when they are a direct result of the measure and when they are quantifiable and avoidable.

---

[8] Water Rates." Providence Water Supply Board. 2014.

<http://www.provwater.com/depts/cs/billrates.htm>

[9] "Rates." Narragansett Bay Commission. 2014.

<http://www.narrabay.com/en/Customer%20Service/Rates.aspx>

The specific values of non-energy impacts used in the 2015 EEPP for prescriptive measures are documented in the 2015 RI Technical Reference Manual. Non-energy impacts may include – but are not limited to – labor, material, facility use, health and safety, materials handling, property values, and transportation. For low income measures, non-energy impacts also include the impacts of having lower energy bills to pay, such as reduced arrearages or avoided utility shut off costs. Non-energy impacts for Commercial and Industrial custom measures are counted when supported by site specific engineering calculations or other analyses.

The dollar value of non-resource benefits will be calculated as follows

- One-time Non-energy impacts ($) = Non-energy impact ($)/unit * Number of units
- Annual Non-energy impacts ($) = Non-energy impact ($)/unit * Number of units * Present Worth Factor$_{(@Life)}$

8) Price Effects

The Demand-Reduction-Induced Price Effect (DRIPE) is the reduction in prices in energy and capacity markets resulting from the reduction in need for energy and/or capacity due to efficiency and/or demand response programs. Consumers' investments in energy efficiency avoid both marginal energy production and capital investments, but also lead to structural changes in the market due to lower demand. Over a period of time, the market adjusts to lower demand, but until that time the reduced demand leads to a reduction in the market price of electricity. This is the observed in the New England market when ISO-New England activates its price response programs. When this price effect is a result of consumers' investments in energy efficiency, it is appropriate to include it in the TRC Test.

DRIPE effects are very small when expressed in terms of an impact on market prices, i.e., reductions of a fraction of a percent. However, the DRIPE impacts are significant when expressed in absolute dollar terms over all the kWh transacted in the market. Very small impacts on market prices, when applied to all energy and capacity being purchased in the market, translate into large absolute dollar amounts.

DRIPE values developed for energy efficiency installations in 2015 from the 2013 AESC Study are used in the TRC test. The price effects are expressed as $/kWh for each of the four energy costing periods, $/kW for capacity, and $/MMBtu for natural gas. In addition, there are cross fuel effects that are counted for when natural gas energy efficiency affects the price of electricity. For example, homes and generators compete for natural gas in winter. Scarcity of natural gas for generation may drive up the cost of electricity. Therefore, reduction in natural gas consumption due to energy efficiency

may cause a price effect for electricity. (Even though the price effect is in electricity, that DRIPE benefit is converted to $/MMBtu so that it can be attributed to the gas savings that create the effect.) The DRIPE benefit is calculated as

- Summer Peak Energy DRIPE Benefit ($) = kWh * $Energy\%_{SumPk}$ * ($SummerPkDRIPE\$/kWh_{(@Life}$+$ElectricGasDRIPE\$/kWh_{)}$ * (1 + $\%Losses_{SummerPk\text{-}kWh}$)
- Summer OffPeak Energy DRIPE Benefit ($) = kWh * $Energy\%_{SumOffPk}$ * ($SumOffPkDRIPE\$/kWh_{(@Life}$ +$ElectricGasDRIPE\$/kWh_{)}$ * (1 + $\%Losses_{SummerOffPk\text{-}kWh}$)
- Winter Peak Energy DRIPE Benefit ($) = kWh * $Energy\%_{WinterPk}$ * ($WinterPkDRIPE\$/kWh_{(@Life}$+$ElectricGasDRIPE\$/kWh_{)}$ * (1 + $\%Losses_{WinterPk\text{-}kWh}$)
- Winter OffPeak Energy DRIPE Benefit ($) = kWh * $Energy\%_{WinOffPk}$ * ($WinterOffPkDRIPE\$/kWh_{(@Life}$+$ElectricGasDRIPE\$/kWh_{)}$ * (1 + $\%Losses_{WinterOffPk\text{-}kWh}$)
- Generation Capacity DRIPE Benefit($) = kW_{Summer} * $CapDRIPEValue\$/kW_{(@Life)}$ * (1 + $\%Losses_{SummerkW}$)
- Natural Gas DRIPE Benefit ($) = MMBTU_Fuel Savings * ($GasDRIPEValue\$/MMBTU_{(@Life)}$ +GasElectricDRIPE$/MMBtu)

9) CHP Benefits

R.I.G.L. §39-1-27.7(c) (6) (iii) directs the Company to support the development of combined heat and power. In addition, the law requires that the following criteria be factored into the Company's CHP plan: (i) economic development benefits in Rhode Island; (ii) energy and cost savings for customers; (iii) energy supply costs; (iv) greenhouse gas emissions standards and air quality benefits; and (v) system reliability benefits. [10] Of these, energy and cost savings and energy supply costs are captured in the energy benefits described above. The other three benefits – economic development, greenhouse gas, and system reliability benefits – are described here.

Economic Development

For all CHP projects, net economic development benefits will be counted as benefits. The rate of economic development benefit will be $2.73 of lifetime gross state product increase per dollar of program investment, based on the report, "Macroeconomic Impacts of Rhode Island Energy Efficiency Investments: REMI Analysis of National Grid's Energy Efficiency Programs, prepare by National Grid in August 2014, as an update to the 2009 study "Energy Efficiency in Rhode Island: Engine of Economic Growth,"

[10] See R.I.G.L. § 39-1-27.7(c) (6) (iii).

prepared by Environment Northeast[11]. The $2.73 multiplier reflects the present value of lifetime gross state product effects. Therefore, the CHP Economic Development benefits will be calculated as

- Incentive payment($) x $2.73

Greenhouse gas reduction benefits

For all CHP projects, greenhouse gas mitigation and air quality benefits will be counted as benefits to the extent they are not already captured in the BCR screening values. The environmental/emissions related health costs and benefits will be estimated using methods that are accepted nationally, such as the Co-benefits Risk Assessment (COBRA) Screening Model presented by the U.S. EPA for such purposes. The following table, updated for this plan, illustrates the benefits on a per ton basis resulting from the mitigation of several pollutants by Rhode Island county;

Statewide Health Benefits from One Ton Reduction of Each Pollutant in Indicated County

County	**Pollutant**				
	VOC	NH3	NOx	SO2	PM
Bristol	$169	$26,211	$0	$10,619	$61,638
Kent	$1,991	$245,623	$0	$25,601	$235,160
Newport	$404	$63,165	$0	$10,832	$103,259
Providence	$5,340	$238,033	$0	$28,457	$233,166
Washington	$514	$80,832	$0	$10,294	$103,615

Value from mitigation of CO2 under enacted legislation in Rhode Island is already embedded in avoided energy costs in benefit-cost analysis.

System Reliability

If a CHP project is proposed in a system reliability target area, the system reliability benefits from deferring a distribution system upgrade would be captured in the System Reliability Procurement report. In the context of CHP located elsewhere in the state, system reliability benefits are the local distribution benefits created by the introduction of the CHP unit in the local area. It is important to note that CHP projects do not produce the same level of deferred distribution investment savings described in Section

[11] The report does not differentiate between job creation and job retention benefits. The Company will attempt to assess whether these benefits can be disaggregated for the purposes of inclusion in the benefit cost test.

(3) above as traditional energy efficiency.[12] Accordingly, the distribution benefits are modified as follows

- For CHP systems of less than 1 MW net capacity, the distribution deferral benefit value estimated by the Company based on system wide averages will be multiplied by 0.75 to incorporate an estimate of the reliability experience of discrete deployment of CHP units compared with end-use reduction efficiency measures which are spread across the state;[13]
- For CHP systems equal to or greater than 1 MW net capacity, the distribution benefit will consider location-specific distribution benefits, as opposed to average system-wide benefits. The results of this analysis will replace the adjusted 0.75 of average system-wide distribution benefit described for CHP projects of less than 1 MW. This may entail a detailed engineering analysis performed by the Company, and additional cost. This consideration will have two parts: 1) identification of foreseeable investments that the CHP installation could potentially help defer, and their value; and 2) whether the unit will be sufficiently reliable, or firmed through the provision of physical assurance by the customer, to enable such savings to be realized
- For CHP projects greater of 1 net MW or greater, gas system benefits not paid out as incentives to the Customer via the AGT incentive or gas service contract terms will be counted as benefits.[14]

---

[12] With traditional energy efficiency projects, the installed measures permanently reduce load on the electric distribution system and, therefore, reduce the need to make distribution investments. CHP projects may not result in similar deferred distribution investment savings. A CHP unit may not be available at all peak times, and, absent any contractual or mechanical modification to ensure that the load does not reappear, the Company will still need to design and maintain the distribution system for when that unit goes off line during a peak hour on a peak day. This is particularly significant with larger CHP projects, in which a single host customer represents a significant percentage of the total load on a feeder. With multiple smaller units, some level of savings is possible, but these units are still not likely to produce distribution benefits in the same manner as traditional energy efficiency.

[13] As explained in footnote 12, *supra*, while multiple small CHP units may produce some level of savings, these units are still not likely to produce distribution benefits in the same manner as traditional energy efficiency. Therefore, the 0.75 factor is adopted as a planning assumption to represent the contingency that, when a single CHP unit on a feeder fails to perform, the load reappears on the system. As more CHP units, particularly smaller units, are deployed in the state, the diversity of operation may allow the adjustment factor to be increased. The Company intends to review this planning assumption based on actual experience for future EE Program Plan filings.

[14] For example, a 3 MW installation with an additional sales volume of approximately 150,000 Dth per year would generate approximately $130,000 of marginal revenue per year under current rates. Assuming $100,000 of capital costs, the project could qualify for up to $573,000 in AGT funding, subject to budget limitations.

11) Utility Costs

Utility costs incurred to achieve implementation of energy efficiency measures and programs are appropriate for inclusion in the TRC Test. These costs have been categorized as follows:

- Program Planning and Administration (PP&A): These costs are the administrative costs associated with the utility role in program delivery, including payroll, information technology, contract administration, and overhead expenses.
- Sales, training of program delivery personnel and technical assistance.
- Marketing: These are the costs of marketing and advertising to promote a program. The costs also include the payroll and expenses to manage marketing.
- Rebates and Other Customer Incentives: These are the incentives from the programs to customers to move them to install energy efficient equipment. Incentives include, but are not limited to, rebates to customers, copayments to vendors for direct installation of measures, payments to distributors to buy down the cost of their products for sale in retail stores, payments to vendors to create and deliver information, the cost of an education course, or payments to lenders to buy down the interest in a loan. Customer incentives typically cover a portion of the equipment and installation costs directly associated with the energy efficient equipment being installed.[15] For a retrofit project, the customer incentives cover a portion of the full cost of the efficiency project, as it is assumed that the alternative to the project is no customer action. For a failed equipment replacement/renovation/new construction project, these customer incentives cover a portion of the incremental additional costs associated with moving to a higher efficiency item or practice compared to what the customer would have done otherwise.
- Sales, Technical Assistance and Training (STAT): These costs include the training and education of the trade ally community regarding the company's current energy efficiency programs. Examples of trade allies include but are not limited to: equipment vendors, heating contractors, lead vendors, project expediters, weatherization contractors, and equipment installers. These costs also include the tasks associated with internal and contractual delivery of programs. Tasks associated with this budget category include but are not limited to: lead intake, customer service, rebate application, quality assurance, technical assessments, engineering studies, plan reviews, payroll and expenses.

[15] The full cost of the efficiency project is not necessarily the same thing as the full cost of the project being undertaken by the customer. For example, a customer may be renovating an HVAC system including installation of a new chiller and chilled water distribution. While the new distribution system may be part of the construction project, if it does not contribute to energy savings, it will not be included in the efficiency project cost; only the incremental cost of the new efficient chiller will be considered.

- Evaluation. These are the costs of evaluation or market research studies to support program direction and post-installation studies to study program effectiveness or verification of savings estimates. These costs also include the payroll and expenses to manage the research.
- Shareholder Incentive. This is the incentive received by the Company for meeting specified savings goals and/or performance targets; because the Company would not implement energy efficiency programs to the extent it does without the incentive, the shareholder incentive is included in the cost of energy efficiency.

13) Customer Costs

The customer's costs include their contribution to the installation cost of the efficient measure. Typically, this is the portion of the equipment and installation cost not covered by the customer incentive. As noted above, it excludes the cost of equipment that might be part of the customer's construction project, but that is not related to the energy efficiency portion of the project.

Benefit/Cost Calculations

The cost effectiveness of a measure, program, or portfolio is simply the ratio of the net present value of the benefits to the net present value of the costs.

For the 2015 EE Program Plan, all costs and benefits will be expressed in constant 2015 dollars. Where escalation of avoided costs or costs is needed to produce values in 2015 dollars, appropriate inflation rates are used.

The avoided value component for each benefit (e.g., electric energy, capacity, natural gas, etc.) is the cumulative net present value (in 2015 dollars) of lifetime avoided costs for each year of the planning horizon from the base year up to the measure life of the equipment. Since all of the future year values are in constant 2015 dollars, lifetime benefits thus calculated are discounted back to mid-2015 using a real discount rate equal to [(1 + Nominal Discount Rate) / (1 + Inflation)] - 1.

As prescribed by the Standards, all values in the Plan and the benefit-cost model are stated in present value terms, "using a discount rate that appropriately reflects the risks of the investment of customer funds in energy efficiency; in other words, a low-risk discount rate which would indicate that energy efficiency is a low-risk resource in terms of cost of capital risk, project risk, and portfolio risk". Specifically for the 2015-2017 Plan, the Company used a real discount rate of 0.75% equal to the twelve-month

average of the historic yields from a twenty-year United States Treasury note, using the 2013 calendar year to determine the twelve-month average.

The total benefits will equal the sum of the NPV of each benefit component:

[Energy Benefits + Generation Capacity Benefits + Avoided T&D Benefits + Natural Gas Benefits + Fuel Benefits + Water & Sewer Benefits + Non-Resource Benefits + Price Effects Benefits]

The total costs will equal the sum of the NPV of each cost component:

[Program Planning and Administration + Sales, Training, Technical assistance + Marketing + Rebates and Other Customer Incentives + Evaluation + Shareholder incentive]

The TRC benefit/cost will then equal:

Total NPV Benefits/Total NPV Costs

Per the Standards, on a program level, all benefit categories are included in the benefit/cost calculation. All cost categories, except the shareholder incentive, are included at the program level because they are tracked at that level.[16]

On a sector level, the cost of pilots and educational/outreach programs which are not focused on producing savings and the projected shareholder incentive, are included with the other costs in the determination of cost effectiveness. The shareholder incentive is included at this level because it is designed to achieve savings targets by sector. At a portfolio level, the allocations to the Office of Energy Resources and EERMC are also included in the cost effectiveness calculation.

Separate calculations of benefits and cost-effectiveness are provided for the electric energy efficiency programs and natural gas energy efficiency programs. Some electric energy efficiency programs are expected to produce natural gas savings in addition to electricity savings while some natural gas energy efficiency programs are expected to produce electricity savings in addition to natural gas savings. All of the resource benefits produced by a program are shown with that program. For example, an HVAC project that improves air distribution incented through the electric Large C&I Retrofit Program will produce natural gas savings when natural gas is used by the participant for heating.

[16] Commitments, if any, of customer incentives made from one year to the next are excluded from the program costs used in the benefit/cost calculation. The costs are only counted in the year in which the incentive is paid and the savings are counted.

ATTACHMENT 5

Table E-1
National Grid
Electric DSM Funding Sources in 2015 by Sector
$(000)

		Projections by Sector			
		Income Eligible Residential	Non-Income Eligible Residential	Commercial & Industrial	Total
(1)	**Projected Budget (from E-2):**	**$10,683.35**	**$31,613.88**	**$44,327.30**	**$86,624.53**
	Sources of Other Funding:				
(2)	Projected DSM Commitments at Year-End 2014:	$0.00	$0.00	$491.49	$491.49
(3)	Projected Year-End 2014 Fund Balance and Interest:	$0.00	($1,373.60)	$7,727.20	$6,353.60
(4)	Projected FCM Payments from ISO-NE:	$169.50	$1,552.80	$2,467.70	$4,189.93
(5)	Projected RGGI Payments:	$147.00	$1,347.30	$2,141.10	$3,635.50
(6)	**Total Other Funding:**	**$316.50**	**$1,526.50**	**$12,827.49**	**$14,670.51**
(7)	**Customer Funding Required:**	**$10,366.85**	**$30,087.38**	**$31,499.81**	**$71,954.02**
(8)	**Forecasted kWh Sales:**	**311,226,560**	**2,851,607,661**	**4,531,667,670**	**7,694,501,891**
(9)	Energy Efficiency Program charge per kWh, excluding uncollectible recovery:				**$0.00935**
(10)	Proposed System Reliability Factor per kWh, excluding uncollectible recovery:				$0.00007
(11)	Total Proposed Energy Efficiency Charge per kWh, excluding uncollectible recovery:				$0.00942
(12)	Currently Effective Uncollectible Rate				1.25%
(13)	**Energy Efficiency Program charge per kWh, including uncollectible recovery:**				$0.00953
(14)	Currently Effective EE Charge				$0.00911
(15)	Proposed Adjustment to Reflect Fully Reconciling Funding Mechanism				$0.00042

Notes:
(1) Projected Budget from E-2 includes Regulatory costs allocated to each sector based on forecasted sales.
(2) DSM Commitments are projects that are under construction with anticipated completion in 2015.
(3) Fund balance projections include projected revenue and spend through year end with Low Income sector set to $0 through projected subsidization from other sectors, minus commitments which are illustrated separately on line (3).
(4) & (5) The total projection of FCM and RGGI revenues are allocated by kWh sales to each sector.

(8) Projected street lighting and sales for resale kWh have been allocated to each sector based on the forecasted of sales in each sector excluding expected street lighting sales.
(10) Proposed System Reliability Factor is from the 2015 System Reliability Procurement Plan.
(14) Currently Effective EE Charge includes System Reliability Factor and uncollectible recovery.

Table E-2
National Grid
2015 Electric Energy Efficiency Program Budget ($000)

	Program Planning & Administration	Marketing	Rebates and Other Customer Incentives	Sales, Technical Assistance & Training	Evaluation & Market Research	Shareholder Incentive	Grand Total
Non-Income Eligible Residential							
Residential New Construction	$137.4	$31.0	$323.2	$468.2	$2.2		$962.0
ENERGY STAR® HVAC	$81.7	$237.9	$773.7	$220.9	$31.4		$1,345.6
Energy*Wise*	$313.9	$359.0	$7,655.0	$477.9	$77.9		$8,883.7
Energy*Wise* Multifamily	$74.0	$63.5	$2,646.0	$348.8	$61.6		$3,193.9
ENERGY STAR® Lighting	$196.9	$590.7	$7,497.9	$370.6	$69.8		$8,725.9
ENERGY STAR® Appliances	$113.4	$550.2	$834.2	$796.9	$37.7		$2,332.4
Home Energy Reports	$67.7	$41.1	$2,370.4	$38.3	$76.7		$2,594.2
Energy Efficiency Educational Programs	$0.0	$0.0	$0.0	$50.0	$0.0		$50.0
Residential Products Pilot	$19.2	$4.4	$340.0	$109.5	$80.6		$553.7
Community Based Initiatives - Residential	$18.8	$11.2	$15.0	$250.6	$38.2		$333.8
Comprehensive Marketing - Residential[2]	$50.7	$581.5	$0.0	$1.7	$1.8		$635.7
Residential Shareholder Incentive	$0.0	$0.0	$0.0	$0.0	$0.0	$1,480.5	$1,480.5
Subtotal - Non-Income Eligible Residential	**$1,073.8**	**$2,470.4**	**$22,455.4**	**$3,133.5**	**$477.7**	**$1,480.5**	**$31,091.3**
Income Eligible Residential							
Single Family - Income Eligible Services	$291.0	$35.5	$5,715.9	$1,764.2	$13.6		$7,820.2
Income Eligible Multifamily	$77.9	$15.0	$1,740.0	$465.4	$1.9		$2,300.1
Income Eligible Shareholder Incentive	$0.0	$0.0	$0.0	$0.0	$0.0	$506.0	$506.0
Subtotal - Income Eligible Residential	**$368.8**	**$50.5**	**$7,455.9**	**$2,229.6**	**$15.4**	**$506.0**	**$10,626.3**
Commercial & Industrial							
Large Commercial New Construction	$471.4	$330.3	$5,671.2	$2,211.4	$184.7		$8,869.1
Large Commercial Retrofit	$669.4	$276.4	$8,383.7	$3,333.3	$184.3		$12,847.0
Small Business Direct Install	$571.2	$378.0	$13,440.8	$777.8	$130.7		$15,298.5
Community Based Initiatives - C&I	$5.1	$0.4	$0.0	$58.2	$12.9		$76.6
Commercial Pilots	$11.1	$3.5	$200.0	$76.9	$41.4		$332.8
Comprehensive Marketing - C&I	$19.2	$141.5	$0.0	$30.7	$0.6		$192.0
Finance Costs	$0.0	$0.0	$4,000.0	$0.0	$0.0		$4,000.0
Commercial & Industrial Shareholder Incentive	$0.0	$0.0	$0.0	$0.0	$0.0	$1,880.8	$1,880.8
Subtotal - Commercial & Industrial	**$1,747.5**	**$1,130.0**	**$31,695.6**	**$6,488.2**	**$554.6**	**$1,880.8**	**$43,496.8**
Regulatory							
OER	$564.1	$0.0	$0.0	$0.0	$0.0		$564.1
EERMC	$846.1	$0.0	$0.0	$0.0	$0.0		$846.1
Subtotal - Regulatory	**$1,410.1**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$1,410.1**
Grand Total	**$4,600.3**	**$3,650.9**	**$61,606.9**	**$11,851.3**	**$1,047.7**	**$3,867.4**	**$86,624.5**
Incremental System Reliability	$50.0	$75.0	$133.4	$104.8	$150.0	$0.0	$513.2

Notes:

(1) 2015 Commitments are anticipated to be $0.

(2) For more information on Finance Costs, please refer to the 2015 C&I Program Description, Attachment 2.

(3) The Small Business Revolving loan fund supports the on-bill repayment of projects. The loan fund does not require additional funds for copays in 2015. Please see table E-10.

(4) OER is 0.8% and EERMC is 1.2% of customers' EE Program Charge collected on Table E-1, minus 2%.

(5) Incremental System Reliability funds are included for illustrative purposes. They are part of the 2015 System Reliability Procurement Report, filed as a separate docket.

Table E-3
National Grid
Derivation of the 2015 Spending and Implementation Budgets ($000)

	Proposed 2015 Budget From E-2	Commitments, Copays and Finance Costs	Regulatory Costs	Shareholder Incentive	Evaluation Expenses	Eligible Sector Spending Budget for Shareholder Incentive on E-9	Implementation Expenses for Cost-Effectiveness on E-5
Non-Income Eligible Residential							
Residential New Construction	$962.0				$2.2		$959.8
ENERGY STAR® HVAC	$1,345.6				$31.4		$1,314.1
EnergyWise	$8,883.7				$77.9		$8,805.8
EnergyWise Multifamily	$3,193.9				$61.6		$3,132.4
ENERGY STAR® Lighting	$8,725.9				$69.8		$8,656.1
ENERGY STAR® Appliances	$2,332.4				$37.7		$2,294.7
Home Energy Reports	$2,594.2				$76.7		$2,517.5
Energy Efficiency Educational Programs	$50.0				$0.0		$50.0
Residential Products Pilot	$553.7				$80.6		$473.2
Community Based Initiatives - Residential	$333.8				$38.2		$295.6
Comprehensive Marketing - Residential2	$635.7				$1.8		$633.9
Residential Shareholder Incentive	$1,480.5			$1,480.5			$0.0
Subtotal - Non-Income Eligible Residential	**$31,091.3**	**$0.0**	**$0.0**	**$1,480.5**	**$477.7**	**$29,610.7**	**$29,133.1**
Income Eligible Residential							
Single Family - Income Eligible Services	$7,820.2				$13.6		$7,806.7
Income Eligible Multifamily	$2,300.1				$1.9		$2,298.2
Income Eligible Shareholder Incentive	$506.0			$506.0			$0.0
Subtotal - Income Eligible Residential	**$10,626.3**	**$0.0**	**$0.0**	**$506.0**	**$15.4**	**$10,120.3**	**$10,104.9**
Commercial & Industrial							
Large Commercial New Construction	$8,869.1	$0.0			$184.7		$8,684.3
Large Commercial Retrofit	$12,847.0	$0.0			$184.3		$12,662.7
Small Business Direct Install	$15,298.5	$0.0			$130.7		$15,167.8
Community Based Initiatives - C&I	$76.6				$12.9		$63.7
Commercial Pilots	$332.8				$41.4		$291.4
Comprehensive Marketing - C&I	$192.0				$0.6		$191.4
Finance Costs	$4,000.0	$4,000.0					$4,000.0
Commercial & Industrial Shareholder Incentive	$1,880.8			$1,880.8			$0.0
Subtotal - Commercial & Industrial	**$43,496.8**	**$4,000.0**	**$0.0**	**$1,880.8**	**$554.6**	**$37,616.0**	**$41,061.4**
Regulatory							
OER	$564.1		$564.1				$564.1
EERMC	$846.1		$846.1				$846.1
Subtotal - Regulatory	**$1,410.1**	**$0.0**	**$1,410.1**	**$0.0**	**$0.0**	**$0.0**	**$1,410.1**
Grand Total	**$86,624.5**	**$4,000.0**	**$1,410.1**	**$3,867.4**	**$1,047.7**	**$77,347.0**	**$81,709.5**

Notes:

(1) Finance Costs are capital costs to secure outside financing funds. Like the historical treatment of copays, outside finance costs do not directly lead to savings, therefore they are excluded from the eligible spending budget and a shareholder incentive is not collected on these funds. They are counted as an implementation expense.

(2) Spending budget = Total Budget from E-2 minus Commitments, Copays, Outside Finance Costs, Regulatory costs, and shareholder incentive.

(3) Implementation Expenses = Total Budget from E-2 minus Commitments, Copays, Evaluation expenses, and shareholder incentive.

(4) System Reliability Procurement funds represent additional funds not included in the calculation of shareholder incentive and are not included in this table. They are shown on Table E-2 and E-5

Table E-4
National Grid
Proposed 2015 Budget Compared to Approved 2014 Budget ($000)

	Proposed Implementation Budget 2015	Approved Implementation Budget 2014	Difference
Non-Income Eligible Residential			
Residential New Construction	$959.8	$910.3	$49.6
ENERGY STAR® HVAC	$1,314.1	$919.7	$394.4
Energy*Wise*	$8,805.8	$6,448.4	$2,357.4
Energy*Wise* Multifamily	$3,132.4	$2,419.8	$712.5
ENERGY STAR® Lighting	$8,656.1	$7,389.7	$1,266.4
ENERGY STAR® Appliances	$2,294.7	$2,426.0	-$131.3
Home Energy Reports	$2,517.5	$2,445.2	$72.3
Energy Efficiency Educational Programs	$50.0	$50.7	-$0.7
Residential Products Pilot	$473.2	$248.8	$224.3
Community Based Initiatives - Residential	$295.6	$226.4	$69.2
Comprehensive Marketing - Residential[2]	$633.9	$581.9	$52.0
Subtotal - Non-Income Eligible Residential	**$29,133.1**	**$24,066.9**	**$5,066.1**
Income Eligible Residential			
Single Family - Income Eligible Services	$7,806.7	$7,207.0	$599.7
Income Eligible Multifamily	$2,298.2	$2,092.3	$205.9
Subtotal - Income Eligible Residential	**$10,104.9**	**$9,299.3**	**$805.5**
Commercial & Industrial			
Large Commercial New Construction	$8,684.3	$7,811.0	$873.3
Large Commercial Retrofit	$12,662.7	$25,218.1	-$12,555.4
Small Business Direct Install	$15,167.8	$12,645.5	$2,522.4
Community Based Initiatives - C&I	$63.7	$41.5	$22.3
Commercial Pilots	$291.4	$364.1	-$72.7
Comprehensive Marketing - C&I	$191.4	$150.2	$41.2
Finance Costs	$4,000.0	$1,000.0	$3,000.0
Subtotal Commercial & Industrial	**$41,061.4**	**$47,230.3**	**-$6,168.9**
Regulatory			
EERMC	$846.1	$816.7	$29.4
OER	$564.1	$565.6	-$1.5
Subtotal Regulatory	**$1,410.1**	**$1,382.3**	**$27.8**
TOTAL IMPLEMENTATION BUDGET	**$81,709.5**	**$81,978.9**	**-$269.4**
OTHER EXPENSE ITEMS			
Commitments	$0.0	$0.0	$0.0
Small Business Revolving Loan Fund	$0.0	$0.0	$0.0
Company Incentive	$3,867.4	$4,031.8	-$164.4
Evaluation	$1,047.7	$1,039.4	$8.3
Subtotal - Other Expense Items	**$4,915.0**	**$5,071.2**	**-$156.1**
TOTAL BUDGET		**$87,050.1**	**-$87,050.1**

Notes:

(1) Program Implementation Budget excludes Commitments, Company Incentive and Evaluation; derived on Table E-3

(2) Total Budget includes Implementation, Commitments, Evaluation; illustrated on Table E-3

Table E-5
National Grid
Calculation of 2015 Program Year Cost-Effectiveness
All Dollar Values in ($000)

	TRC Benefit/ Cost[1]	Total Benefit	Program Implementation Expenses[2]	Customer Contribution	Evaluation Cost	Shareholder Incentive	¢/Lifetime kWh
Non-Income Eligible Residential							
Residential New Construction	1.90	$ 1,831.9	$ 959.8	$ -	$ 2.2	NA	13.8
ENERGY STAR® HVAC	1.34	$ 2,176.9	$ 1,314.1	$ 277.9	$ 31.4	NA	13.2
Energy*Wise*	2.95	$ 30,224.6	$ 8,805.8	$ 1,363.0	$ 77.9	NA	9.2
Energy*Wise* Multifamily	1.07	$ 3,501.5	$ 3,132.4	$ 90.8	$ 61.6	NA	9.3
Home Energy Reports	1.16	$ 3,004.6	$ 2,517.5	$ -	$ 76.7	NA	10.1
ENERGY STAR® Lighting	2.48	$ 48,121.2	$ 8,656.1	$ 10,664.2	$ 69.8	NA	5.0
ENERGY STAR® Products	3.47	$ 10,325.6	$ 2,294.7	$ 644.7	$ 37.7	NA	8.5
Energy Efficiency Education Programs		$ -	$ 50.0	$ -	$ -	NA	
Residential Products Pilot		$ -	$ 473.2	$ -	$ 80.6	NA	
Community Based Initiatives - Residential		$ -	$ 295.6	$ -	$ 38.2	NA	
Comprehensive Marketing - Residential		$ -	$ 633.9	$ -	$ 1.8	NA	
n-Income Eligible Residential SUBTOTAL	**2.25**	**$ 99,186.3**	**$ 29,133.1**	**$ 13,040.8**	**$ 477.7**	**$ 1,480.5**	**6.9**
Income Eligible Residential							
Single Family - Income Eligible Services	1.99	$ 15,600.1	$ 7,806.7	$ -	$ 13.6	NA	21.1
Income Eligible Multifamily	1.34	$ 3,073.9	$ 2,298.2	$ -	$ 1.9	NA	7.8
Income Eligible Residential SUBTOTAL	**1.76**	**$ 18,674.0**	**$ 10,104.9**	**$ -**	**$ 15.4**	**$ 506.0**	**15.2**
Commercial & Industrial							
Large Commercial New Construction	7.07	$ 68,545.1	$ 8,684.3	$ 830.4	$ 184.7	NA	1.9
Large Commercial Retrofit	2.66	$ 54,361.5	$ 12,662.7	$ 7,579.3	$ 184.3	NA	4.2
Small Business Direct Install	1.80	$ 37,119.5	$ 15,167.8	$ 5,346.8	$ 130.7	NA	7.3
Community Based Initiatives - C&I		$ -	$ 63.7	$ -	$ 12.9	NA	
Commercial Pilots		$ -	$ 291.4	$ -	$ 41.4	NA	
Comprehensive Marketing - C&I		$ -	$ 191.4	$ -	$ 0.6	NA	
Finance Costs		$ -	$ 4,000.0	$ -	$ -	NA	
C&I SUBTOTAL	**2.80**	**$ 160,026.1**	**$ 41,061.4**	**$ 13,756.5**	**$ 554.6**	**$ 1,880.8**	**4.3**
Regulatory							
OER			$ 564.1				
EERMC			$ 846.1				
Regulatory SUBTOTAL			**$ 1,410.1**				
TOTAL	**2.45**	**$ 277,886.4**	**$ 81,709.5**	**$ 26,797.2**	**$ 1,047.7**	**$ 3,867.4**	**5.6**

Notes:
(1) TRC B/C Test = (Energy + Capacity + Resource Benefits) / (Program Implementation + Evaluation Costs + Customer Contribution + Shareholder Incentive)
Also includes effects of free-ridership and spillover.
(2) For Implementation Expenses derivation, see Table E-3.
(3) System Reliability may leverage some of the energy efficiency savings and benefits. Energy efficiency savings and benefits are attributed to the program in which they occur. The incremental costs and benefits of System Reliability appear below along with the resulting Total in order to illustrate that the existing Energy Efficiency programs are cost effective with the additional expenses. For more information please see the 2015 System Reliability Procurement Report.

System Reliability Procurement		$ 723.1	$ 363.2	$ 1.1	$ 150.0	$ -	
Total with System Reliability	2.45	$ 278,609.5	$ 82,072.7	$ 26,798.3	$ 1,197.7	$ 3,867.4	5.8

Table E-6
National Grid
Summary of 2015 Benefits and Savings by Program

	Benefits (000's)													Load Reduction in kW			MWh Saved	
		Capacity					Energy					Non Electric						
		Generation					Winter		Summer								Maximum	
	Total	Summer	Winter	Trans	MDC	DRIPE	Peak	Off Peak	Peak	Off Peak	DRIPE	Resource	Non Resource	Summer	Winter	Lifetime	Annual	Lifetime
Non-Income Eligible Residential																		
Residential New Construction	$1,832	$387	$0	$129	$552	$13	$152	$186	$79	$81	$51	$177	$25	169	121	3,324	559	6,983
ENERGY STAR® HVAC	$2,177	$297	$0	$110	$470	$16	$247	$193	$267	$132	$115	$292	$37	197	212	2,752	1,020	12,269
Energy*Wise*	$30,225	$1,113	$0	$513	$2,203	$105	$2,718	$2,943	$828	$838	$1,073	$14,774	$3,116	1,383	2,273	12,652	11,157	111,287
Energy*Wise* Multifamily	$3,501	$134	$0	$63	$272	$13	$900	$794	$306	$286	$377	$37	$319	178	271	1,560	3,898	35,388
Home Energy Reports	$3,005	$103	$0	$175	$749	$0	$626	$501	$234	$196	$421	$0	$0	4,161	5,700	4,161	25,634	25,634
ENERGY STAR® Lighting	$48,121	$4,790	$0	$2,081	$8,930	$382	$8,580	$9,636	$3,627	$4,099	$3,505	$0	$2,491	5,125	6,589	51,723	38,859	391,382
ENERGY STAR® Products	$10,326	$379	$0	$203	$873	$47	$674	$778	$338	$359	$426	$70	$6,179	652	607	4,976	4,605	35,125
Non-Income Eligible Residential SUBTOTAL	**$99,186**	**$7,204**	**$0**	**$3,274**	**$14,049**	**$576**	**$13,898**	**$15,031**	**$5,679**	**$5,991**	**$5,968**	**$15,350**	**$12,168**	**11,865**	**15,774**	**81,149**	**85,733**	**618,068**
Income Eligible Residential																		
Single Family - Income Eligible Services	$15,600	$401	$0	$181	$775	$33	$932	$917	$337	$314	$342	$8,511	$2,857	479	671	4,484	3,680	37,123
Income Eligible Multifamily	$3,074	$99	$0	$45	$193	$9	$739	$680	$259	$251	$292	$15	$492	120	168	1,111	2,907	29,529
Income Eligible Residential SUBTOTAL	**$18,674**	**$500**	**$0**	**$226**	**$968**	**$42**	**$1,671**	**$1,597**	**$596**	**$566**	**$634**	**$8,525**	**$3,349**	**599**	**839**	**5,595**	**6,587**	**66,652**
Commercial & Industrial																		
Large Commercial New Construction	$68,545	$9,544	$0	$3,633	$15,589	$580	$14,020	$8,999	$8,136	$5,188	$4,124	-$1,269	$0	7,009	6,203	90,939	35,753	509,340
Large Commercial Retrofit	$54,362	$6,220	$0	$2,425	$10,406	$408	$10,805	$6,672	$9,370	$6,279	$4,472	-$4,246	$1,551	4,927	5,245	60,334	39,731	488,624
Small Business Direct Install	$37,119	$5,747	$0	$2,363	$10,142	$440	$9,366	$3,621	$4,602	$1,636	$3,328	-$4,126	$0	5,316	3,802	58,476	25,798	283,778
C&I SUBTOTAL	**$160,026**	**$21,511**	**$0**	**$8,421**	**$36,137**	**$1,429**	**$34,191**	**$19,291**	**$22,108**	**$13,103**	**$11,925**	**-$9,641**	**$1,551**	**17,252**	**15,250**	**209,749**	**101,282**	**1,281,742**
TOTAL	**$277,886**	**$29,215**	**$0**	**$11,921**	**$51,155**	**$2,046**	**$49,760**	**$35,919**	**$28,383**	**$19,659**	**$18,526**	**$14,234**	**$17,068**	**29,715**	**31,863**	**296,493**	**193,602**	**1,966,462**

Table E-7
National Grid
Comparison of 2014 and 2015 Goals

	Proposed 2015			Approved 2014			Difference	
	Annual Demand Savings (kW)	Annual Energy Savings (MWh)	Participants	Annual Energy Savings (MWh)	Participants	Population Reached	Annual Energy Savings (MWh)	Participants
Non-Income Eligible Residential								
Residential New Construction	169	559	430	631	458	8%	-71	(28)
ENERGY STAR® HVAC	197	1,020	1,322	726	1,946	0%	294	(624)
Energy*Wise*	1,383	11,157	9,000	7,674	7,600	2%	3,482	1,400
Energy*Wise* Multifamily	178	3,898	5,000	2,888	4,500	1%	1,010	500
Home Energy Reports	4,161	25,634	268,733	25,028	227,600	58%	607	41,133
ENERGY STAR® Lighting	5,125	38,859	104,825	35,731	247,240	63%	3,128	(142,415)
ENERGY STAR® Products	652	4,605	13,438	3,639	13,285	3%	967	153
Non-Income Eligible Residential SUBTOTAL	**11,865**	**85,733**	**402,748**	**76,317**	**502,629**	**129%**	**9,416**	**(99,881)**
Income Eligible Residential								
Single Family - Income Eligible Services	479	3,680	2,500	3,972	2,450	6%	-292	50
Income Eligible Multifamily	120	2,907	8,000	2,113	3,520	8%	794	4,480
Income Eligible Residential SUBTOTAL	**599**	**6,587**	**10,500**	**6,085**	**5,970**	**14%**	**502**	**4,530**
Commercial & Industrial								
Large Commercial New Construction	7,009	35,753	1,934	27,472	2,192	26%	8,281	(258)
Large Commercial Retrofit	4,927	39,731	341	124,275	833	10%	-84,544	(491)
Small Business Direct Install	5,316	25,798	1,373	21,170	1,510	3%	4,628	(137)
C&I SUBTOTAL	**17,252**	**101,282**	**3,649**	**172,917**	**4,535**	**8%**	**-71,636**	**(886)**
TOTAL	**29,715**	**193,602**	**416,897**	**255,319**	**513,134**	**104%**	**-61,717**	**(96,237)**

Notes:

(1) There are additional Low Income participants in Residential New Construction.

(2) Proposed 2014 Participants for Commerical & Industrial programs based on average savings per participant from 2013 actuals.

(3) % Population reached for both C&I and Residential New Construction assumes an annual new home growth rate of 1.5%

(4) A customer can participate in more than one program, for example, ENERGY STAR® Lighting and Home Energy Reports, therefore the population reached can be more than 100%.

(5) In 2012, the Company modified how it counts participants to better identify unique participants in an effort better estimate penetration rates. Please see the Main Text for a description.

(6) The total poplulation for Residential New Construction is the number of new customer homes that will be built in 2014, which is estimated as 1.5% of the current customer base.

Table E-8
National Grid
Avoided Costs Used in 2015 Benefit-Cost Model

	Rhode Island					DRIPE for Installations in 2015				
	Winter Peak Energy	Winter Off-Peak Energy	Summer Peak Energy	Summer Off-Peak Energy	Annual Market Capacity Value	Winter Peak Energy	Winter Off-Peak Energy	Summer Peak Energy	Summer Off-Peak Energy	Annual Market Capacity Value
Units:	$/kWh	$/kWh	$/kWh	$/kWh	$/kW-yr	$/kWh	$/kWh	$/kWh	$/kWh	$/kW-yr
Period:										
2015	0.065	0.058	0.056	0.048	21.38	0.023	0.007	0.019	0.006	0.00
2016	0.062	0.056	0.056	0.047	19.25	0.024	0.007	0.021	0.006	0.00
2017	0.059	0.052	0.061	0.049	21.38	0.023	0.007	0.024	0.006	18.575
2018	0.062	0.054	0.065	0.051	55.36	0.023	0.007	0.024	0.006	15.754
2019	0.067	0.058	0.070	0.054	61.17	0.020	0.006	0.021	0.005	12.790
2020	0.076	0.067	0.075	0.062	112.96	0.015	0.005	0.015	0.004	9.733
2021	0.076	0.068	0.078	0.063	137.51	0.011	0.003	0.011	0.003	6.583
2022	0.079	0.071	0.078	0.066	137.51	0.007	0.002	0.007	0.002	5.013
2023	0.081	0.073	0.083	0.068	137.51	0.004	0.001	0.004	0.001	3.393
2024	0.084	0.075	0.086	0.070	137.51	0.000	0.000	0.000	0.000	1.722
2025	0.089	0.080	0.092	0.074	137.51					
2026	0.091	0.082	0.095	0.077	137.51					
2027	0.095	0.084	0.098	0.079	137.51					
2028	0.098	0.086	0.100	0.080	137.51					
2029	0.101	0.088	0.103	0.083	137.51					
2030	0.105	0.090	0.106	0.085	137.51					
2031	0.108	0.093	0.110	0.087	137.51					
2032	0.112	0.095	0.114	0.090	137.51					
2033	0.116	0.098	0.118	0.092	137.51					
2034	0.120	0.100	0.121	0.095	137.51					
2035	0.124	0.103	0.126	0.098	137.51					
2036	0.128	0.106	0.130	0.101	137.51					
2037	0.132	0.109	0.134	0.103	137.51					
2038	0.137	0.112	0.139	0.106	137.51					
2039	0.141	0.115	0.143	0.109	137.51					
2040	0.146	0.118	0.148	0.112	137.51					
2041	0.151	0.121	0.153	0.116	137.51					
2042	0.156	0.125	0.159	0.119	137.51					
2043	0.162	0.128	0.164	0.122	137.51					

From 2013 Avoided Cost Study
Appendix B

Table E-9
National Grid
2015 Targeted Shareholder Incentive

Energy Incentive Rate: 3.50%

Sector	(1) Spending Budget $(000)	(2) Target Incentive $(000)	(3) Annual kWh Savings Goal	(4) Threshold kWh Savings	(5) Target Incentive Per kWh
Income Eligible Residential	$10,120	$354	6,587,214	4,940,410	$0.054
Non-Income Eligible Residential	$29,611	$1,036	85,733,018	64,299,763	$0.012
Commercial & Industrial	$37,616	$1,317	101,281,773	75,961,330	$0.013
Total	$77,347	$2,707	193,602,005	145,201,504	$0.014

Demand Incentive Rate: 1.50%

Sector	(6) Spending Budget $(000)	(7) Target Incentive $(000)	(8) Annual kW Savings Goal	(9) Threshold kW Savings	(10) Target Incentive Per kW
Income Eligible Residential	$10,120	$152	599	449	$253.473
Non-Income Eligible Residential	$29,611	$444	11,865	8,899	$37.435
Commercial & Industrial	$37,616	$564	17,252	12,939	$32.707
Total	$77,347	$1,160	29,715	22,287	$39.044

Notes:

(1) and (6) Eligible Spending Budget excludes EERMC, OER, Finance Costs, and Shareholder Incentive. See Table E-3 for details.

(2) Equal to the incentive rate (3.5%) x Column (1).

(3) and (8) See Table E-7

(4) and (9) 75% of Column (3). No incentive is earned on annual kWh savings in the sector unless the Company achieves at least this threshold level of performance.

(5) Column (2)*1000/Column (3). This illustration is for achieved savings equal to the savings target. The incentive earned per kWh will vary with the percent of the savings target achieved

(7) Equal to the incentive rate (1.5%) x Column (1).

(10) Column (7)*1000/Column (8). This illustration is for achieved savings equal to the savings target. The incentive earned per kW will vary with the percent of the savings target achieved

The shareholder incentive will be calculated as follow, where SB is the Spending Budget in the sector:

- From 75% of savings to 100% of savings: Shareholder Incentive = SB x (0.15 x % of savings achieved – 0.10)
- x 0.7 for electric energy savings
- x 0.3 for electric demand savings
- x 1.0 for natural gas savings
- From 100% of savings to 125% of savings: Shareholder Incentive = SB x (0.05 x % of savings achieved)

Table E- 10
National Grid
Revolving Loan Fund Projections

	Large C&I Revolving Loan Fund			Small Business Revolving Loan Fund	
(1)	**Total Loan Fund Deposits Through 2014**	**$ 9,979,678**	(1)	**Total Loan Fund Deposits Through 2014**	**$ 4,158,971**
(2)	Current Loan Fund Balance	$ 6,589,633	(2)	Current Loan Fund Balance	$ 2,706,972
(3)	Projected Loans by Year End	$ 2,857,696	(3)	Projected Loans by Year End	$ 2,079,995
(4)	Projected Repayments by Year End	$ 1,325,791	(4)	Projected Repayments by Year End	$ 1,075,073
(5)	**Projected Year End Loan Fund Balance**	**$ 5,057,728**	**(5)**	**Projected Year End Loan Fund Balance**	**$ 1,702,050**
(6)	Fund Injection	$ 4,000,000	(6)	Fund Injection	$ -
(7)	**Projected Loan Fund Balance, January 2015**	**$ 9,057,728**	**(7)**	**Projected Loan Fund Balance, January 2015**	**$ 1,702,050**
(8)	Projected Repayments throughout 2015	$ 2,091,744	**(8)**	Projected Repayments throughout 2015	$ 1,577,534

Notes

2 Current Loan Fund Balance is through July 2014

3 Projected Loans by Year End 2014 is estimated based on current commitments

4 Projected Repayments by Year End 2014 is estimated based on the monthly average amount of repayments in 2014

5 Equal to (2) - (3) + (4)

6 Fund Injection, as budgeted on E-2; no fund injection projected for Small Business in 2015

7 Equal to (5) + (6)

8 Assumption equal to ((3) + (4))/2; repayments accumulate over time and may vary widely.

ATTACHMENT 6

Table G-1
National Grid
Gas DSM Funding Sources in 2015 by Sector
$(000)

		Projections by Sector			
		Income Eligible Residential	Non-Income Eligible Residential	Commercial & Industrial	Total
(1)	**Projected Budget (from G-2):**	**$5,301.1**	**$11,212.8**	**$8,034.0**	**$24,547.9**
	Sources of Other Funding:				
(2)	Estimated Year-End 2014 Fund Balance and Interest:	($2,185.7)	($766.5)	$359.9	($2,592.3)
(3)	Low Income Weatherization in Base Rates:	$200.00			$200.00
(4)	**Total Other Funding:**	**($1,985.7)**	**($766.5)**	**$359.9**	**($2,392.3)**
(5)	**Customer Funding Required:**	**$7,286.8**	**$11,979.3**	**$7,674.1**	**$26,940.2**
(6)	Forecasted Firm Dth Sales	1,829,713	17,826,464	18,405,312	38,061,489
(7)	Forecasted Non Firm Dth Sales			1,845,460	1,845,460
(8)	Less: Exempt DG Customers			(737,386)	(737,386)
(9)	**Forecasted Dth Sales:**	**1,829,713**	**17,826,464**	**19,513,387**	**39,169,564**
(10)	Average Energy Efficiency Program Charge per Dth excluding Uncollectible Recovery:				$0.687
(11)	Proposed Energy Efficiency Program Charge per Dth excluding Uncollectible Recovery	$0.757	$0.757	$0.617	
(12)	Currently Effective Uncollectible Rate	3.18%	3.18%	3.18%	
(13)	**Proposed Energy Efficiency Program Charge per Dth including Uncollectible Recovery:**	**$0.781**	**$0.781**	**$0.637**	
(14)	Currently Effective Energy Efficiency Program Charge per Dth	$0.600	$0.600	$0.492	
(15)	Adjustment to Reflect Fully Reconciling Funding Mechanism	$0.181	$0.181	$0.145	

Notes

(1) Projected Budget from G-2 includes Regulatory costs allocated to each sector based on forecasted sales.

(2) Fund Balance projetions include projected revenue and spend through year end, with Low Income sector assumption for projected subsidization from other sectors at year end 2014.

(11) As agreed to by the settling parties, the proposed EE program charges allow for the use of collections from one sector to fund energy efficiency services in other sectors that would otherwise not be supported with the proposed collection rates. The C&I charge includes collection of $4,372 to fund the low income sector programs.

Table G-2
National Grid
2015 Gas Energy Efficiency Program Budget ($000)

	Program Planning and Administration	Marketing	Rebates and Other Customer Incentives	Sales, Technical Assistance and Training	Evaluation & Market Research	Shareholder Incentive	Grand Total
Non-Income Eligible Residential:							
ENERGY STAR® HVAC	$88.8	$105.8	$1,034.8	$244.7	$16.0	$0.0	$1,490.2
Energy*Wise*	$131.8	$62.4	$5,680.0	$384.4	$26.5	$0.0	$6,285.2
EnergyWise Multifamily	$17.0	$6.1	$1,350.0	$264.4	$20.2	$0.0	$1,657.8
Home Energy Reports	$11.2	$0.4	$425.3	$8.4	$25.2	$0.0	$470.5
Residential Products Pilot	$4.2	$4.7	$30.0	$34.5	$20.1	$0.0	$93.4
Residential New Construction	$20.1	$0.5	$252.8	$55.1	$0.2	$0.0	$328.7
Comprehensive Marketing - Residential	$4.4	$85.7	$0.0	$0.3	$0.1	$0.0	$90.5
Community Based Initiatives - Residential	$1.5	$10.6	$0.0	$15.1	$5.1	$0.0	$32.3
Residential Shareholder Incentive	$0.0	$0.0	$0.0	$0.0	$0.0	$522.4	$522.4
Subtotal - Non-Income Eligible Residential	**$279.0**	**$276.4**	**$8,773.0**	**$1,007.0**	**$113.3**	**$522.4**	**$10,971.0**
Income Eligible Residential:							
Single Family - Income Eligible Services	$92.0	$8.4	$2,137.5	$883.0	$2.6	$0.0	$3,123.5
Income Eligible Multifamily	$61.6	$7.3	$1,508.0	$323.9	$0.7	$0.0	$1,901.5
Income Eligible Shareholder Incentive	$0.0	$0.0	$0.0	$0.0	$0.0	$251.3	$251.3
Subtotal - Income Eligible Residential	**$153.6**	**$15.7**	**$3,645.5**	**$1,206.9**	**$3.4**	**$251.3**	**$5,276.3**
Commercial & Industrial							
Large Commercial New Construction	$112.3	$127.3	$700.7	$508.4	$69.2	$0.0	$1,517.8
Large Commercial Retrofit	$166.4	$198.6	$2,930.7	$824.4	$88.3	$0.0	$4,208.4
Small Business Direct Install	$9.7	$20.9	$78.2	$204.2	$5.9	$0.0	$318.9
Commercial & Industrial Multifamily	$19.4	$42.5	$510.0	$120.1	$0.2	$0.0	$692.2
Commercial & Industrial Pilots	$9.7	$4.8	$20.0	$28.5	$10.4	$0.0	$73.5
Finance Costs	$0.0	$0.0	$500.0	$0.0	$0.0	$0.0	$500.0
Comprehensive Marketing - Commercial & Industrial	$5.4	$87.3	$0.0	$9.5	$0.1	$0.0	$102.3
Community Based Initiatives - C&I	$0.0	$0.0	$0.0	$10.0	$0.0	$0.0	$10.0
Commercial & Industrial Shareholder Incentive	$0.0	$0.0	$0.0	$0.0	$0.0	$346.2	$346.2
Subtotal - Commercial & Industrial	**$323.0**	**$481.4**	**$4,739.5**	**$1,705.3**	**$174.0**	**$346.16**	**$7,769.3**
Regulatory							
EERMC	$318.8	$0.0	$0.0	$0.0	$0.0	$0.0	$318.8
OER	$212.5	$0.0	$0.0	$0.0	$0.0	$0.0	$212.5
Subtotal - Regulatory	**$531.3**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$531.3**
Grand Total	**$1,286.8**	**$773.4**	**$17,158.0**	**$3,919.1**	**$290.6**	**$1,119.8**	**$24,547.9**

Notes:

(1) OER is equal to 0.8% and EERMC is equal to 1.2% of total collections from customers' Energy Efficiency Program Charge, reduced by 2%.

Table G-3
National Grid
Derivation of the 2015 Spending & Implementation Budgets ($000)

	Proposed 2015 Budget From G-2 ($000)	Outside Finance and Stakeholder Oversight Costs ($000)	Shareholder Incentive ($000)	Evaluation Costs ($000)	Eligible Sector Spending Budget for Shareholder Incentive on G-9 ($000)[1]	Implementation Expenses for Cost-Effectiveness on G-5 ($000)[2]
Non-Income Eligible Residential						
ENERGY STAR® HVAC	$ 1,490.2		$ -	$ 16.0		$ 1,474.2
Energy*Wise*	$ 6,285.2		$ -	$ 26.5		$ 6,258.6
EnergyWise Multifamily	$ 1,657.8		$ -	$ 20.2		$ 1,637.6
Home Energy Reports	$ 470.5		$ -	$ 25.2		$ 445.4
Residential Products Pilot	$ 93.4		$ -	$ 20.1		$ 73.4
Residential New Construction	$ 328.7			$ 0.2		
Comprehensive Marketing - Residential	$ 90.5		$ -	$ 0.1		$ 90.4
Community Based Initiatives - Residential	$ 32.3		$ -	$ 5.1		$ 27.2
Residential Shareholder Incentive	$ 522.4		$ 522.4	$ -		$ -
Subtotal - Non-Income Eligible Residential	**$ 10,971.0**	**$ -**	**$ 522.4**	**$ 113.3**	**$ 10,448.6**	**$ 10,335.3**
Income Eligible Residential						
Single Family - Income Eligible Services	$ 3,123.5		$ -	$ 2.6		$ 3,120.9
Income Eligible Multifamily	$ 1,901.5		$ -	$ 0.7		$ 1,900.8
Income Eligible Shareholder Incentive	$ 251.3		$ 251.3	$ -		$ -
Subtotal - Income Eligible Residential	**$ 5,276.3**	**$ -**	**$ 251.3**	**$ 3.4**	**$ 5,025.1**	**$ 5,021.7**
Commercial & Industrial						
Large Commercial New Construction	$ 1,517.8		$ -	$ 69.2		$ 1,448.7
Large Commercial Retrofit	$ 4,208.4		$ -	$ 88.3		$ 4,120.2
Small Business Direct Install	$ 318.9		$ -	$ 5.9		$ 313.0
Commercial & Industrial Multifamily	$ 692.2		$ -	$ 0.2		$ 692.0
Commercial & Industrial Pilots	$ 73.5		$ -	$ 10.4		$ 63.0
Finance Costs	$ 500.0	$ 500.0	$ -	$ -		$ 500.0
Comprehensive Marketing - Commercial & Industrial	$ 102.3		$ -	$ 0.1		$ 102.2
Community Based Initiatives - C&I	$ 10.0		$ -	$ -		$ 10.0
Commercial & Industrial Shareholder Incentive	$ 346.2		$ 346.2	$ -		$ -
Subtotal - Commercial & Industrial	**$ 7,769.3**	**$ 500.0**	**$ 346.2**	**$ 174.0**	**$ 6,923.1**	**$ 7,249.2**
Regulatory						
EERMC	$ 318.8	$ 318.8				$ 318.8
OER	$ 212.5	$ 212.5				$ 212.5
Subtotal - Regulatory	**$ 531.3**	**$ 531.3**	$ -	$ -		**$ 531.3**
Grand Total	**$ 24,547.9**	**$ 1,031.3**	**$ 1,119.8**	**$ 290.6**	**$ 22,396.8**	**$ 23,137.4**

Notes:
(1) Eligbile Sector Spending Budget = Budget from G-2 minus Regulatory Costs, Finance Costs, and Shareholder Incentive
(2) Implementation Expenses = Budget from G-2 minus Evaluation Costs and Shareholder Incentive

Table G-4
National Grid
Proposed 2015 Budget Compared to Approved 2014 Budget ($000)

	Proposed Budget 2015 from G-2	2014 Approved Gas Budget	Difference
Non-Income Eligible Residential			
ENERGY STAR® HVAC	$ 1,490.2	$ 2,032.0	$ (541.8)
EnergyWise	$ 6,285.2	$ 4,848.6	$ 1,436.5
EnergyWise Multifamily	$ 1,657.8	$ 1,321.4	$ 336.4
Home Energy Reports	$ 470.5	$ 496.0	$ (25.4)
Residential Products Pilot	$ 93.4	$ 136.4	$ (42.9)
Residential New Construction	$ 328.7	$ 610.0	$ (281.3)
Comprehensive Marketing - Residential	$ 90.5	$ 139.8	$ (49.3)
Community Based Initiatives - Residential	$ 32.3	$ 49.5	$ (17.2)
Residential Shareholder Incentive	$ 522.4	$ 481.7	$ 40.7
Subtotal - Non-Income Eligible Residential	**$ 10,971.0**	**$ 10,115.4**	**$ 855.6**
Income Eligible Residential			
Single Family - Income Eligible Services	$ 3,123.5	$ 2,601.3	$ 522.2
Income Eligible Multifamily	$ 1,901.5	$ 1,978.4	$ (76.9)
Income Eligible Shareholder Incentive	$ 251.3	$ 229.0	$ 22.3
Subtotal - Income Eligible Residential	**$ 5,276.3**	**$ 4,808.7**	**$ 467.6**
Commercial & Industrial			
Large Commercial New Construction	$ 1,517.8	$ 2,162.3	$ (644.4)
Large Commercial Retrofit	$ 4,208.4	$ 3,753.3	$ 455.1
Small Business Direct Install	$ 318.9	$ 572.8	$ (253.9)
Commercial & Industrial Multifamily	$ 692.2	$ 489.1	$ 203.1
Commercial & Industrial Pilots	$ 73.5	$ 399.1	$ (325.6)
Finance Costs	$ 500.0	$ 200.0	$ 300.0
Comprehensive Marketing - Commercial & Industrial	$ 102.3	$ 173.7	$ (71.4)
Community Based Initiatives - C&I	$ 10.0	$ 30.0	$ (20.0)
Commercial & Industrial Shareholder Incentive	$ 346.2	$ 379.0	$ (32.9)
Subtotal Commercial & Industrial	**$ 7,769.3**	**$ 8,159.3**	**$ (390.0)**
Regulatory			
EERMC	$ 318.8	$ 245.4	$ 73.3
OER	$ 212.5	$ 163.6	$ 48.9
Subtotal Regulatory	**$ 531.3**	**$ 409.0**	**$ 122.2**
TOTAL BUDGET	**$ 24,547.9**	**$ 23,492.5**	**$ 1,055.4**

Table G-5
National Grid
Calculation of 2015 Program Year Cost-Effectiveness
All Dollar Values in ($000)

	Rhode Island Benefit/ Cost	Total Benefit	Program Implementation Expenses	Customer Contribution	Evaluation Cost	Shareholder Incentive	TRC $/Lifetime MMBtu
Non-Income Eligible Residential							
Energy Star® HVAC	1.42	$ 6,106.8	$ 1,474.2	$ 2,799.6	$ 16.0		$ 8.66
EnergyWise	2.90	$ 22,379.8	$ 6,258.6	$ 1,440.5	$ 26.5		$ 4.72
EnergyWise MultiFamily	1.40	$ 2,410.0	$ 1,637.6	$ 68.2	$ 20.2		$ 7.49
Home Energy Reports	1.14	$ 534.7	$ 445.4	$ -	$ 25.2		$ 9.26
Residential New Construction	3.40	$ 1,118.9	$ 328.5	$ -	$ 0.2		$ 3.21
Comprehensive Marketing - Residential		$ -	$ 90.4	$ -	$ 0.1		
Community Based Initiatives - Residential		$ -	$ 27.2	$ -	$ 5.1		
Residential Products Pilot		$ -	$ 73.4	$ -	$ 20.1		
Non-Income Eligible Residential Subtotal	**2.13**	**$ 32,550.2**	**$ 10,335.3**	**$ 4,308.4**	**$ 113.3**	**$ 522.4**	**$ 5.87**
Income Eligible Residential							
Single Family - Income Eligible Services	1.09	$ 3,414.9	$ 3,120.9	$ -	$ 2.6		$ 17.79
Income Eligible Multifamily	1.83	$ 3,474.4	$ 1,900.8	$ -	$ 0.7		$ 6.86
Income Eligible Residential Subtotal	**1.37**	**$ 6,889.3**	**$ 5,021.7**	**$ -**	**$ 3.4**	**$ 251.3**	**$ 11.09**
Large Commercial & Industrial							
Large Commercial New Construction	5.08	$ 8,183.5	$ 1,448.7	$ 92.1	$ 69.2		$ 2.00
Large Commercial Retrofit	1.84	$ 8,474.3	$ 4,120.2	$ 392.6	$ 88.3		$ 5.28
Small Business Direct Install	1.08	$ 354.3	$ 313.0	$ 8.8	$ 5.9		$ 10.77
Commercial & Industrial Multifamily	2.09	$ 2,215.1	$ 692.0	$ 368.3	$ 0.2		$ 4.96
Comprehensive Marketing - Commercial and Industrial		$ -	$ 102.2	$ -	$ 0.1		
Commercial and Industrial Pilots		$ -	$ 63.0	$ -	$ 10.4		
Community Based Initiatives - C&I		$ -	$ 10.0	$ -	$ -		
Finance Costs		$ -	$ 500.0	$ -	$ -		
Commercial & Industrial Subtotal	**2.23**	**$ 19,227.1**	**$ 7,249.2**	**$ 861.8**	**$ 174.0**	**$ 346.2**	**$ 4.32**
Regulatory							
EERMC			$ 318.8				
OER			$ 212.5				
Regulatory Subtotal			**$ 531.3**				
Grand Total	**1.97**	**$ 58,666.6**	**$ 23,137.4**	**$ 5,170.2**	**$ 290.6**	**$ 1,119.8**	**$ 5.85**

Table G-6
National Grid
Summary of 2015 Benefits and Savings by Program

	Benefits ($000)			MMBTU Gas Saved	
	Total(1)	Natural Gas(2)	Non-Gas Benefit (3)	Annual	Lifetime(4)
Non-Income Eligible Residential					
Energy*Wise*	$22,379.8	$18,061.4	$4,318.3	68,141	1,635,391
Energy Star® HVAC	$6,106.8	$5,224.6	$882.2	29,081	495,422
EnergyWise Multifamily	$2,410.0	$2,410.0	$0.0	15,863	230,293
Home Energy Reports	$534.7	$534.7	$0.0	50,806	50,806
Residential New Construction	$1,118.9	$1,118.9	$0.0	4,796	102,303
Non-Income Eligible Residential SUBTOTAL	**$32,550.2**	**$27,349.7**	**$5,200.5**	**168,687**	**2,514,214**
Income Eligible Residential					
Single Family - Income Eligible Services	$3,414.9	$1,898.5	$1,516.3	8,780	175,600
Income Eligible Multifamily	$3,474.4	$3,452.2	$22.2	19,098	277,354
Income Eligible Residential SUBTOTAL	**$6,889.3**	**$5,350.7**	**$1,538.6**	**27,878**	**452,954**
Commercial & Industrial					
Large Commercial New Construction	$8,183.5	$8,180.7	$2.7	41,802	803,622
Large Commercial Retrofit	$8,474.3	$8,465.1	$9.2	125,711	871,884
Small Business Direct Install	$354.3	$352.4	$1.9	3,489	30,433
Commercial & Industrial Multifamily	$2,215.1	$2,215.1	$0.0	9,396	213,785
Commercial & Industrial SUBTOTAL	**$19,227.1**	**$19,213.3**	**$13.8**	**180,397**	**1,919,724**
TOTAL	**$58,666.6**	**$51,913.7**	**$6,752.9**	**376,963**	**4,886,893**

Table G-7
National Grid
Comparison of 2014 and 2015 Goals

	Proposed 2015		Approved 2014		Difference	
	Annual Energy Savings (MMBTU Natural Gas)	Participants	Annual Energy Savings (MMBTU Natural Gas)	Participants	Annual Energy Savings (MMBTU Natural Gas)	Participants
Non-Income Eligible Residential						
Energy*Wise*	68,141	2,400	30,120	2,000	38,021	400
Energy Star® HVAC	29,081	1,327	20,344	2,584	8,736	-1,256
EnergyWise Multifamily	15,863	2,500	9,256	2,000	6,607	500
Home Energy Reports	50,806	142,220	73,877	180,000	-23,071	-37,780
Residential New Construction	4,796	386	3,683	392	1,113	-6
Non-Income Eligible Residential SUBTOTAL	**168,687**	**148,833**	**137,281**	**186,976**	**31,406**	**-38,142**
Income Eligible Residential						
Single Family - Income Eligible Services	8,780	400	6,395	400	2,385	0
Income Eligible Multifamily	19,098	2,900	16,824	2,200	2,275	700
Income Eligible Residential SUBTOTAL	**27,878**	**3,300**	**23,219**	**2,600**	**4,660**	**700**
Commercial & Industrial						
Large Commercial New Construction	41,802	227	31,863	192	9,939	35
Large Commercial Retrofit	125,711	600	121,592	606	4,119	-6
Small Business Direct Install	3,489	83	10,496	316	-7,008	-232
Commercial & Industrial Multifamily	9,396	1,968	5,511	745	3,885	1,223
Commercial & Industrial SUBTOTAL	**180,397**	**2,878**	**169,463**	**1,859**	**10,934**	**1,019**
TOTAL	**376,963**	**155,012**	**329,963**	**191,435**	**47,000**	**-36,423**

Note:

(1) Participants can participate in more than one program, for example Home Energy Reports and EnergyWise. Therefore, participation can be greater than 100%.

Table G-8
National Grid
Avoided Costs Used in 2015 Benefit-Cost Model

	RESIDENTIAL				COMMERCIAL & INDUSTRIAL			ALL
Year	Non Heating	Hot Water	Heating	All	Non Heating	Heating	All	RETAIL END USES
2015	5.54	5.98	7.09	6.93	5.72	6.56	6.26	6.61
2016	5.61	6.08	7.21	7.03	5.81	6.66	6.36	6.71
2017	5.71	6.34	7.51	7.30	5.96	6.91	6.57	6.95
2018	6.02	6.62	7.79	7.58	6.26	7.20	6.86	7.24
2019	6.46	6.95	8.08	7.90	6.66	7.53	7.22	7.58
2020	6.73	7.20	8.33	8.15	6.93	7.78	7.48	7.83
2021	6.87	7.36	8.48	8.30	7.07	7.93	7.62	7.98
2022	7.07	7.55	8.67	8.50	7.27	8.12	7.82	8.18
2023	7.20	7.67	8.80	8.62	7.40	8.25	7.95	8.30
2024	7.33	7.82	8.95	8.77	7.53	8.39	8.08	8.44
2025	7.52	7.99	9.12	8.94	7.72	8.57	8.27	8.62
2026	7.64	8.13	9.25	9.07	7.84	8.70	8.39	8.75
2027	7.76	8.25	9.37	9.19	7.96	8.82	8.51	8.87
2028	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2029	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2030	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2031	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2032	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2033	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2034	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2035	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2036	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2037	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2038	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2039	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2040	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2041	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2042	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97
2043	7.86	8.34	9.46	9.29	8.06	8.91	8.61	8.97

From 2013 Avoided Cost Study
Appendix C for Southern New England

Table G-9
National Grid
2015 Targeted Shareholder Incentive

Incentive Rate: 5.00%

Sector	(1) Eligible Spending Budget $(000)	(2) Target Incentive $(000)	(3) Target Savings Goal (MMBTU)	(4) Threshold Savings (MMBTU)	(5) Target Incentive Per Annual MMBTU
Income Eligible Residential	$5,025	$251.3	27,878	20,909	$9.012
Non-Income Eligible Residential	$10,449	$522.4	168,687	126,515	$3.097
Commercial & Industrial	$6,923	$346.2	180,397	135,298	$1.919
Total	$ 22,397	$1,119.8	376,963	282,722	$2.971

Notes:

(1) Eligible Spending Budget excludes EERMC, OER, Finance Costs, and Shareholder Incentive. See Table G-3 for details.

(2) Equal to the incentive rate (5.0%) x Column (1).

(3) See Table G-7

(4) 75% of Column (3). No incentive is earned on annual MMBTU savings in the sector unless the Company achieves at least this threshold level of performance.

(5) Column (2)*1000/Column (3). This illustration is for achieved savings equal to the savings target. The incentive earned per MMBtu will vary with the percent of the savings target achieved

The shareholder incentive will be calculated as follow, where SB is the Spending Budget in the sector:

- From 75% of savings to 100% of savings: Shareholder Incentive = SB x (0.15 x % of savings achieved – 0.10)
- From 100% of savings to 125% of savings: Shareholder Incentive = SB x (0.05 x % of savings achieved)

Table G- 10
National Grid
Revolving Loan Fund Projections

Large C&I Revolving Loan Fund

(1)	**Total Loan Fund Deposits Through 2014**	**$**	**500,000**
(2)	Current Loan Fund Balance	$	500,000
(3)	Projected Loans by Year End	$	-
(4)	Projected Repayments by Year End	$	-
(5)	**Projected Year End Loan Fund Balance**	**$**	**500,000**
(6)	Fund Injection	$	500,000
(7)	**Projected Loan Fund Balance, January 2015**	**$**	**1,000,000**
(8)	Projected Repayments throughout 2015	$	-

Notes

2 Current Loan Fund Balance is through July 2014

3 Projected Loans by Year End 2014 is estimated based on current commitments

4 Projected Repayments by Year End 2014 is estimated based on the monthly average amount of repayments in 2014

5 Equal to (2) - (3) + (4)

6 Fund Injection, as budgeted on E-2; no fund injection projected for Small Business in 2015

7 Equal to (5) + (6)

8 Assumption equal to ((3) + (4))/2; repayments accumulate over time and may vary widely.

ATTACHMENT 7

Bill Impacts

Summary

National Grid has performed an analysis of the electric and gas bill impacts resulting from the proposed 2015 Energy Efficiency Program Plan. Bill impacts are distinct from rate impacts because they model the long term effects of efficiency programs on customer bills. The primary inputs are the efficiency surcharges proposed in the Plan, average consumer consumption, and the proposed participation and energy efficiency savings. Where possible, other effects of energy efficiency beyond direct energy savings – such as price suppression and avoided infrastructure investments – are also included. Other key assumptions include the mapping of programs to rate classes. The key finding of the bill impact analyses is that, over the life of the programs proposed for 2015, the average customer bill will be less than if there were no programs. Rates may increase, but participation in efficiency programs balances out the costs of the Systems Benefit Charge and revenue recovery.

Electric Bill Impacts

The electric bill impact models used to generate the electric results were adapted from models originally built by Synapse Energy Economics on behalf of the Division of Public Utilities and Carriers in 2013. They are distinct from the traditional electric bill impacts models The Company presents during dockets on rates. The new models analyze two cases, the fulfillment of the 2015 Plan and the absence of an efficiency plan in 2015. This comparison isolates the effects of the proposed 2015 Systems Benefit Charge and Full Reconciling Funding Mechanism. It assumes efficiency plans have not been implemented before 2015 nor will be offered after 2015. The analysis also incorporates how system-wide reduction in energy consumption affects the different elements of rates such as transmission, distribution, and commodity charges.

Four separate electric models were developed, one for each of the main efficiency customer segments: Residential, Income Eligible, Small Commercial, and Large Commercial and Industrial. For all of the electric models, the key inputs are the net planned participation and savings numbers from Table E-7 in Attachment 5. The models combine these data with rate class information to determine the benefits to customer bills from program participation. Table 1 below shows the mapping of efficiency programs to rate classes for the four models. The diversity of the commercial customer profile means that customers from multiple rate classes can participate in any commercial program. Assumptions on these rate-class blends were made based on historical program participation data.

Table 1: Electric Rate and Program Mapping

Bill Impact Model	Rate Class(es)	Efficiency Programs
Residential Electric	A-60	Home Energy Reports
		Residential HVAC
		EnergyWise
		EnergyWise Multifamily
		Residential Lighting
		Products
Income Eligible Electric	A-16	Income Eligible Single Family
		Income Eligible Multifamily
		Home Energy Reports
		Residential Lighting
Small Commercial Electric	C-06 and G-02	Small Business Services
Large Commercial Electric	G-02 and G-32	Large Commercial New Construction
		Large Commercial Retrofit

The results of the models can be seen in Tables 2-5. On the residential side, rates and non-participant bills increase slightly, mostly from lost revenue recovery, while participant and average customer bills go down. The decreased average customer bills demonstrate that the scale of program participation balances non-participant costs. On the commercial side, rate and bills decrease for participants and non-participants.

Table 2: Residential - Standard Income Bill Impact Analysis (2015 EE Plan vs. No EE)

	Long-Term Rate Impacts	Typical Energy Savings	Typical Bill Savings
Program	**(% of Total Rate)**	**(% per Participant)**	**(% of Total Bill)**
Home Energy Reports - Standard Income	0.2%	0.1%	-0.4%
HVAC	0.2%	4.0%	6.7%
EnergyWise	0.2%	6.5%	11.2%
Residential Lighting - Standard Income	0.2%	2.0%	3.0%
Non-Participant	0.2%	0.0%	-0.6%
Average Customer	0.2%	1.1%	1.3%

Table 3: Residential - Income Eligible Bill Impact Analysis (2015 EE Plan vs. No EE)

	Long-Term Rate Impacts	Typical Energy Savings	Typical Bill Savings
Program	**(% of Total Rate)**	**(% per Participant)**	**(% of Total Bill)**
Income Eligible Single Family	0.4%	7.7%	13.1%
Income Eligible Multifamily	0.4%	1.9%	2.5%
Home Energy Reports - Low Income	0.4%	0.1%	-0.8%
Residential Lighting - Low Income	0.4%	1.9%	2.6%
Non-Participant	0.4%	0.0%	-0.9%
Average Customer	0.4%	1.6%	1.9%

Table 4: Small C&I Bill Impact Analysis (2015 EE Plan vs. No EE)

	Rate Impacts	Energy Savings	Bill Savings
Program	**(% of Total Rate)**	**(% per Participant)**	**(% of Total Bill)**
Small Commercial	-2.6%	34.892%	35.9%
Non-Participant	-2.6%	0.0%	2.6%
Average Customer	-2.6%	0.8%	3.4%

Table 5: Large C&I Bill Impact Analysis (2015 EE Plan vs. No EE)

	Rate Impacts	Energy Savings	Bill Savings
Program	**(% of Total Rate)**	**(% per Participant)**	**(% of Total Bill)**
New Construction	-0.4%	3.2%	3.5%
Retrofit	-0.4%	18.7%	18.1%
Non-Participant	-0.4%	0.0%	0.4%
Average Customer	-0.4%	1.6%	1.9%

Gas Bill Impacts

The natural gas bill impacts were analyzed by adapting an existing bill impact model used by the Company in dockets 4520 and 4514. The updated model analyzes the effects of the 2015 Plan by looking at a change in average consumption due to energy efficiency. The adapted gas models do not account

for efficiency's effects on future rates. They only look at direct energy savings for the rate classes that best map to the four efficiency customer segments: Residential, Income Eligible, Small Business, and Large Commercial and Industrial. The table below shows the mapping of rates to customer segments.

Table 6: Gas Rate Mapping

Bill Impact Model	**Rate Class(es)**
Residential Gas	Residential Heating
Income Eligible Gas	Residential Heating – Low Income
Small Commercial Gas	C&I Small
Large Commercial Gas	C&I Medium, Large Low Load, Large High Load, Extra Large Low Load, Extra Large High Load

The rates for the C&I analysis were weighted by consumption in order to determine a single bill impact for commercial customers. The results of the gas analysis are below In Table 7. They show overall bill savings for gas participants and average customers

Table 7: RI Gas Bill Impact Analysis

Rate Group	**Non-Participant Bill Impact (% Increase in 2015 Bill)**	**Life Participant Bill Impact (as % Decrease in 2015 Bill)**	**Average Customer Bill Impact (% Decrease in 2015 Bill)**
Residential Heating	5.4%	4.5%	0.64%
Low Income Heating	5.6%	13.4%	0.17%
Small Commercial	4.5%	1.2%	0.02%
Large Commercial	7.1%	2.0%	0.30%

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.

Bound versions of this filing are being hand delivered to the Rhode Island Public Utilities Commission and the Rhode Island Division of Public Utilities and Carriers.

_____ October 31, 2014

Joanne M. Scanlon Date

Docket No. 4527 - National Grid - 2015 Energy Efficiency Program Plan Service list updated 10/30/14

Name/Address	E-mail Distribution List	Phone
Jennifer Brooks Hutchinson, Esq. National Grid 280 Melrose St. Providence, RI 02907	Jennifer.hutchinson@nationalgrid.com Joanne.scanlon@nationalgrid.com Celia.obrien@nationalgrid.com Jeremy.newberger@nationalgrid.com	401-784-7288
Karen Lyons, Esq. Dept. of Attorney General 150 South Main St. Providence, RI 02903	klyons@riag.ri.gov dmacrae@riag.ri.gov jmunoz@riag.ri.gov	
Jon Hagopian, Esq. Division of Public Utilities and Carriers	Jon.hagopian@dpuc.ri.gov Al.mancini@dpuc.ri.gov Al.contente@dpuc.ri.gov Steve.scialabba@dpuc.ri.gov Joseph.shilling@dpuc.ri.gov john.spirito@dpuc.ri.gov	401-784-4775
Douglas Gablinske, Executive Director The Energy Council of RI (TEC-RI) 576 Metacom Avenue, Ste 8 A Rear Bristol, RI 02809	doug@tecri.org	
R. Daniel Prentiss, P.C. (for EERMC) Prentiss Law Firm One Turks Head Place, Suite 380 Providence, RI 02903	dan@prentisslaw.com	401-824-5150
S. Paul Ryan (for EERMC)	spryan@eplaw.necoxmail.com	
Mike Guerard, Optimal Energy	guerard@optenergy.com	
Jamie Howland Environment Northeast 101 Tremont St., Suite 401 Boston, MA 02108	jhowland@env-ne.org aanthony@env-ne.org	617-742-0054
Scudder Parker	sparker@veic.org	

VEIC		
Tim Woof Jennifer Kallay Synapse Energy Economics 22 Pearl Street Cambridge, MA 02139	twoolf@synapse-energy.com jkallay@synapse-energy.com	
Original & 9 copies file w/: Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov Amy.Dalessandro@puc.ri.gov Todd.bianco@puc.ri.gov Alan.nault@puc.ri.gov	401-780-2107
Marion S. Gold, OER	Marion.Gold@energy.ri.gov	
Christopher Kearns, OER	Christopher.Kearns@energy.ri.gov Danny.Musher@energy.ri.go	
Nicholas Ucci, OER	Nicholas.Ucci@energy.ri.gov	
Larry Chretien, Executive Dir., ECANE & PPL	larry@massenergy.org	