Jennifer Brooks Hutchinson
Senior Counsel

December 2, 2013

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4451 – The Narragansett Electric Company, d/b/a National Grid
2014 Energy Efficiency Program Plan
Responses to Commission Data Requests – Set 1

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's[1] responses to the Commission's First Set of Data Requests concerning the above-referenced proceeding.

Please be advised that the Company's responses to Commission 1-21, Commission 1-32, and Commission 1-33 will be forthcoming shortly.

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

Very truly yours,

Jennifer Brooks Hutchinson

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

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

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Certificate of Service

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

Joanne M. Scanlon

December 2, 2013
Date

Docket No. 4451 - National Grid - 2014 Energy Efficiency Program Plan
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Commission 1-1

Request:

Plan, p. 3-4. (Footnote 6). Define "unique billing accounts," and explain how they were used to calculate participation.

Response:

Prior to the 2013 program year, participation was calculated and analyzed on a program-by-program basis. As a result, the parameter used to calculate participation in each program differed. More recently, the Company has been working to standardize the parameter used to calculate participation in order to convey the breadth of the Energy Efficiency ("EE") programs across the Company's Rhode Island customer base in a straightforward, meaningful way.

To that end, the Company determined that the unique billing account was the most appropriate definition of one program participant. The term "billing account," as referenced in the 2014 Energy Efficiency Program Plan ("EEPP"), is defined as the number associated with a customer's gas or electric account with the Company. It is the number shown on a customer's bill and is associated with the customer as opposed to the premises (i.e., when a new customer moves into a home and starts service, the account number will be different from the previous owner's account number, despite being at the same address).

To calculate participation within a program, billing accounts associated with rebates processed are filtered to remove duplicates and then counted, resulting in the total number of unique billing accounts. Using this parameter ensures that a customer who receives rebates for two products in the same program would only be counted once for participation in that program.

As explained in footnote six in the 2014 EEPP, the Company is still working toward making the unique billing account the standard definition of a participant throughout its entire EE portfolio. In some programs, such as Residential Lighting and Energy Star® Products, in which there are buy-down rebates, customer account information is not currently captured.

Prepared by or under the supervision of: Jeremy Newberger

Commission 1-2

Request:

Attachment 2, p. 43. How does the 70% cap for CHP compare with incentive caps allowed in other jurisdictions?

Response:

Caps are one part of CHP incentive packages. CHP incentive packages may also feature tiered incentives for right sizing, generating efficiency, size, and performance. The table below summarizes incentive cap information for some other jurisdictions. Some caps are set as a percentage of project cost, and others are absolute dollar caps.

State	Cap
RI	70%
MA	50% of total project costs for retrofit installations; 75% of project incremental cost for new construction
CT	$450/kw of nameplate rated capacity, maximum of $3M
NJ	The maximum incentive will be limited to 30% of total project. This cap will be increased to 40% where a cooling application is used or included with the CHP system (e.g. absorption chiller).
NY	The total Base Incentive is capped at the lesser of $2,000,000 per CHP project or 50% of Total Project Cost.

Commission 1-3

Request:

What is "OER's new property assessed clean energy (PACE) vehicle."

Response:

PACE was created pursuant to House bill, 2013-H 6019, passed by the legislature and signed into law by Governor Lincoln Chafee in July, 2013, and codified at R.I.G.L. § 39-26.5-1 *et seq.* See http://webserver.rilin.state.ri.us/BillText/BillText13/HouseText13/H6019.pdf

PACE is a financing program designed to help qualifying homeowners invest in specified energy efficiency and/or renewable energy improvements. PACE is a voluntary program in which municipalities can choose to participate.

The PACE program helps to address the lack of upfront capital, which is one of the primary barriers for homeowners who want to invest in energy efficiency and/or renewable energy installations. Energy efficiency and/or renewable energy improvements are repaid by a special assessment paid at the same time as property taxes. The PACE program will provide an opportunity for homeowners to invest in renewable energy and/or energy efficiency upgrades, and also leverage the existing state and federal energy incentives.

Commission 1-4

Request:

Plan, p. 16. Why is the Company projecting fund balances of $4.6M (electric) and $1.9M for gas?

Response:

The projected electric fund balance is $4.6 million because of higher than anticipated revenues between January and September 2013. The fund balance also began the year with a higher than anticipated balance compared to the 2013 EE Plan projection due to projects that did not reach completion at the end of 2012 and higher than anticipated revenues in 2012. Additionally, the Company projects that the 2013 electric program spending will be less than the 2013 budget.

The projected gas fund balance is $1.9 million because of higher than anticipated revenues between January and September 2013. The fund balance also began the year with a higher than anticipated balance compared to the 2013 EE Plan projection.

Prepared by or under the supervision of: Jeremy Newberger

Commission 1-5

Request:

Plan, p. 9 and Attachment 3, p.14. Please provide a copy of the report "Direct Full-Time Equivalent (FTE) Employment Supported by Energy Efficiency Programs in Rhode Island in 2012," prepared by the NE Clean Energy Institute.

Response:

The report is provided as Attachment COMM 1-5.

Prepared by or under the supervision of: Jeremy Newberger

Direct Full-Time Equivalent (FTE) Employment Supported by Energy Efficiency Programs in Rhode Island in 2012

Prepared by

necec Institute

May 23, 2013

Table of Contents

Table of Contents

I. Acknowledgements

This research would not have been possible without the engaged participation of people throughout the energy efficiency community in Rhode Island. A quick look at Appendix D reveals a committed group of nearly 600 companies, agencies and not-for-profit organizations working hard every day to bring the environmental, social and economic benefits of energy efficiency improvements to Rhode Island. We are all in their debt.

We would like to extend our gratitude to everyone who helped us understand the structure and delivery systems of energy efficiency programs in Rhode Island; and who assisted in the process of developing, refining, and testing methodologies for accurately counting direct Full Time Equivalents (FTEs). To anyone whom we fail to mention, our deepest apologies. Please know that we appreciate your assistance, and your work.

Our first thanks goes to the Rhode Island energy efficiency program at National Grid. National Grid also provided the funding that made this study possible. As noted in this report, there were fully 60 staff people at National Grid who contributed at least 15% of their time to energy efficiency in Rhode Island in 2012, totaling 35.5 FTE workers.

We would like to especially acknowledge Rachel Henschel and Jeremy Newberger. Rachel was an indispensable source of information, critical analysis, help with networking, careful editing and technical assistance. Jeremy was an exceptional contract officer who provided patient leadership and guidance to the project.

We extend our thanks also to Vin Graziano and the entire staff at RISE Engineering; especially Brian Kearney, Domenic Musco, Paul Radion, and Ralph Carroccio.

We are very grateful for the help and encouragement we received from leadership and staff at the Rhode Island Office of Energy Resources and from many of Rhode Island's Community Action Program (CAP) agencies. Their help was essential to the project.

We were fortunate to have an excellent research team. A huge thanks to independent researchers Bruce Ledgerwood and Art Willcox, who have now assisted us with three energy efficiency FTE studies.

We deeply appreciate assistance received from Mary Hogan at Paradigm Partners and Rob Gough at Sproutreach. Abbey Strauss and Kelsey LaFreniere from the NECEC staff were invaluable. Kevin Doyle, Principal of Green Economy, led the research team, and managed the project for the Institute.

Andrew Wilson
Executive Director
New England Clean Energy Council Institute

II. Executive Summary and Project Scope

In 2012, National Grid and its customers invested over $83,000,000 in a broad array of energy efficiency actions in Rhode Island aimed at reducing energy use, improving the environment, saving money for customers, and improving the health, comfort and safety of homes and businesses. In addition to these benefits, however, energy efficiency programs also directly supported jobs for people at hundreds of businesses, primarily in Rhode Island. These professionals and trades people plan, design, promote, manage, finance, install and evaluate energy efficiency upgrades through these programs.

In an effort to quantify the number of direct "Full Time Equivalent" workers supported by energy efficiency programs in Rhode Island in 2012, National Grid contracted with a workforce research team from the New England Clean Energy Council Institute. The NECEC Institute carried out a similar study in 2012 for the program administrators of energy efficiency programs at utilities in Massachusetts, including National Grid.

The NECEC Institute team was also charged with identifying lead vendors, contractors and subcontractors involved in the 2012 energy efficiency programs; either as service providers or as participants in training and education efforts. National Grid delivers its programs through this extensive network of dedicated professionals. This study names and acknowledges these companies in Appendix D, with their locations noted.

Working from data about energy efficiency work across all programs, we found that:

- 528.71 direct Full-Time Equivalent (FTE) workers were supported in 2012 by energy efficiency programs in Rhode Island (See Table on page 21);

- 598 companies and agencies were involved in the programs, including 424 (71%) with headquarters or offices in Rhode Island;

- Commercial and Industrial energy efficiency programs (gas and electric) supported 48% of the direct 2012 Rhode Island FTEs, while 35% of FTEs were supported by "non low-income" Residential programs;

- The total energy efficiency payroll for Rhode Island programs was an estimated $27,181,115; with average annual earnings (including taxes) of $51,410 per FTE.

The NECEC Institute count of 528.71 direct "FTEs" supported by 2012 is not the same as a count of all of the individual workers involved in delivering energy efficiency in Rhode Island. A single "FTE" represents 1,575 hours of work (the total number of work hours in an average year). It's usual that many people contribute only a portion of their work year to energy efficiency program activity. These hours are aggregated together in FTE counts. Therefore, the actual number of individual workers who contribute to energy efficiency success in Rhode Island is far greater than 528.71.

III. 2012 Energy Efficiency Program and Program Delivery Descriptions

A. Residential Programs

National Grid and its partners offered a variety of different residential energy efficiency programs in Rhode Island in 2012, including:

Residential Buildings Efficiency Programs
- Energy*Wise* Program (Gas and Electric)
- Single Family Low-Income Services (Gas and Electric)
- Residential New Construction (Gas and Electric)
- Information and Education Programs (Electric Only)
- Community Initiative (Electric, cross-sector with C&I)
- Residential Pilots (Gas and Electric)
- Deep Energy Retrofit (RGGI)

Residential Efficient Products Programs
- ENERGYSTAR®-Lighting (Electric Only)
- ENERGYSTAR®--Appliances (Electric Only)
- ENERGYSTAR®---HVAC Program (Gas and Electric)
- Comprehensive Marketing-Residential (Gas and Electric)

Each of these programs is described briefly below. The program descriptions in this section draw heavily from National Grid planning documents, marketing materials, and the Rhode Island energy efficiency section of National Grid's website at: https://www1.nationalgridus.com/EnergyEfficiencyPrograms.

As will be seen, each of these programs in delivered through different networks of lead vendors, contractors and subcontractors to meet the energy efficiency needs of residential gas and electric customers throughout Rhode Island. The full list of all of the contractors in the 2012 system can be found in Appendix A.

1. Residential Buildings Efficiency Programs

a. Energy*Wise* Program (Gas and Electric) Description and Delivery

First offered in 1998, the Energy*Wise* Program provides energy efficiency improvements to customers in existing multifamily and single-family residences In Rhode Island. Participants receive comprehensive assessment of their energy use from expert auditors, followed by recommendations about various ways to improve the energy efficiency of their home or building.

Each assessment includes the "no cost" installation of measures including CFLs, low-flow showerheads and faucet aerators. Beginning with that assessment, the process is designed to reinforce the benefits of implementing recommended measures.

Participants in the program are offered financial incentives for cost effective gas and electric measures to replace inefficient lighting fixtures, lamps, appliances, thermostats, and insulation levels with versions that are more energy efficient. Where appropriate, customers are also encouraged to participate in ENERGYSTAR®---HVAC Program.

In addition to incentives for weatherization for electric and gas customers (see detail below), Energy*Wise* also offered incentives in 2012 to customers who heat with deliverable fuel sources.

RI Heat Loan, which provides 0% interest financing to eligible customers, is offered through the program to support customer adoption of energy efficiency products and services that are recommended during the assessment. The Heat Loan program is described in greater detail, below.

The Energy*Wise* program also provides services to multifamily properties including low-income multifamily properties. Multifamily facilities of five or more units are eligible if they have not already participated in the program in the past five years. All customer co-payments are waived for any measure installed in Public Housing Authorities as well as other low-income state and federally funded multifamily facilities.

Energy*Wise* Program (Gas and Electric) Delivery

The single family component of this program is delivered in three steps: energy assessments, installation, and quality assurance/quality control. National Grid uses a "lead vendor" energy assessment model, which is designed to minimize administrative costs, and guarantee customer equity. The lead vendor for the Rhode Island program is RISE Engineering (hereinafter RISE).

As the lead vendor, RISE is responsible for conducting all energy assessments of single and multifamily customers (which include the direct installation of selected measures); coordinating all work resulting in additional energy efficiency measures offered through the program; and for performing all of the central administrative functions.

In 2012, more than 6,500 single family homes received energy assessments, and 96 unique multi-family buildings had retrofits, including 39 low-income buildings.

In 2012, independent, third party, BPI-qualified, weatherization contractors worked as subcontractors to the lead vendor for all single-family post-assessment work. More than 1,600 single family buildings received post-assessment work during the year. This work was distributed via a merit-based process to the approved list of qualified contractors.

Weatherization contractors who participated as subcontractors to the lead vendor in the single family Energy*Wise* program promoted and marketed the program through their own efforts and then were allowed to "tag" identified customers to provide services.

"Tagging" is achieved through appropriate signed documentation between the contractor and the customer, which is then provided to the lead vendor, who conducts an assessment on the home and assigns the work to the contractor.

Approved, BPI-certified participating contractors in the Energy*Wise* program included at least the following companies:

- Aten Energy Conservation, Providence, RI
- Beauchemin Design, Inc., North Smithfield, RI
- Bruin Corp. of Attleboro, North Attleboro, MA
- Cross Insulation, Cumberland, RI
- Ecologic Spray Foam Insulation, Inc., Jamestown, RI
- Globex Industries, Inc., Narragansett, RI
- Greenwich Insulation, Coventry, RI
- GreenSeal, Inc., North Kingston, RI
- Installed Measures, West Warwick, RI
- Insulate2Save, Fall River, MA
- Lantern Energy, LLC, Norwich, CT
- New England Insulation, Woonsocket, RI
- New England Weatherization, Attleboro, MA
- Retrofit Insulation, Inc., Seekonk, MA
- RI Insulation, Scituate, RI
- Richie's Insulation, Westport, MA
- Statewide Insulation and Siding Co., North Smithfield, RI
- Superior Insulation, Warwick, RI
- Sustainable Energy Solutions, LLC, Providence, RI
- Thermal Home Energy Solutions, LLC, Cranston, RI

The lead vendor performs quality checks on weatherization jobs to ensure quality installation, energy savings maximization and customer satisfaction.

For larger multifamily facilities, major weatherization measures are put out to competitive bid. "Major measures" include lighting upgrades, programmable thermostats, replacement of inefficient refrigerators, heat pump testing and tune ups, duct sealing and insulation for electrically and gas heated facilities.

All homes or facilities are eligible to receive lighting fixture upgrades and refrigerator replacement measures as identified through the energy assessment.

National Grid does not require a co-payment for lighting fixtures/lamps installed in single-family homes nor the living units of multifamily homes, to avoid lost opportunities.

As in recent years, National Grid's program in 2012 committed to delivering a comprehensive and seamless delivery model intended to maximize ease-of-use and

value to all customers. This has called for integration of services to both gas and electric customers. For single-family households, customers are presented with an energy assessment, regardless of their heating fuel. After the assessment is completed, the energy assessment vendor and National Grid complete necessary follow up actions. Oil and propane customers are also eligible for weatherization incentives and the subcontractors listed above complete these assignments as well as those for gas and electric customers.

For multifamily buildings, the comprehensive building analysis is funded by either gas or electric energy efficiency funds (but not both), enabling National Grid to serve more buildings, through its lead vendor and that vendor's network of approved subcontractors. Electric or gas funds are used to provide funding for electric or gas measures including insulation, showerheads, aerators, air sealing, lighting, refrigerator replacement, duct insulation and duct sealing.

Master metered multifamily gas weatherization, heating system replacements, or comprehensive gas retrofits are served through the Large Commercial Retrofit program. Individually metered multifamily gas weatherization is served by Energy*Wise*.

It's important to note that not all multifamily properties have the same attributes. The strategy in 2012 aimed to identify and deliver bundled residential and commercial energy efficiency measures, both gas and electric, seamlessly to customers in a cost-effective, customer-friendly way.

Finally, the delivery system for the Energy*Wise* program requires independent overview of quality control/quality assurance. Through a third party quality assurance system, National Grid closely monitors the audit and installation processes. The third party monitors 10% of the program goals for both single and multifamily dwellings.

Heat Loan Program (for Single Family 1-4 unit residences)

The Heat Loan program provided 0% interest loans for weatherization and high efficiency heating systems to residential customers in Rhode Island. The primary goal of the Heat Loan program is to provide affordable financing for residents who do not qualify for low income heating assistance but cannot manage the upfront costs of efficiency measures on their own. National Grid works with local banks to ensure customer satisfaction and stimulate local economic growth. In 2012, the participating lenders in the program included Navigant Credit Union and Bay Coast Bank. These lenders handled more than 550 Heat Loans in 2012, with a total value of $3.6 million lent to residents. The program expanded to include additional lenders in 2013.

Customers who live in one to four unit single-family residences are eligible for a 0% interest loan of a minimum of $2,000 up to $25,000 with terms up to seven years and can be applied towards a variety of energy efficiency upgrades, including: insulation

and/or air sealing upgrades, duct sealing and duct Insulation, ENERGYSTAR® thermostats, heating system replacements, and domestic hot water systems.

b. Single Family Low Income Program (Gas and Electric)

The residential income eligible program provides eligible customers with a variety of energy savings measures installed in their homes at no cost. Heating and electricity bills frequently pose a difficult burden to income-strapped customers who often pay a high percentage of their income to cover their energy costs. Customers who are eligible for the Low Income Heating Assistance Program (LIHEAP), also known as "fuel assistance", and who live in 1-4 unit buildings, are eligible. The program is a federal government program, administered by the State of Rhode Island.

In addition to this program, low-income customers in multifamily units are served through the Energy*Wise* and Large C&I Retrofit programs. Low-income new construction is served through the Residential New Construction program.

Delivery

In 2012, the services of this program were administered by National Grid's partners at the State of Rhode Island. Energy efficiency funds from National Grid are bundled with federal government funds by Community Action Programs (see below) to serve the largest possible number of eligible customers with the widest array of energy saving opportunities, through a single program.

During the year, lead vendor responsibilities shifted from the Rhode Island Office of Energy Resources (OER), to the Rhode Island Department of Human Services (DHS). The remainder of this section will refer to "the State" or "the State of Rhode Island" to reflect the involvement of both agencies.

The State has a long history of working with local Community Action Programs (CAPs) across the state providing cost-effective energy saving services to its residents. The State manages the work conducted by participating CAPs for the delivery of energy efficiency services.

The CAP agencies include:

- Comprehensive Community Action Program, Cranston, RI
- Eastbay Community Action, East Providence, RI
- Tri-Town Community Action, Johnston, RI
- Blackstone Valley Community Action Program Pawtucket, RI
- Providence Community Action Program, Providence, RI
- South County Community Action, South Kingstown, RI
- Westbay Community Action, Warwick, RI

Local agencies are the primary link between program eligibility and the customers who can take advantage of the program. Once eligibility is determined by the local agency, the customer is informed of steps involved in gleaning energy savings in their homes.

Customers are also informed of the process to receive energy saving services, including the scheduling of any visits from local agencies, and any approved energy professionals who install energy savings measures.

c. Residential New Construction Program

The Residential New Construction Program promotes education of builders, the trades and designers along with the construction of energy efficient homes. The program is "fuel neutral", and therefore serves all electric, gas and oil energy efficiency needs.

It consists of tiered incentives and provides participating builders with technical and marketing assistance. The tiered incentive offering allows for increased energy efficiency and greater program participation. New Construction projects that fall outside the residential guidelines are referred to the Commercial New Construction Program.

National Grid provides outreach and education of builders, contractors, architects, realtors, developers, "trade allies" and code officials regarding the energy saving benefits and value of participating in the New Construction Program.

Delivery

The program is administered through a Home Energy Rating System (HERS) implementation contractor (IC) selected through a competitive bid process. The IC oversees the day to day operations of the program, is responsible for tracking and reporting program results to National Grid, performs field verifications and testing, and advises on program enhancement opportunities. Quality assurance (QA) is performed by third party inspectors selected through a competitive bid process.

d. Other programs, pilots and initiatives

Community Initiative (Gas and Electric) Program

The Community Initiative is designed to leverage existing community relationships such as local agencies, schools or church groups focused on saving energy to increase participation in energy efficiency programs. It promotes Energy*Wise*, Small Business, ENERGY STAR® Lighting and ENERGY STAR® Appliances, Refrigerator Recycling. By using a grassroots approach, customers that have not been previously targeted will hear the Rhode Island energy efficiency message.

In 2012, University of Rhode Island and People's Power and Light delivered initiatives

aimed at achieving specific goals in selected local communities. The selected organizations attended appropriate training at the program level, and collaborated with National Grid to report progress and troubleshoot issues. The organizations also coordinated with National Grid's Jurisdictional Group and Media Relations.

As part of the program design, each organization created a marketing approach to recruit customers using their unique community channels. Approaches varied, but included press releases, involvement of local politicians such as Mayors or Representatives, door-to-door canvassing, energy efficiency events, piggy-backing on community events, web site development for cities/towns, and other activities focused on spreading the word about available residential and small business programs.

Information and Education Programs (Electric Only)

In 2012, National Grid continued to support energy efficiency education programs in schools with an objective of educating students who will, in turn, teach their family and community members. The two programs targeted below use applied learning techniques. These keep students connected to their communities by promoting the application of their new knowledge to real life situations.

National Grid continued sponsorship of the National Energy Education Development (NEED) project in 2012. NEED is a nonprofit education association that works with thousands of schools nationwide to promote energy conscious education through its "kids teaching kids" model. National Grid supports NEED by providing educational materials to teachers and students. One of the notable topics included in the provided materials is Monitoring and Mentoring, which helps students learn about their personal role in energy consumption, based on their behavior and habits and what kind of impact they can affect through a change in those habits. Funds provided through this program were used for training seminars for teachers, and materials for their students. With assistance, NEED identified participant schools for implementing the program.

Residential Pilots (Gas and Electric)

In 2012, National Grid's energy efficiency program used pilot programs (Home Energy Monitoring, Automatic Temperature Controls, etc.) to test new technologies. Delivered through technology vendors and installation companies (where installation was required), pilot programs provide valuable information about new technologies.

Deep Energy Retrofit Pilot

The Deep Energy Retrofit pilot provided significant financial incentives for deep energy retrofit projects involving super- insulation upgrades and other measures in conjunction with customer planned projects such as re-siding, roofing and basement fit-out. Customers with 1-to 4-family buildings, regardless of heating fuel type were eligible.

A vendor supplied customer support and coordination. Customers chose contractors to work with.

2. Residential Efficient Products Programs

a. ENERGYSTAR® Lighting (Electric Only)

This program is run in collaboration with other regional program administrators to give all consumers the opportunity to participate in energy efficiency measures. Customers are able to purchase lower cost ENERGY STAR® lamps, fixtures and lighting through instant and mail-in coupons, buydowns, markdowns and discounts. The program makes it affordable for customers to purchase the most cost effective, energy efficient products, including compact fluorescents and LEDs.

Delivery

This program is effectively implemented in conjunction with the ENERGY STAR® Appliances program. The collaborative members are the same and National Grid leverages ENERGY STAR® branding. Additionally, there are large numbers of overlapping retailers that carry and promote products, lighting and electronics. Also, both the Lighting and Products programs use a common outreach and marketing vendor, as well as a shared incentive processing vendor, resulting in streamlined administrative and marketing costs.

These vendors are included in the 2012 list of all vendors and participating agencies and not-for-profit organizations in Appendix A.

b. ENERGY STAR® Appliances (Electric Only)

This program is part of a regional, joint effort by Program Administrators and energy efficiency organizations to encourage the purchase of ENERGY STAR® qualified major appliances and electronics, which include, but are not limited to, refrigerators, freezers, monitors, room air cleaners and televisions. The program includes rebates, buy-downs, instant rebates and promotions.

Delivery

Manufacturers build their products to meet or exceed energy efficiency performance specifications established by the ENERGY STAR® label. Together with manufacturers, local retailers, CEE and EPA, National Grid works to help identify and promote the purchase of these high efficiency appliances to its customers.

The program is managed and marketed in conjunction with the ENERGY STAR® Lighting program. National Grid can achieve greater efficiencies in marketing and

outreach by overlapping participating retailers and outreach vendors. The program partners with other utilities in the region to create economies of scale.

In coordination with others, National Grid provides retailer training, advertising, education, codes and standards review and advocacy, and manufacturer labeling.

The names and locations of all of the vendors and contractors involved with these efforts are included in Appendix A. The names and locations of participating retail stores are not included because analysis indicates that no additional Full Time Equivalent (FTE) employment at retail outlets can be attributed to these efforts.

c. ENERGY STAR® HVAC Program (Gas and Electric)

In 2012, National Grid continued to work on integrating heating and cooling programs in order to provide a seamless customer experience that allows for comprehensive energy efficiency home improvements. The HVAC Program is a combination of the Electric HVAC and the High-Efficiency Heating, Water, Heating and Controls (HEHE) Programs. The program offers equipment as well as quality installation services and duct sealing.

The purpose of the program s to make customers and contractors aware of the benefits of high-efficiency heating, water heating, cooling, and system controls and to facilitate the purchase of efficient equipment by offering rebates to offset the premium equipment's higher cost. The program offers an array of rebates including oil heating systems with electronic commutated motors (ECMs). Rebates are tiered to promote the most efficient units in the high efficiency category.

Delivery

Installation contractors are the primary program delivery mechanism. Contractor training and outreach was offered in 2012 with the joint purpose of broadening contractor skills and promoting the program. Proper installation, system sizing, and code requirements were emphasized at training along with offering comprehensive services to customers.

An external rebate processing vendor is used by the program, resulting in lower administrative costs. The program also established a reservation system for heating equipment to obtain a rebate. Customers can reserve a heating equipment rebate, contact their local installer for services, and then submit their rebate application.

Many of the local installer companies listed in Appendix A performed these services for customers receiving rebates.

B. Commercial and Industrial Programs

National Grid's Rhode Island 2012 Commercial & Industrial (C&I) energy efficiency programs consisted of three prime programs in the C&I sector that addressed the Company's commercial and industrial customer needs:

- The Large Commercial Retrofit Program focused on addressing equipment and energy systems that provided electric and gas energy efficiencies in existing facilities;

- The Large Commercial and Industrial New Construction Program was aimed at time dependent mechanical and electrical or thermal systems replacement, or equipment purchased for new construction or major renovation for electric and gas measures, and;

- The Small Business Program targeted customers with 200 KW or less billing demand or 483,000 kWhs through a turnkey delivery model that integrated both gas and electric energy efficiency measures in installations. National Grid provided 70% of the costs associated with the installation of these measures.

The Large Commercial Retrofit and Large Commercial and Industrial New Construction programs are described in detail starting below. The Small Business Program is described in the last part of this section.

1. Large Commercial Retrofit Program

The Large Commercial Retrofit Program targets existing facilities and energy savings incentives to developers, customers, manufacturers, vendors and design professionals. Eligibility is determined by the presence of a non-residential natural gas or electric account that contributes to the energy efficiency charge and will realize energy savings as a result of the project.

The Retrofit Program educates and raises awareness of the benefits of energy efficiency through investing in energy efficient equipment today to save significant energy dollars in the future. The projects use the customer's existing facility conditions as a baseline and incentives are paid for projects that increase the operating efficiency of the facility.

The Retrofit Program provides technical consulting to identify better practices and efficiency improvement opportunities as well as incentives for the installation of high-performance mechanical, electrical and thermal energy equipment and systems.

Energy efficiency measures which are eligible for incentives include (but are not limited to): lighting fixtures and controls, gas burner controls, steam traps, energy management

systems, programmable thermostats, variable speed drives, refrigeration, industrial process, compressed air, ventilation systems and circulation controls/process cooling.

2. Large Commercial New Construction Program

The Large Commercial New Construction Program targeted new construction, major renovations, remodeling and replacement of equipment that had reached the end of its useful life. Program implementation strategies included technical assistance and financial incentives to developers, customers, manufacturers, vendors and design professionals. Customer eligibility was determined by the presence of a non-residential natural gas or electric account that contributes to the energy-efficiency charge a would realize energy savings as a result of the project.

Large Commercial Retrofit and Large Commercial New Construction Programs Delivery

Customers interested in either the Large Commercial Retrofit or Large Commercial New Construction programs began with the customer contacting or a proactive outreach by National Grid staff through either the Inside Sales group, a dedicated account executive or a third party vendor. The customer opportunity was qualified and passed along to the appropriate party.

If the energy efficiency opportunity was simply to apply for a prescriptive incentive for better performing equipment, the customer submitted application information and the incentive was processed.

For more complex projects where the energy efficiency opportunity was deeper, the next step in the process for participating was through the custom path. This path was often based on a technical assistance study that featured high performance equipment and systems analysis that integrated both gas and electric energy efficiency solutions that lead to better building practices. The technical assistance work may have involved a National Grid Technical Representative, one of its qualified architectural and engineering firms, or a National Grid Account Manager and/or RISE Engineering.

If an engineering study was required to identify the technical and achievable potential in a customer's facility for gas and electric energy efficiency measures, the customer was provided with a list of engineering firms that was qualified to provide this service. National Grid would provide co pay funding for the engineering study. If an energy assessment or walk through was all that was needed to identify energy savings opportunities, National Grid would provide that service at no cost to the customer. Additional engineering services provided at no cost to the customer included a custom assessment, which included identifying some custom measures including savings and incentive calculations and a custom review of an engineering study.

Once the engineering work was completed the study often identified deep custom measures and energy systems reduction opportunities. The customer signed an agreement with National Grid to complete the installations.

Once the work was completed, the customer contacted their Account Manager and the process continued with a post installation inspection. Then invoices were submitted, all information from the transaction was collected and entered into the Company's work management system, and the remaining paperwork was completed. Upon completing these steps, the customer received their incentive.

As can be seen from the system overview above, delivery of Commercial and Industrial Programs involved hundreds of small and large contractors, the vast majority of whom have a physical presence in Rhode Island. These companies include electrical contractors, HVAC/R companies, weatherization firms, engineering and design consultants, rebate processers and more. The names and locations of all of these valuable contract partners are in Appendix A.

Incentives

In 2012, National Grid offered integrated gas and electric energy efficient solutions and incentives to the customer. All projects were presented to customers as a single package of measures with a single incentive offer, allowing for a simple process for customers, thereby increasing participation. Through the Retrofit Program or the New Construction Program, customers received financial incentives either prescriptively or through the custom approach depending on the project scope.

Incentivized Services Available for both Retrofit and New Construction Customers:

A. Technical Assistance Services:

Customers planning new construction/major retrofit projects were offered technical assistance to help them understand the benefits of efficient design and the use of energy-efficient engineering practices. If the customer was interested, the technical assistance included identifying and analyzing potential efficiency opportunities. Once these opportunities were identified and deemed cost effective, financial incentives were applied that covered the incremental cost of investing in the higher efficiency version of the installation.

In 2012, the National Grid's Account Executives and Technical Representatives assisted customers in identifying energy efficiency opportunities. In addition, vendors were available to provide energy assessments, custom assessments and scoping studies to help identify opportunities at no charge to the customer. Where these assessments determined that a more detailed analysis was needed, this was provided through a formal Technical Assistance (TA) study.

A variety of expert vendors were contracted to provide services through this program, and the names and locations of all of them can be found in the comprehensive vendor list contained in Appendix A.

In order to avoid duplication and delays, National Grid offered TA services that were integrated with the customer's own design team where this was an option. The TA studies covered all gas and electric opportunities that supported best practices in building design, and considered energy efficient measure identification, equipment metering or monitoring, improved technical design solutions, customer presentations, and design and construction assistance.

TA provided customers and their design professionals with detailed engineering studies that identified alternative energy systems that support lower operating costs in the buildings and the operational benefits that come from this selection. The costs of these energy efficiency studies were usually shared 50% with customers.

The program used current RI energy code, IECC 2009, as a baseline for savings because customers are required to meet this at a minimum. Energy efficiency measures which were eligible for incentives included premium efficiency lighting and controls, variable speed drives, heating, ventilating and air conditioning systems (HVAC), efficient boiler and domestic hot water systems, heat recovery systems, digital energy management systems, process efficiency improvement projects, refrigeration, compressed air, combined heat and power, and any other cost effective improvements.

B. Efficient Lighting:

The Company offered prescriptive incentives to support the promotion of the most energy efficient lighting equipment in new construction, major renovation, remodeling and replacement of equipment. Through the Retrofit and New Construction Programs, National Grid promoted high performance lighting practices and incentives that addressed the opportunity for customers to select better performing luminaries, controls for lamps, and ballasts combinations for their buildings that both improved the visual environment in their buildings and reduced energy costs.

C. Variable Frequency Drives:

National Grid promoted Variable Frequency Drives (VFDs) incentives in the RI Retrofit and New Construction Programs. The company offered a prescriptive retrofit incentive for most HVAC-related fan and pump motors. This program targeted facilities with older motors that are not inverter-duty rated, and therefore could not use VFDs. For customers that were unable to retrofit an existing motor, the combination incentive offered additional money to offset the cost of replacing the existing motor with a new NEMA premium motor. In addition to the prescriptive incentive available to all Large C&I customers, the Company expanded Project Expeditor services to include VFD and

motor installations as a turnkey measure offered to large C & I and small business customers.

Prescriptive Incentives Uniquely Available to Retrofit Customers:

Standardized prescriptive incentives for high efficiency equipment and systems were offered to Retrofit customers on a per unit basis.

Pre-Rinse Spray Valve: National Grid promoted high efficiency pre-rinse spray valves in the Retrofit Program. There were two paths for this offering: 1) National Grid provided and installed a high efficiency pre-rinse spray valve at no cost to the customer; or 2) the customer purchased and installed a high efficiency pre-rinse spray valve and received a $25 incentive.

Gas Heating Controls: National Grid promoted high efficiency gas heating controls in the Retrofit Program. The Company supported single and multi-stage boiler outdoor temperature reset controls in addition to 7-day programmable thermostats.

Refrigeration: Some refrigeration equipment was replaced through the Retrofit Program. These replacements required preapproval before the equipment was replaced.

Steam Traps: The Company promoted failed steam trap replacement through the Retrofit Program. The Program provided a prescriptive incentive that gave the customer access to incentives for pro-actively managing and repairing traps in their facilities. In 2012, there was a limit of 10 prescriptive steam trap incentives per customer. The goal of this cap was to encourage the customer to follow the more comprehensive method of engaging with the Company in a cost shared Steam Trap survey. This survey identified all traps and steam system improvements at the customer site. The customer was eligible to have 50% of the cost shared with the Company initially. The customer was incentivized up to 100% of the survey costs provided they committed to implementing at least 50% of identified measures from the survey.

Energy Management System (EMS): National Grid promoted the installation and expansion of Energy Management Systems (EMS) through the Retrofit Program. EMS systems enable energy conserving strategies for HVAC equipment such as 7-day scheduling, optimal start/stop, night setback, DDC temperature control, chilled water reset, and enthalpy economizing. In order to increase participation, the company provided training to controls contractors and vendors to help them understand which EMS components were eligible for an incentive, as well as show them how to complete and submit incentive applications.

Custom Incentives Available to Retrofit Customers:

Custom incentives were offered for any qualifying cost-effective efficiency opportunity, based on the unique energy savings and cost criteria of a project. These incentives included projects that were outside the scope of standard prescriptive equipment and offered the opportunity to identify deeper energy savings.

In general, incentives for Retrofit projects were designed to cover up to 50% of the total project cost to move to premium efficiency including labor and equipment, or to buy down the cost of equipment or systems to the customer to a one year payback, whichever is less.

Other custom incentives were offered on specific initiatives that are listed, but not described in detail, below. They included:

- Multi-year Strategic Energy Management Planning
- Combined Heat and Power
- Target Marketing
- Road map to Deeper Energy Savings from Existing Buildings
- Manufacturing Initiative
- Whole Building Assessment
- Financing Initiative
- Solid State Street Lighting
- Multifamily High-Rise Initiative Targeting Gas Energy Efficiency
- High Performance Commercial Lighting Design/Design Lights. ™ Consortium

Prescriptive Incentives Uniquely Available to New Construction Customers:

Prescriptive incentives were standardized in terms of incentive level and minimum efficiency criteria. They addressed specific equipment measures like lighting, DHW, compressed air, and HVAC. Prescriptive incentives for high efficiency equipment and systems were offered to customers on a per unit basis. All prescriptive forms used common branding, format, look and feel and incentives were generally designed to be presented in a consistent format.

The Large Commercial New Construction Program prescriptive measures and incentive offerings covered the following measures:

Prescriptive Gas Space and Water Heating: National Grid promoted high gas efficiency space and water heating equipment in the New Construction Program. This included supporting such measures as hi efficiency boilers and hot water equipment.

Prescriptive Commercial Kitchen: National Grid promoted high efficiency gas kitchen equipment in the New Construction Program. Incentives were available for combination

ovens, rack ovens, conveyer ovens, fryers, convection oven, steamers, griddles, and pre-rinse spray valves. In 2012, National Grid also supported upgrading of electric kitchen equipment.

Prescriptive Motor Incentive: The New Construction Program customers were eligible for motor incentives as part of the Retrofit VFD/Motor combination incentive.

Prescriptive Small HVAC Incentive: National Grid continued to support the Cool Choice program, a regional program that focuses on promoting the installation of energy efficient unitary HVAC equipment through the New Construction Program. The program featured consistent efficiency incentives revised to follow the international Consortium of Energy Efficiency Tier 2 specifications for >5.4 Ton to <63 Ton units. Incentives were offered for dual enthalpy economizer controls, demand control ventilation, and electronically commutated motors (ECM fan motors) in packaged air conditioners and gas furnaces.

Prescriptive Chiller Incentive: National Grid promoted high efficiency chillers through the New Construction Program. The prescriptive incentive was available for single non-process chiller installations. Process cooling chillers and multiple chiller installations were handled as a custom incentive.

Custom Incentives

For Large Commercial New Construction customers, custom incentives were offered for any qualifying cost-effective efficiency opportunity, based on the unique energy savings and cost criteria of a project. These included incentives for projects that were outside the scope of standard prescriptive equipment.

In general, incentives for large commercial new construction projects were designed to cover up to 75% of the incremental cost between standard and premium efficiency or to buy down the cost of equipment to the customer to a 1-year payback, whichever is less.

In addition to the Prescriptive and Custom incentive programs, the Large Commercial New Construction Program supported a variety of initiatives, which are listed (but not described in detail) below.

- Building Codes, Federal and State Standards
- Advanced Buildings, LEED and Sustainable Design
- High Performance Schools
- Building Operator Certification Training
- Improve efficiency in tenant spaces with Office of the Future (OTF)
- Commissioning

3. Small Business Program

The Small Business Program provided turnkey services to commercial and industrial customers with an average monthly demand of less than or equal to 200 kW or annual energy use up to 483,000 kHz.

National Grid has delivered this Small Business 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. Customers served by natural gas were also eligible for direct installation of natural gas energy conservation measures.

Delivery of these services involved an extensive network of contractors, the vast majority of whom are either Rhode Island companies, or have a physical presence in Rhode Island. The names and locations of all of these companies can be found in Appendix A.

Customers were provided turnkey services consisting of:

- Energy audit;
- Direct installation of measures;
- National Grid incentive contribution of 70% of the total project cost;
- On-bill repayment option for customers' share of the project costs, either over 24 months at interest free or lump sum payment with a 15% discount, resulting in most customers' projects having a positive cash flow when they chose the 24 month repayment option;
- Cost-effective "custom." electric and gas measures;
- Time dependent opportunities such as replacing roof top HVAC units and heating systems;
- Participation in residential programs where the building owner may have both commercial and residential properties in the building;
- Installation of energy efficient fluorescent ballasts, lamps, and fixtures;
- Hard-wired and screw-in compact fluorescent systems;
- LED lighting;
- Occupancy sensors and controls;
- Energy management systems;
- Thermostats;
- Insulation;
- Hot water resets;
- 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 controls (single stage); and,
• Pipe insulation.

IV. Findings: Review of 2012 Energy Efficiency FTEs

A. Overview of FTE Totals: All Programs

As seen in the table on the next page, the NECEC Institute research team (NECEC) found that at least 528.71 direct Full-Time Equivalent (FTE) workers were supported by energy efficiency programs in Rhode Island in 2012.

The remainder of this section describes the distribution of these direct FTE workers to specific programs. The programs themselves are described in detail in Section III.

In keeping with the organization of the table, this section describes findings and methodologies for:

- Electric Programs
- Gas Programs
- National Grid EE Staffing
- WAP/LIHEAP-funded Low Income Program

Within the Electric and Gas Program sections, the findings are discussed under narrower program headings related to Commercial and Industrial Programs, Residential Low-Income Programs, and Residential Non-Low Income Programs.

B. Electric Programs

1. Total all Electric Programs

NECEC found that 304.34 direct FTEs in Rhode Island in 2012 were supported by Electric Programs, including:

185.48 in Commercial and Industrial Programs
20.51 in Residential Low-Income Programs
98.35 in Residential Non-Low Income Programs

A wide range of contractors and workers were needed to implement the 2012 energy efficiency programs. Although installation of measures was at the heat of the program (requiring the skills of auditors, electricians, plumbers, HVAC techs, weatherization workers, and related trades and professions), the programs also engaged the expertise of trainers and educators, marketing professionals, engineers and project design specialists, rebate processors, and more. Finally, these energy efficiency workers were supported by customer support, administrative, finance, IT, and management staff.

Direct Full-Time Equivalent (FTE) Employment Supported by Energy Efficiency Programs in Rhode Island in 2012 (Source: NECEC Institute)	
PROGRAMS	**Total FTEs**
Electric Programs	
Commercial and Industrial	**185.48**
Large Commercial New Construction	
Large Commercial Retrofit	
Small Business Program	
Other	
Residential Low-Income	**20.51**
Single Family - Low Income Services	
Residential Non-Low Income	**98.35**
Residential New Construction	
Energy*Wise* Program	
ENERGYSTAR® Programs	
Other	
Gas Programs	
Commercial and Industrial	**65.38**
Large Commercial Retrofit	
Large Commercial New Construction	
Small Business Program	
Other	
Residential Low-Income	**14.97**
Single Family Low-Income Services	
Residential Non-Low Income	**85.42**
Energy*Wise* Program	
ENERGYSTAR® Programs	
Other	
National Grid EE Staffing	**35.50**
WAP/LIHEAP Low Income Funded	**23.10**
Total all 2012 Rhode Island FTEs	**528.71**

2. Commercial and Industrial FTE Subtotals

The NECEC team found that 185.48 FTEs were supported in 2012 by the Commercial and Industrial Electric Programs, including:

75.9 FTEs were involved in planning and installing Lighting measures
102.6 FTEs were involved in installing Non-Lighting measures
6.98 FTEs were supported by remaining programs and initiatives

NECEC examined data from the following Commercial and Industrial Electric Programs to arrive at a 2012 direct FTE count:

- Large Commercial New Construction
- Large Commercial Retrofit
- Small Business Direct Install
- Community Based Initiatives
- Comprehensive Marketing

All of these programs were delivered through an extensive network of contracted experts and installers, and all of them are described in detail in Section III. The names of these contractors are incorporated into the list of all 2012 vendors and program participants in Appendix A.

3. Residential Non-Low Income Programs Subtotal Findings

NECEC examined data from the Residential Non-Low Income Programs listed below to arrive at a 2012 direct FTE count. These programs, and their delivery systems, are described in Section III.

Using methodologies described in the Methodology section, NECEC found that 98.35 FTEs were supported in 2012 by Residential Non-Low Income Programs, including:

Energy*Wise* Program (Single & Multi-Family)	70.67 FTEs
Residential New Construction	6.00 FTEs
Other Programs	17.68 FTEs
ENERGYSTAR® Programs	4.00 FTEs

4. Low-Income Program Subtotal: Findings

Rhode Island's low-income program and its service delivery system through the State of Rhode Island (contractor to National Grid) and a network of Community Action Program (CAP) agencies and subcontractors is described in Section III. The name and locations of all low-income program subcontractors can be found in Appendix A.

Using the method described in the Methodology section, we confirmed that 20.51 FTEs were supported by that portion of the low-income residential (electric) program in Rhode Island in 2012 that was supported by National Grid funding. The portion of the low-income program supported by federal government funds is accounted for in a separate section, below.

5. Findings: Residential "Other" Program Areas

The Non-Low Income Residential programs within the Electric Program also included some program investments in Energy Efficiency Educational Programs, EERMC Residential, Residential Behavior Pilots, Residential Products Pilots, Residential Community Based Initiatives, and Residential Comprehensive Marketing.
Using year-to-date expenditures from National Grid's Preliminary 4th Quarter Results Report from February 14, 2013, we estimated that at least $1,768,100 was related to these efforts. The NECEC Team found that 17.68 additional FTEs were supported by the 2012 Residential Electric Energy Efficiency Programs.

C. Gas Programs

1. Total of all Gas Programs

NECEC found that 165.77 direct FTEs in Rhode Island in 2012 were supported by Gas Programs. The table below indicates the distribution of FTEs to different residential and commercial and industrial programs. A description of all programs can be found in Section III.

The names and locations of all contractors involved in, and/or trained by, the Gas Programs, can be found in the comprehensive list in Appendix A.

Because several of the programs below served both gas and electric customers, there is some duplication with the program descriptions from the Electric Programs

The distribution of 2012 FTEs supported by Gas Programs was found to be:

65.38 in Commercial and Industrial Programs
- Large Commercial Retrofit
- Large Commercial New Construction
- Small Business Program

14.97 in Residential Low-Income Programs
85.42 in Residential Non-Low Income Programs
- Energy*Wise* (Single Family and Multi-Family)
- ENERGY STAR® HVAC Program

2. Commercial and Industrial FTE Findings

The NECEC team found that 65.38 FTEs were supported in 2012 by the Commercial and Industrial Gas Programs, including:

22.00 FTEs supported by the Large Commercial Retrofit Program
18.00 FTEs supported by the Large Commercial New Construction Program
25.38 FTEs supported by the Small Business Program

All of these programs were delivered through an extensive network of contracted experts and installers, the names of whom have been incorporated into the list of all 2012 vendors and program participants in Appendix A.

3. Residential Non-Low Income Programs Subtotal Findings

Using the methodologies described in the Methodology section, NECEC found that 85.42 FTEs were supported in 2012 by Residential Non-Low Income Programs, including:

Energy*Wise* Program (Single & Multi-Family): 47.68 FTEs
ENERGY STAR.® HVAC: 34.93 FTEs

4. Residential Low Income Program Subtotal (Ratepayer funded)

Rhode Island's low-income program and its service delivery system through the State of Rhode Island (contractor to National Grid) and a network of Community Action Program (CAP) agencies and subcontractors is described in Section III. The names and locations of all low-income program subcontractors are in Appendix A. As noted in the description, the low-income program is funded by both government funds and National Grid funds.

Using the method described in the methodology section, we confirmed that 14.97 FTEs were supported specifically by the low income program (gas) in Rhode Island in 2012, exclusive of selected federal government funds.

5. Residential Non-Low Income Gas FTEs from programs other than Energy*Wise* and ENERGY STAR.® HVAC.

The Non-Low Income Residential programs within the Gas Programs included some program investments in Pilot Programs, Comprehensive Marketing and other activities. Using year-to-date expenditures from National Grid's Preliminary 4th Quarter Results Report from February 14, 2013, we estimated that at least $281,000 was related to these efforts, supporting 2.81 FTEs.

C. Low Income Program Findings and Methods: Federal Funding Only

Rhode Island's low-income program and its service delivery system through the State of Rhode Island (contractor to National Grid) and a network of Community Action Program (CAP) agencies is described in Section III.

This program receives funding from sources beyond National Grid and the federal Weatherization Assistance Program (WAP). In 2012, funds also came from the Low Income Heating Assistance Program (LIHEAP), and the American Recovery and Reinvestment Act (ARRA).

To determine FTEs supported specifically by these funding sources, we received direct assistance from the State of Rhode Island, and the CAP agencies. Payroll and other records kept by these agencies allowed them to provide us with an accurate account of hours worked, allowing us to generate an FTE count using the same calculations of an average work hour used in the other FTE assessments throughout the study.

From these records, we confirmed that 23.10 FTEs in the low-income program were supported specifically from selected federal government funds.

E. National Grid Staff Serving Rhode Island Energy Efficiency Programs

1. Methodology

The assessment of direct National Grid FTEs committed to Rhode Island energy efficiency programs in 2012 was carried out through direct reporting based on time accounted to Rhode Island energy efficiency programs in National Grid's internal processes. Information from National Grid records was made available to the NECEC Institute research team upon request.

We did not make an effort to assign the identified National Grid staff people to individual electric, gas, residential and/or commercial and industrial programs. We did analyze the FTE counts in each of the Rhode Island programs in our study to assure that the work of National Grid staff was not already accounted for in any of the FTE counts of the individual programs.

2. Findings

In 2012, National Grid had sixty (60) individual staff people devoting at least 15% of their time to energy efficiency program in Rhode Island. 34 of these individuals (57%) were physically located in Rhode Island. These 60 staff people devoted total work hours resulting in 35.5 Full Time Equivalent (FTE) workers.

3. National Grid EE Staff Distribution and Activities

a. Customer and Business Strategy

Of National Grid's 2012 Rhode Island FTEs, 11.9 were devoted to the activity of Customer and Business Strategy for serving the energy efficiency (EE) needs of Rhode Island customers. The FTEs serving this need were responsible for:

- Preparing strategy for residential and commercial EE programs;
- Carrying out planning, evaluation, measurement and verification;
- Identifying, researching and deploying new EE technologies/strategies;
- Developing community and business partnerships to promote EE;
- Carrying out outreach activities to the EE community, including customers, stakeholders, businesses and regulators.

Of the 11.9 FTEs in this area, 7.63 were attributed to a group of nine National Grid staff people in the "Rhode Island Program Strategy" team, each of whom devoted more than 70% of their time in 2012 to energy efficiency program delivery and support for Rhode Island customers.

b. Marketing and Customer Experience

Marketing and Customer Experience programs and activities supported 1.7 of National Grid's 2012 Rhode Island FTEs These individuals were engaged in managing and delivering residential, commercial and statewide energy efficiency marketing campaigns, including EE events throughout the state, websites, and social media promotion. The people contributing work hours to the total of 1.7 FTEs also supported research efforts aimed at developing customer targeting strategies.

c. Sales and Program Operations

The largest group of National Grid staff serving Rhode Island energy efficiency programs in 2012 (19.0 FTEs) was in Sales and Program Operations. Staff people involved with this activity were largely responsible for deliver energy efficiency savings goals and managing programs. The team includes sales representatives, technical experts and engineers, residential and commercial program managers, vendor managers, account developers, and C&I sales processors. They developed commercial relationships with large and medium sized businesses, responded to inquiries for assistance, and expedited customer projects. The team also provided technical expertise and engineering for custom C&I projects. They also manage the residential and commercial programs including managing vendors.

d. Customer and Market Analytics

Customer and Market Analytics work contributed 2.9 FTEs to the 2012 energy efficiency effort. This team managed and analyzed customer data related to energy efficiency and managed information technology that supported energy efficiency efforts. People contributing to these FTEs also provided accounting support and developed customer and sales forecasts.

e. Jurisdiction

The Jurisdictional team provides a direct connection between regulatory and community priorities and National Grid, and coordinated activities with cities, towns and key accounts. The team directed the equivalent of 1 FTE to energy efficiency initiatives.

Section V. Methodologies

The NECEC Institute research team used four different methods to accurately assess the number of Full-Time Equivalent (FTE) workers supported by different energy efficiency programs in Rhode Island in 2012.

Method One: Direct reporting from employers

This method was used to calculate FTEs at National Grid and FTEs related to low-income program work funded directly by federal programs, including the American Recovery and Reinvestment Act (ARRA) and the Low-Income Heating Assistance Program (LIHEAP).

In addition, the research team received information about direct FTE estimates in 2012 from the firm of Rise Engineering which were used as a cross check and addition to the methods below.

Method Two: RS Means labor time estimates + adjusted multiplier

This method was used to calculate FTEs from the following programs:

- Residential Non-Low Income Energy*Wise* Program
- Residential Low-Income Program (excluding federal funded only)
- Residential ENERGYSTAR Programs
- Residential New Construction Program
- Commercial and Industrial Programs designated “Lighting”

Method Three: Variation for C/I “Electric Non-Lighting” Work

Method Four: Estimate based on 1 FTE per $100,000 spent

This method was used to calculate FTEs for community-based programs, pilot programs, comprehensive marketing programs, and the paid consultant portion of the EERMC program.

Each of these methods is described below.

A. Direct reporting from employers

1. National Grid Energy Efficiency Staffing

National Grid tracks staff labor hours by individual name and by program. The reported total of partial FTEs worked by many different staff people allows for a calculation of total FTEs by all staff toward energy efficiency programs.

2. Low-Income Program Work (federal funding portion only)

The State of Rhode Island provided direct information from pay records kept as part of required record keeping to receive federal funding under the American Recovery and Reinvestment Act (ARRA). These records allow for calculation of total hours worked, and thus total FTEs supported.

B. RS Means labor time estimates + adjusted multipliers

Step One: National Grid and/or a lead vendor provided the NECEC Team with a comprehensive list of the number/type of energy efficiency measures installed in the noted program.

Step Two: RS MEANS Online 2013 (Providence local) was researched to identify the hours necessary to install the specific measure(s)installed through the noted program.

Step Three: Where there was not an exact match of RS MEANS information to National Grid energy efficiency measure, averages of labor time for the closest matches were developed for that specific measure with the assistance of experienced professionals.

Step Four: On the recommendation of experts consulted, the NECEC Team increased the hours identified through RS MEANS by an agreed upon multiplier to account for two additional time requirements not sufficiently captured by RS MEANS installation times:

a. Additional time to cover company office labor, including design, administrative and management time;
b. Additional time to cover activities associated with the primary task of installing the specific measure. This included tasks such as moving equipment and furniture, talking with tenants to explain the procedures, disposal of the old items being replaced, and other associated activities.

Step Five: Once the primary and associated times had been calculated for each measure, then the sum for all of the hours for installing energy efficiency measures was calculated.

Step Six: The sum of the total hours for gas energy efficiency measures was then divided by the number of hours available for working – 1575 hours per year. The 1575 number was calculated by deducting weekends, holidays, vacation days, sick days, and weather, etc. interruptions, from 365 days per year.

The sum of total hours to install energy efficiency measures was divided by 1575 available hours per year to produce the total estimated number of energy efficiency measure FTEs.

Step Seven: Resulting FTE estimate tables are cross-checked by research team for reliability and to identify any FTE estimates that seem questionable.

C. Variation for C/I "Electric Non-Lighting" Work

1. Findings and Methods: FTE Counts Done by "Lighting" and "Non-Lighting"

To arrive at an FTE estimate for the Commercial and Industrial Electric Programs we requested data from National Grid on the number and types of all installed measures across all Commercial and Industrial Electric Programs performed in 2012.

It is important to note that we did not disaggregate data about installed measures into its component programs. Therefore, we did not generate separate counts for Large Commercial New Construction, Large Commercial Retrofit, and Small Business Programs.

Instead, after an analysis of data received, we carried out two different kinds of analysis – one regarding lighting measures in the Electric C/I, and one regarding non-lighting measures.

For lighting measures, we found that our "RS MEANS plus multiplier" was appropriate and accurate. For "Non-Lighting" measure design and installation work, however, a method variation was required to accurately capture FTEs.

2. C/I Non-Lighting Measures Methodology Variation

Step One: National Grid provided the NECEC a list of the number and type of non-lighting electric measures (NLEM) installed in the 2012 Program, as mentioned above.

Step Two: Using additional National Grid data the team developed estimated total project costs for each measure on the National Grid measures installed list.

Step Three: NECEC solicited the participation of two contractors with experience in Commercial and Industrial energy efficiency electrical projects. With their assistance, we arrived at a reliable determination that the average labor cost (installer, management, and administrative) can be assessed for the purposes of FTE estimation at 25% of a NLEM project. In addition, many projects require engineering support ranging from 5-10% of total costs, thus an additional 7.5% was added to the labor cost of the projects resulting in a labor rate of 32.5% of total project costs.

Step Four: The estimated total project costs for each measure on the National Grid measures installed list was multiplied by 32.5% to produce the total labor cost for each set of measures.

Step Five: Estimated labor hours for each measure on the National Grid measures installed list was calculated by dividing the total cost of the measure projects by an hourly rate of $45, the blended hourly rate for NLEM projects determined through consultation with two experienced contractors.

Step Six: The number of hours for each measure on the National Grid measures installed list was then divided by 1575 hours (the total number of work hours in a year) to produce the FTE per unit factor for each measure.

Step Seven: The FTE per unit factor was multiplied times the quantity of NLEMs for each measure sector to produce the number of FTEs for that sector.

Step Eight: The FTEs for each NLEM measure were summed to produce the total estimated FTEs for all NLEMs.

D. FTE Estimates based on 1 FTE per $100,000 of program expenditure

This method was used to assess 2012 FTEs in the following programs:

- Community-Based Initiatives
- EERMC (consultant services)
- Comprehensive Marketing
- Behavior Pilot Programs
- EE Educational Programs

Dollar amounts for 2012 were derived from “Table 1: Summary of 2012 Target and Preliminary 4th Quarter Results” (National Grid, December 14, 2012)

APPENDIX A

LIST OF CONTRACTORS AND SUBCONTRACTORS INVOLVED IN 2012 RHODE ISLAND ENERGY EFFICIENCY PROGRAMS (INCLUDES BOTH COMPANIES AND AGENCIES PERFORMING WORK AND THOSE RECEIVING TRAINING AND/OR OTHER FORMS OF ASSISTANCE)

This list is organized first by state (alphabetically), and then alphabetically by company name. To find the Rhode Island companies, move the first appearance of "RI" in the far right column.

Of the 598 companies, agencies and not-for-profit organizations listed here, 424 (71%) are either headquartered in Rhode Island, or have a physical presence in Rhode Island. The list includes contractors and subcontractors performing work directly for National Grid Energy Efficiency programs in 2012. It also includes contractors performing work for RI customers who received energy efficiency incentives rebates, for example HVAC contractors who installed efficient equipment. It also includes the Community Action Program agencies and their subcontractors involved with the delivery of the low-income program, whether under National Grid funding or WAP/LIHEAP/ARRA funding.

If we have left any companies off of this list, incorrectly named a company, or listed it under an incorrect location, please contact the NECEC Institute Workforce Development team by email (kevinldoyle@gmail.com).

BT Ins	Santa Clara	CA
FTS Lighting	Orange	CA
Interviewing Service of America	Van Nuys	CA
Noribachi Corporation	Hawthorne	CA
West Coast Lighting & Energy	Lake Elsinore	CA
E Source Companies	Boulder	CO
Competitive Resources	Yalesville	CT
Cutter Enterprises LLC	Tolland	CT
DDLC Energy	New London	CT
ICON International	Stamford	CT
KBE Building Corporation	Farmington	CT
Lantern Energy LLC	Norwich	CT
Lightstat	Pleasant Valley	CT
Steven Winter Associates	Norwalk	CT
Thames Valley Vinnelson Co	Groton	CT
Alliance to Save Energy	Washington	DC
American Council for an Energy-Efficient Economy	Washington	DC
Einhorn Yaffee Prescott Architecture	Washington	DC
Energy Source	Miami	FL
J L Roth and Associates	Palm Harbor	FL
Pro Unlimited	Boca Raton	FL
Enercon	Kennesaw	GA
American Energy Solutions	Leawood	KS
A&M Compressed Air Products	Uxbridge	MA
ACTION, Inc.	Fall River	MA

Advantage Weatherization	Quincy	MA
Air Energy	South Easton	MA
Alternative Creative Energy & HVAC	Blackstone	MA
Ameresco	Framingham	MA
American Green Building Services	Dedham	MA
American Refrigeration Company	Andover	MA
Andelman and Lelek Engineering	Norwood	MA
Anderson Mechanical LLC	North Grafton	MA
Anthony F. Vieira III Heating and Air Conditioning	Attleboro	MA
Applied Energy Engineering & Commissioning	Manchester	MA
Applied Proactive Technologies	Springfield	MA
Aten Energy Conservation LLC	Swansea	MA
Atlantic Refrigeration of Hudson	Hudson	MA
Aztec Energy Partners	Braintree	MA
B2Q Associates	North Andover	MA
Bay Coast Bank	Swansea	MA
Berubes Plumbing Heating and Remodeling	Somerset	MA
Biello Electric	Fall River	MA
Bluestone Energy Services Ltd	Norwell	MA
Boston Light Source	Boston	MA
Briggs Mechanical	North Attleboro	MA
Bruin Corporation of Attleboro	North Attleboro	MA
Building Science Corporation	Westford	MA
Callahan	Bridgewater	MA
Carrier	Canton	MA
Chet's Welding	Uxbridge	MA
Classic Sheet Metal	Swansea	MA
Conservation Services Group	Westborough	MA
Consolidated Marketing Services	Burlington	MA
Consortium for Energy Efficiency	Boston	MA
CPS Electric	Marlborough	MA
Dagher Consulting	Lexington	MA
David Parnes Photography	Concord	MA
Delta Electric	Medford	MA
DMI	Needham	MA
Don Dalpe Plumbing	Blackstone	MA
Electric Wholesalers	Boston	MA
EMC	Hopkinton	MA
Emond Plumbing and Heating	Taunton	MA
Energy & Resource Solutions	North Andover	MA
Energy Consumers Alliance of New England	Boston	MA
Energy Engineering & Design	Framingham	MA
Energy Federation	Westborough	MA
Energy Machinery	Rockland	MA
Enviro Service	Norwell	MA
Fraunhofer USA	Cambridge	MA
Gettens/Nesco	Canton	MA
Granite City Electric	Pawtucket	MA
GreenerU	Cambridge	MA
Groom Energy Solutions	Salem	MA
Guardian Energy Management Solutions	Marlborough	MA
Hamel & McAlister	Burlington	MA
Hope Air Systems	Northborough	MA
Horizon Lighting & Energy Services	Taunton	MA

IBM Corporation	Cambridge	MA
ICF Consulting	Lexington	MA
Industrial Control Service Corporation	Chelmsford	MA
Inner Workings	Amesbury	MA
Insulate 2 Save	Fall River	MA
Interstate Electrical Services	North Billerica	MA
JACO Environmental	Franklin	MA
Jay Leblanc Plumbing	Blackstone	MA
JMF Services DBA Improved Illumination	Medfield	MA
JMP Plumbing and Heating	Rehoboth	MA
Kaeser Compressors	South Easton	MA
KCG Energy LLC	Lexington	MA
Kelliher Samets Volk	Boston	MA
KEMA	Burlington	MA
Larry's Heating & BCI	Rehoboth	MA
Lennox Industries	Wilmington	MA
Lighting Retrofit Services	Wilmington	MA
Lime Energy	Boston	MA
Litemor	Norwood	MA
Lockheed Martin Services	Burlington	MA
Medford Wellington	Medford	MA
Mike Dupree	Mansfield	MA
MJ Heating and Air Conditioning	Fall River	MA
National Resource Management	Canton	MA
NMR Group	Somerville	MA
Noresco	Westborough	MA
NorthEast Electrical Distributors	Brockton	MA
Northeast Energy Efficiency Partnerships	Lexington	MA
Northern Energy Services	Northborough	MA
O'Brien & Neville	Holliston	MA
Omnilite	Burlington	MA
Opinion Dynamics Corporation	Waltham	MA
Prism Energy Services	Quincy	MA
PRS Electric	Dighton	MA
Reilly Electric	South Easton	MA
Renova Lighting Systems	Mansfield	MA
Rethinking Power Management LLC	Boston	MA
Retrofit Insulation	Fall River	MA
River Energy Consultants	Fall River	MA
Robinson Supply Co.	Fall River	MA
Rouleau Consulting Group LLC	Gloucester	MA
Sacks Exhibits	Wilmington	MA
SMOC	Framingham	MA
Standard Electric Supply	Boston	MA
Stateline Fuel and Burner	Seekonk	MA
Steve Brown Plumbing and Heating LLC	Webster	MA
Steve Dessert The Heating Man	Swansea	MA
Supply New England - Uxbridge	Uxbridge	MA
Synergy Investment	Westborough	MA
T and J Heating and Conditioning and Plumbing	Bellingham	MA
Tech Resources	Milford	MA
Tendril Networks	Newton Lower Falls	MA
Tetra Tech MA	Boston	MA
The Cadmus Group	Waltham	MA

The Elcon Group /CCMS Lighting	Hopkinton	MA
TNZ Energy Consulting	Stoughton	MA
Towne Heating Co	Swansea	MA
Veolia ES Technical Solutions LLC	Boston	MA
Victory Heating & Air Conditioning Co	Bellignham	MA
Whites Plumbing and Heating	Swansea	MA
Wipro Ltd	Boston	MA
World Energy Solutions	Worcester	MA
Earth Networks	Germantown	MD
Helgeson Enterprises	White Bear Lake	MN
Electrical Distributors	Charlotte	NC
Ingersoll Rand Company	Davidson	NC
Carter Events Plus	Hampton	NH
Sylvania Lighting Services	Exeter	NH
Weller & Michal Architects	Harrisville	NH
Amerlux LLC	Fairfield	NJ
BriteSwitch LLC	Princeton	NJ
Ideas Agency	Blairstown	NJ
Buro Happold Consulting Engineers PC	New York	NY
Gardner Nelson and Partners	New York	NY
Integral Group	New York	NY
KS Electric LLC	East Greenbush	NY
Natek Corporation	Saratoga Springs	NY
News America Marketing	New York	NY
RAM Marketing	Saint James	NY
Scales Industrial Technologies	Carle Place	NY
Commercial Electric	Cleveland	OH
Compressed Air Technologies	Monroe	OH
Illumetek Corp	Cuyahoga Falls	OH
Questline	Columbus	OH
Energy-One	Tulsa	OK
Ecobee	Toronto	ON
CGI Technologies & Solutions	Montreal	QC
A and C Burner Service HVAC	East Providence	RI
A Plus Electric	Warwick	RI
A. Perry Plumbing and Heating	Coventry	RI
A&P Fire Systems	East Providence	RI
Abline Oil Service	Cranston	RI
Acme Electric	North Providence	RI
Advanced Comfort Systems	North Smithfield	RI
AECOM	Providence	RI
Aero Mechanical	Johnston	RI
Affordable Heating	North Providence	RI
Affordable Insulation	Pawtucket	RI
AH Robert Plumbing and Heating	Warwick	RI
Air Conditioning Systems of New England	Cranston	RI
Air Flow	Coventry	RI
Air Synergy	Providence	RI
Al and Sons Construction Company	Warwick	RI
Aladdin Electric	Johnston	RI
Aldanti and Son Plumbing	Glocester	RI
All in One Plumbing & Heating	Scituate	RI
All Seasons Heating and Air	Johnston	RI
All Temps Mechanical LLC	Warwick	RI

Alliance Plumbing and Heating	Cumberland	RI
Allied Electrical Group	Providence	RI
Allied Plumbing and Heating	North Providence	RI
Almedia Plumbing and Heating	Smithfield	RI
Alpha Mechanical	East Providence	RI
American Development Institiute	Warwick	RI
American Plumbing & Heating	North Providence	RI
Amos House	Providence	RI
Anchor Plumbing and Heating Company	Providence	RI
Andreozzi Associates	East Providence	RI
Andrew White	Coventry	RI
Any Time Plumbing	Harrisville	RI
AR Heating and Cooling	Providence	RI
Arden Engineering	Pawtucket	RI
Ardente Supply Company	Woonsocket	RI
Armor Plumbing	Exeter	RI
Arthur Desautels	West Greenwich	RI
Arthur DiPetrillo Plumbing and Heating	Johnston	RI
Arthur Lettieri	Providence	RI
Atlantic Supply LLC	Coventry	RI
Atlantis Comfort Systems Corp	Smithfield	RI
Atlas Copco	Johnston	RI
Autiello Plumbing and Heating	Cranston	RI
Automatic Heating Equipment	Providence	RI
Automatic Temperature Control	Cranston	RI
B and B Plumbing	Warwick	RI
Barlow Heating LLC	Warwick	RI
Bay Plumbing	North Kingstown	RI
Beacon Mechanical	Glocester	RI
Beam Electric	Coventry	RI
Beauchemin Designs	North Providence	RI
Bell and Piasczyk Plumbing and Heating	Narragansett	RI
Beneficial Energy Products CO	Pawtucket	RI
Berard Heating and Plumbing	Warwick	RI
Bermudez Plumbing	Pawtucket	RI
Besco Electric	Woonsocket	RI
Big Dog Plumbing and Heating	Hopkinton	RI
Bill Ellis Plumbing and Heating	West Kingstown	RI
Bill Gardnier Plumbing and Heating LLC	East Providence	RI
Bill Linehann	Warwick	RI
Blackstone Valley Community Action Program	Pawtucket	RI
Bob Larisas Plumbing and Heating	Barrington	RI
Bodell Plumbing and Heating	South Kingstown	RI
Boss Heating	Westerly	RI
Bousquet Oil	Woonsocket	RI
Braswell's Plumbing & Heating	North Kingstown	RI
Brennan Oil DBA Energy & Mech	North Providence	RI
Briarwood Meadows	East Greenwich	RI
Bristol Aluminum & Vinyl	Bristol	RI
Bristol County Plumbing & Heating	Bristol	RI
Bruno & Son Electric	Providence	Ri
Bryant University	Smithfield	RI
Buckley and Son Fuel	Johnston	RI
Buckley Heating & Cooling	South Kingstown	RI

Burbank's Plumbing & Heating	North Kingstown	RI
Butler Property Services	Providence	RI
C & K Electric Company	Providence	RI
C W Cummings Plumbing CO	Coventry	RI
Cal Supply Company	Cranston	RI
CAM HVAC & Construction	Smithfield	RI
Canal Electric	Johnston	RI
Capitol Plumbing and Heating	Cumberland	RI
Carbone Plumbing and Heating	Cranston	RI
Carjon AC and Heating	Smithfield	RI
Carl Pecchia Heating Cont. LLC	Warwick	RI
Carter Bros.	Burrillville	RI
Cassana HVAV LLC	Cranston	RI
Castle Construction	Johnston	RI
Cavaco Brothers Plumbing and Heating	East Providence	RI
CCAP Heating Service	Cranston	RI
CD Heating	Cranston	RI
Central Street Contractor	Central Falls	RI
Century Heating	Smithfield	RI
Charland Enterprises	Pawtucket	RI
Charlies Heating LLC	North Kingstown	RI
Chaves Plumbing & Heating	Middletown	RI
Cheaper Sweepers	Warwick	RI
Cipriano Plumbing and Heating	South Kingstown	RI
Climate Air	Providence	RI
Coastal Electric	Newport	RI
Cola Plumbing and Heating	North Kingstown	RI
Coldmasters	Providence	RI
Comfort Systems	West Kingston	RI
Commercial Heating Service and Sale	Cumberland	RI
Comprehensive Community Action Program	Cranston	RI
Continental Engineering	Johnston	RI
Contractor Arthur Desautels	West Greenwich	RI
Corey Lane DBA A-All Services	Providence	RI
Cross Insulation	Cumberland	RI
Crystal Plumbing and Heating	Providence	RI
CSV Mechanical	South Kingstown	RI
Cummings Plumbing Co	Coventry	RI
D and J Plumbing and Heating	Charlestown	RI
D and V Mechanical	Westerly	RI
D&D Metal Works	Cranston	RI
Dave Parillo Plumbing and Heating	Cranston	RI
David Garrahan DBA Pipe Fixer	Coventry	RI
David Iannucci	Providence	RI
DBA Marciano Electric	West Warwick	RI
Delektra Plg and Htg Co	Warren	RI
Deltufo and Sons Plumbing and Heating Co	West Greenwich	RI
DFS Plumbing Services	West Greenwich	RI
Dimezza Const	Warwick	RI
Dionne and Sons Piping Dynamics Ltd	Coventry	RI
Dirocco Plumbing Services LLC.	North Providence	RI
Don Jestings and Sons LLC	Middletown	RI
Donovan and Sons	Middletown	RI
Douglas Oil CO	Providence	RI

Drivers Plumbing and Heating	Providence	RI
DSA Mechanical	Barrington	RI
DSL & Sons Heating & Cooling LL	Bradford	RI
Dudek Oil Co	Warren	RI
Dupuis Oil Co	Pawtucket	RI
Dynamic Air Systems	East Providence	RI
E A Marcoux and Son	Woonsocket	RI
E M Greco and Son	Warwick	RI
East Bat Chimney Works	Warren	RI
East Bay Plumbing and Heating	Bristol	RI
Eastbay Community Action	East Providence	RI
Ed Beaudoin Plumbing and Heating	Cranston	RI
Eddy's Construction - DBA	Providence	RI
Elmhurst Engineering	East Providence	RI
Emergency Response Plumbing & Heating	Warwick	RI
Eurotech Climate System	Pawtucket	RI
Evergreen Plumbing and Heating	Warwick	RI
F G Lees	Providence	RI
Falcon Hydraulics and Boiler Services	West Kingston	RI
FCI Engineering Group LLC	Providence	RI
Feather HVAC	Cumberland	RI
Feula Plumbing and Heating	Johnston	RI
Fletcher Heating	Hopkinton	RI
Flou Heating and AC	Narragansett	RI
Foremost Electrical Service	Cranston	RI
G and G Technology	North Kingstown	RI
G Hill Plumbing	Westerly	RI
Gas Doctor	Cranston	RI
Gas Master	Little Compton	RI
Gas Pro	Pawtucket	RI
Gasman	Warwick	RI
Geiselman Plumbing and Heating	Pawtucket	RI
Gem Air Services	Pawtucket	RI
Gem Plumbing & Heating Services	Lincoln	RI
Gerard Levesque Plumbing and Heating	Coventry	RI
Giammarcoi Plumbing	North Providence	RI
Gilbane Construction	Providence	RI
Gilbert Gizzarelli	Warwick	RI
Ginger's Oil Company	Westerly	RI
Glendale Oil CO	Burrillville	RI
Globex Industries	Narragansett	RI
Goldon Goncalves	East Providence	RI
Goulart Petroleum	Little Compton	RI
Green and Healthy Homes Initiative	Providence	RI
Green Seal	North Kingstown	RI
Greenwich Insulation	West Warwick	RI
Groves Energy	Scituate	RI
Guy Clemont Plumbing and Heating	Johnston	RI
H H Heating	Lincoln	RI
H K Heating	Coventry	RI
HAABCO Construction	Jamestown	RI
Harbor Controls Corporation	North Kingstown	RI
Harmony Design & Const LLC	Providence	RI
Hart Engineering Corporation	Cumberland	RI

Haven Plumbing and Heating Co	Cranston	RI
Hawkes Plumbing CO	Glocester	RI
HC Woodmansee and Son	Hopkinton	RI
Henderson Electric	Pawtucket	RI
Heroica's Painting	Providence	RI
Holgate Plumbing and Heating	Warwick	RI
Hope Oil	Scituate	RI
Houle Plumbing and Heating	Coventry	RI
Houstyns Remodeling	Lincoln	RI
Howard's Heating Service	North Kingstown	RI
Iasimone Plumbing Hetaing and Drain Cleaning	North Providence	RI
IMichael Rinaldi	Narragansett	RI
Industrial Burner Service	Providence	RI
Industrial Electric	Cranston	RI
Industrial Pump	Tiverton	RI
InQuest Technologies	Providence	RI
J and M Plumbing	Coventry	RI
J Joyce Plumbing and Heating Co	Warwick	RI
J.J. McNamara & Son	Providence	RI
Jae Yoon	Richmond	RI
Jay's Electric	Providence	RI
JD Mechanical	Smithfield	RI
Jeff Berard Plumbing and Heating	Warwick	RI
Jenkins Heating	Smithfield	RI
Jim Steitz Plumbing and Heating LLC	Coventry	RI
JKL Engineering Co	Providence	RI
JMAC Plumbing and Heating	Warwick	RI
JMB Mechanical	Johnston	RI
John C Fletcher	Hopkinton	RI
John Nicholson	Providence	RI
John S Babcock Plumbing	Westerly	RI
Johnny's Oil & Heating	Providence	RI
Johnson and Johnson Plumbing and Heating	Narragansett	RI
Johnson Controls Lighting Services	Lincoln	RI
Joseph Giorno Plumbing and Heating	Cranston	RI
Jr's Plumbing Service	Warwick	RI
JRQ Heating	Warwick	RI
Just Heat	Portsmouth	RI
Kafin Oil Company	Woonsocket	RI
Kans Plumbing	Bristol	RI
Ken Adams	Cranston	RI
Kenahan Construction	West Warwick	RI
Kens Heating LLC	Providence	RI
Kessler's Sheet Metal	Providence	RI
Koolco	South Kingstown	RI
Kwik Plumbing and Heating	Johnston	RI
L and F Plumbing LLC	Cranston	RI
Lapierre Electric	Woonsocket	RI
Lawrence Air Systems	Barrington	RI
Lemay Framing & Remodeling	North Smithfield	RI
Light House Propane	East Greenwich	RI
Lighthouse Consulting	Warren	RI
LJ Giorgi Plumbing and Heating	North Providence	RI
Loln Energy Mechanical Services	West Warwick	RI

Lubera Plumbing	Coventry	RI
Luso Plumbing and Heating	Cumberland	RI
Lutz Air Co	East Providence	RI
Major Electric Supply	Pawtucket	RI
Malone Plumbing and Heating	Cranston	RI
Maloney's Oil Company	Pawtucket	RI
Mansi	Warren	RI
Manuppelli Plumbing LLC	Warwick	RI
Martel Plumbing & Heating	Central Falls	RI
Mathew Cedarfield	Warwick	RI
Mathews Bros DBA Arizona Oil	Cranston	RI
Mc Kee Brothers Oil	Cumberland	RI
Mechanical HVAC Systems	South Kingstown	RI
Mendez Contractors	Providence	RI
Merit Mechanical	Warwick	RI
Michael Freitas Plumbing and Mechanical	Burrillville	RI
Michael Lundy	Tiverton	RI
Micheletti Oil Service	Johnston	RI
MJ Bouchard Heating and AC	Smithfield	RI
Modern Mechanical LLC	Woonsocket	RI
Montella Oil	Providence	RI
Mr Rooter Plumbing	Warwick	RI
Munro Distributing	Cranston	RI
Murray Plumbing and Heating	Smithfield	RI
Mutual Development Corp	West Warwick	RI
N E Electric Distribution (NEED) Amity Electric	Richmond	RI
National Refrigeration	Warwick	RI
Navigant Credit Union	Smithfield	RI
New England Insulation	Woonsocket	RI
New England Restoration and Construction Services	Exeter	RI
New England Supply	Pawtucket	RI
Newport Plumbing and Heating Gas Co	Portsmouth	RI
NexGen Mechanical	Warwick	RI
Nightingale Plumbing and Heating	Providence	RI
Nite Oil	Tiverton	RI
North Atlantic Heating	Coventry	RI
Northeast Energy Reduction	Lincoln	RI
Northeast Noise Abatement	Warwick	RI
Ocean State Heating Service LLCY	Richmond	RI
On The Side HVAC	Cranston	RI
P and T Plumbing and Heating	Coventry	RI
P Mandarini	Cranston	RI
Patrick Martin	Bristol	RI
Patriot Plumbing	Coventry	RI
Patriot Sheet Metal HVAC	Pawtucket	RI
Pellegrino Plumbing	Westerly	RI
People's Power and Light	Providence	RI
Percivalle Electric	Warwick	RI
Perez Plumbing and Heating	Cranston	RI
Peter Paolino	Johnston	RI
Peter Skeffington	East Providence	RI
Petro	Providence	RI
Petronelli Plumbing and Heating	Johnston	RI

Phalanx Engineering	Cranston	RI
Phil Paul Plumbing and Heating	North Smithfield	RI
Phil's Bottled Gas Service Co.	Tiverton	RI
Phillip Rott Plumbing and RI	Coventry	RI
Phillips Plumbing and Mechanical	Cranston	RI
Piazza Enterprises	Warwick	RI
Pickles Plumbing and Heating LLC	Burrillville	RI
Pingitore Plumbing and Heating Co	Johnston	RI
Pinnacle Plumbing and Heating	Smithfield	RI
Plumbing & Heating Solutions LLY	Providence	RI
Plumbing Solutions	Cranston	RI
Potvin Enterprises	Warwick	RI
Premair HVAC	Warwick	RI
Priority One	Hopkinton	RI
Projects Can Happen	Pawtucket	RI
Providence Community Action Program	Providence	RI
Providence Mechanical Services	Smithfield	RI
R B Queern & Co	Middletown	RI
R E Coogan Heating	Warwick	RI
Ralph Ferra Plumbing	North Smithfield	RI
Rambone & Sprague Oil Service	Scituate	RI
Randy Pomeroy	Burrillville	RI
Ray Ciampanelli Plumbing and Heating Co	Peacedale	RI
Rayco Electric	Providence	RI
Raymond Degnan	North Providence	RI
Reddy Piping Concepts	Cranston	RI
Regan Heating & Air Conditioning	Providence	RI
Regency Plaza	Providence	RI
Reichert & Sons Fuel Oil	Glocester	RI
Reinhold Plumbing and Heating	Johnston	RI
Reinsant Heating	Lincoln	RI
Reliable Electric	Coventry	RI
Reliable Plumbing and Mechanical	Providence	RI
Resendes Heating Service LLC	Coventry	RI
Restivo Heating and Air Conditioning	Johnston	RI
Rhode Island Community Action Association	Cranston	RI
Rhode Island Green Building Council	Providence	RI
RI Analytical	Warwick	RI
RI Gutter	Warwick	RI
RI Insulation	Scituate	RI
RI Plumbing and Heating	Lincoln	RI
Ricahrd's Oil Company	Coventry	RI
Richard A Lavey	Warren	RI
RISE Engineering	Cranston	RI
RJL Insulation Co.	Middletown	RI
RK Electric LLC	North Kingstown	RI
Robert E Bang DBA Raymong J Reinsant Plumbing	Lincoln	RI
Robert Martel Plumbing	Central Falls	RI
Robert Squizzero Plumbing and Heating	Cranston	RI
Robs Oil Burner Service	West Warwick	RI
Roland & Sons	Narragansett	RI
Rossi Electric	Cranston	RI
Roto Rooter Services	Providence	RI

RST Sheetmetal	Foster	RI
Ruotolo Fuel	Johnston	RI
RW Bruno Heating and Cooling	Lincoln	RI
S & S Electric	Glocester	RI
S B Carbone Plumbing & Heating	Cranston	RI
Sal Maggiacomo Plumbing and Heating	Cranston	RI
Sal Manzi and Son Plumbing and Heating Co	Cranston	RI
Sam Bliven Jr Plumbing & Heating	Westerly	RI
Sandler Services LLC	East Providence	RI
Sanoco DBA Santoro	Providence	RI
Sasa Energy LLC	Johnston	RI
Savard Oil Co	East Providence	RI
Schneider Laboratories	Richmond	RI
Seekonk Supply	Providence	RI
Shearman Oil	Tiverton	RI
Sherman Plumbing	East Providence	RI
Siemens Industry	Cranston	RI
Simons Supply	Warwick	RI
Sine Plumbing and Heating	East Providence	RI
South County Community Action	South Kingstown	RI
South County Gas Service	Narragansett	RI
St. Angelo Plumbing	Barrington	RI
Stack Design Build LLC	Providence	RI
Standish Brothers HVAC LLC	Coventry	RI
State of Rhode Island	Providence	RI
Statewide	North Smithfield	RI
Stedman Kazounis Plumbing	Charlestown	RI
Stephen C Girard	East Providence	RI
Steven Plumbing	Barrington	RI
Sun Systems	Narragansett	RI
Sunshine Oil Co	Bristol	RI
Superior Comfort	Bristol	RI
Superior Electric	Warwick	RI
Superior Insulation LLC	Warwick	RI
Superior Plumbing and Heating	Cranston	RI
Sustainable Energy Solutions LLC	Providence	RI
Sylvander Heat and AC	East Greenwich	RI
T A Gardiner Plumbing and Heating	Bristol	RI
T Gomes Heating & Cooling LLC	Providence	RI
Tadco Electric	Johnston	RI
TH Malloy and Sons	Cumberland	RI
The Plumber Company	Johnston	RI
Thermal Home Energy Solutions	Cranston	RI
Therrien Mechanical Systems	Lincoln	RI
Thomas Federicci	Warwick	RI
Todd Delmonico Plumbing	East Providence	RI
Tom Peters Plumbing and Heating	Portsmouth	RI
Total Comfort Heating and Cooling	Tiverton	RI
Total Construction Services	Providence	RI
Trane	Providence	RI
Travers Plumbing and Heating orporated	Portsmouth	RI
Tri-Town Community Action	Johnston	RI
UG Nasons	Middletown	RI
United Mechanical	Cranston	RI

United Oil Burners Service	Warwick	RI
Universal Insulation	North Providence	RI
University of Rhode Island	South Kingstown	RI
V & G Electric	Westerly	RI
V & L Construction	Providence	RI
Valcourt Heating	Little Compton	RI
Valley Heating and Cooling	Richmond	RI
Valley Plumbing and Heating	Cumberland	RI
Vaughn Oil Co	Smithfield	RI
Vernon's Oil Burner Service	Warwick	RI
VICMIR Heating and Air Conditioning	East Providence	RI
Viking Supply	Westerly	RI
Vivona Plumbing & Heating	Portsmouth	RI
Wakefield Heating Service LLC	South Kingstown	RI
Walco Electric Co.	Providence	RI
Waldo Plumbing and Heating	Lincoln	RI
Warner Appliance Service	Cumberland	RI
Wesco Oil & Propane	Smithfield	RI
Westbay Community Action	Warwick	RI
Wickford Appliance	Pawtucket	RI
William Barberry	Scituate	RI
Wojcik Electric	Narragansett	RI
Woods Heating Service	East Providence	RI
Zawadzki Plumbing and Heating	Warwick	RI
Zerodraft Insulation LLC	North Smithfield	RI
All Energy Services LLC	Pawtucket	RI
L & B Remodeling	Warwick	RI
Mike's Oil	Tiverton	RI
Facility Solutions Group	Austin	TX
NexRev	Plano	TX
Vermont Energy Investment Corporation	Burlington	VT
Ecova	Spokane	WA
New Buildings Institute	White Salmon	WA
Northwest Energy Efficiency Council	Seattle	WA

For More Information about the NECEC Institute or this Study, contact:

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Commission 1-6

Request:

Plan, p. 10. Please identify the title of the report, and year published, sponsored by the Company and EERMC which identifies business and employment impacts of customer funded energy efficiency investments in Rhode Island.

Response:

The statement on page 10 says, "[t]he Company, along with the EERMC, will once again sponsor a study that will help identify the business and employment impacts of customer-funded energy efficiency investments in Rhode Island."

This statement refers to an update of the study referenced on page 9, the final report "Direct Full-Time Equivalent (FTE) Employment Supported by Energy Efficiency Programs in Rhode Island in 2012," which the Company has provided as Attachment COMM 1-5.

This updated study will analyze the employment impacts related to the 2013 programs and is scheduled to be completed in Spring 2014.

Commission 1-7

Request:

Plan, p. 16. Footnote 17. Explain how the electric uncollectible rate of 1.25% is being applied. Looking at Table G-1(Attachment 5), it appears the uncollectible rate is being applied differently on the gas side. If so, why?

Response:

As explained in the Company's supplemental 2014 EEPP filing on November 22, 2013, the Company inadvertently omitted the electric uncollectible gross-up adjustment from the calculation of the proposed 2014 electric EEP charge in its November 1, 2013 initial filing for the EEPP. In its supplemental filing, the Company submitted a revised Table E-1, identified as Attachment 4-Revised, which includes the adjustment for the uncollectible rate of 1.25% to the base EEP charge plus the proposed SRP factor proposed in Docket 4453.

Regarding the application of the gas uncollectible rate on gas Table G-1, the Company has revised the presentation of the uncollectible adjustment in its November 26, 2013 supplemental 2014 EEPP filing. Rather than flowing the uncollectible adjustment through the forecasted sales in Table G-1 as presented in the Company's November 1, 2013 initial EEPP filing, the Company's supplemental filing includes a revised Table G-1, identified as Attachment 5-Revised, which presents the uncollectible adjustment as an adjustment to the base EEP charges for each sector. This presentation is consistent with the uncollectible adjustment in other Company rates and charges that include the recovery of uncollectible expense for both gas and electric. In addition, the Company also corrected the gas uncollectible rate to that approved by the Commission in the Company's last rate case in Docket 4323. The Company's initial filing was based on the prior gas uncollectible rate.

Prepared by or under the supervision of: Jeremy Newberger

Commission 1-8

Request:

Plan, p. 17. How much capacity-payment revenue did the Company generate through its demand savings in 2011, 2012 and 2013? For each of those years, state whether or not those payments exceeded administrative and Measurement and Verification compliance costs of participation in the FCM.

Response:

Please see Attachment COMM 1-8, which shows monthly capacity revenue that the Company received in 2011, 2012, and through September 2013. The payments do not exceed administrative and Measurement and Verification compliance costs of participation in the Forward Capacity Market ("FCM").

Prepared by or under the supervision of: Jeremy Newberger

NECO FCM Revenue by Month 2011 - 2013

	Calendar Year 2011		Calendar Year 2012		Calendar Year 2013	
Invoice	NECo		NECo		NECo	
Jan	$	204,807	$	183,264	$	177,371
Feb	$	194,733	$	175,924	$	171,242
March	$	187,965	$	175,974	$	169,745
Apr	$	191,648	$	173,224	$	164,582
May	$	189,191	$	172,499	$	162,224
Jun	$	172,963	$	183,299	$	201,014
Jul	$	184,613	$	188,865	$	198,945
Aug	$	180,355	$	165,642	$	204,251
Sep	$	166,056	$	167,039	$	202,034
Oct	$	169,643	$	155,358		
Nov	$	162,503	$	159,541		
Dec	$	174,795	$	183,862		
Total	**$**	**2,179,273**	**$**	**2,084,491**	**$**	**1,651,409**

Commission 1-9

Request:

Plan, p. 16-17. Please cite the section of the Standards which supports the Company's reporting kW-demand savings achieved from electric energy efficiency programs to ISO-NE as Other Demand Resources and revenue received.

Response:

The Company's practice of reporting kW demand savings achieved from electric energy efficiency programs to ISO-NE dates back to the Company's electric energy efficiency plans for 2007 and 2008, which were approved by the Commission in Docket Nos. 3779 and 3892, respectively. In its electric plans for 2007 and 2008, the Company recommended reporting these savings to ISO as Other Demand Resources (ODR) through 2007 and 2008, and to reinvest the FCM revenue received into the Company's electric energy efficiency programs as an available funding source. Reporting of the kW demand savings is a prerequisite to receiving the FCM revenue. This practice has been built into the Standards and each successive year's energy efficiency program filing.

The current version of the Standards, approved by the Commission in Docket 4202 states as follows:

> "The Utility shall develop a funding plan based on the following sources to meet the budget requirement of the EE Procurement Plan. The Utility shall utilize as necessary to fulfill the statutory mandate, the five following sources of funding for the energy efficiency program investments among others
> ii. forward capacity market ("FCM") revenues should be invested to help cover program costs…."

See Section 1.2 EE Procurement Plan Components, Section A.4 "Funding Plan and Initial Goals," paragraph a(ii).

Commission 1-10

Request:

Plan, p. 18. How many Distributed Generation customers were exempt from the EEP charge in 2012 and 2013?

Response:

During 2012 and 2013, there were two customers exempt from the EEP charge as a result of operating qualifying distributed generation.

Commission 1-11

Request:

Plan, p. 23. What "Guidelines" is the Company referring to in Section V. "Cost-Effectiveness."

Response:

The statement on page 23, …"(a)s provided in the Guidelines, the benefits also include non-energy impacts (NEIs)" refers to the Standards for Energy Efficiency and Conservation Procurement and System Reliability" adopted by the Commission in Docket 4202. In the 2014 Energy Efficiency Program Plan ("EEPP") text, the Company interchanged the word "Guidelines" for "Standards."

Further, in the 2014 EEPP, the Company has used the more commonly used term "non-energy impacts" instead of the phrase "non-energy benefits" that is referenced in the Standards. An accurate assessment of cost effectiveness should look at all non-energy impacts, whether positive or negative.

Commission 1-12

Request:

Plan, p.16. Why is the Company proposing 2 separate gas EEP charges for residential and non-residential?

Response:

The residential and C&I sectors have different customer and market demands as well as costs for delivering energy savings. As a result, the budget needs are different between the sectors. The settling parties considered the sector budgetary needs as well as equitable distribution of collections and agreed to two separate gas EEP charges.

Commission 1-13

Request:

Attachment 2, p. 39 (Footnote 6). Is the Company counting the Toray CHP Project toward the 2 project goal for 2014?

Response:

Yes, the Toray project would be counted as one of the CHP installations in Rhode Island in 2014.

Commission 1-14

Request:

Attachment 41. "The parties have reviewed and updated the economic benefit index for 2014 and the Company has included an updated assessment of the economic benefit in its evaluation plan." Identify the section(s) of the 2014 Plan that contain(s) this updated economic benefit index and updated assessment of economic benefit?

Response:

The updated economic benefit index is presented on page 42 of Attachment 2, which states,

> [f]or all CHP projects, net economic development benefits will be counted as benefits. The rate of economic development benefit will be $2.51 of lifetime gross state product increase per dollar of program investment….

The value of $2.51 per dollar of investment reflects a change from the value that the Company used in the 2013 EEPP, which was $2.79 per dollar of investment. The parties reconsidered the adaptation of the value from the 2009 Environment Northeast Study and determined that it was still appropriate to use it as the basis for the economic development benefit for CHP with one adjustment. This adjustment was that, if a CHP system avoids transmission and distribution construction, then there is no economic benefit associated with that portion of the project cost. In consideration of this, the parties agreed to conservatively reduce the economic benefit value by 10% for 2014, from $2.79 to $2.51 per dollar of investment.

The evaluation plan, in Attachment 3, lists the Jobs Impacts Analysis. While not explicitly spelled out in the project description, the Company's intent is that the selected contractor would be skilled in economic analysis and would, in addition to determining the business and jobs impact due to energy efficiency programs, be able to update the economic development benefit for application in CHP cost-effectiveness.

Commission 1-15

Request:

Regarding Table G-8,

a) Do the numbers represent dollars?
b) What is the unit of measurement for each category listed?
c) How were these values used in the TRC test?
d) What assumptions were used in developing these avoided costs?

Response:

a) Yes, the numbers are 2013 dollars.

b) The unit of measurement for each category is 2013 dollars per MMBtu.

c) The TRC Test compares the present value of a stream of 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 values in Table G-8 represent avoided fuel costs and are, therefore, included as a benefit in the TRC test.

   Please see Docket 3931, The 2009-2011 Energy Efficiency Procurement Plan, Attachment C: Total Resource Cost Test Proposal, "Fuel Benefits ($) = MMBTU_Fuel Savings * Fuel$/MMBTU(EndUseCategory,@Life)"

   The fuel benefits are then added to the other approved benefits to calculate the total benefits. The total benefits will equal the sum of the net present value (NPV) of each benefit component: [Energy Benefits + Generation Capacity Benefits + Avoided T&D Benefits + Fuel Benefits + Water & Sewer Benefits + Non-Resource Benefits + Price Effects Benefits]

   That TRC benefit/cost will then equal the Total NPV Benefits/Total NPV Costs.

d) The avoided costs in Table G-8 were developed by Synapse Energy Economics as part of their study, "Energy Supply Costs in New England: 2013 Report", dated July 12, 2013. The report is included as Attachment COMM 1-15. Due to the voluminous nature of this attachment, this document is being provided on CD-ROM.

Prepared by or under the supervision of: Jeremy Newberger

Commission 1-16

Request:

Table E-6 and G-6.For the energy savings listed in Tables E-6 and G-6, please provide the following:

a) Is the Company reporting gross or net savings?
b) Are the savings adjusted for free riders and/or free drivers/spillovers? If so, how were these adjustments calculated?
c) What assumptions are embedded in the reported savings?
d) Do the energy savings in this table represent "deemed values," and if so, what is the source of the values?
e) Within the C&I sector listed in Table E-6 and G-6, there are a number of corresponding programs described in the text of the Plan (i.e. new construction, OTF, retro-commissioning, SEMP etc.). Did the Company perform energy savings estimates attributable specifically to each of the programs within the C&I sector? If so, please provide a table showing these energy savings estimates.

Response:

a) The Company reports in net savings.

b) The savings are adjusted for all net impacts, including free ridership, spillover, realization rates and in-service rates. All adjustments of net impacts are documented in the 2013 Technical Reference Manual ("TRM"). The TRM is provided as Attachment COMM 1-16. Please be advised that due to the voluminous nature of this attachment, the Company is providing the document on CD-ROM.

c) All savings assumptions are documented and sourced in the TRM.

d) Deemed values are defined as "[a]n estimate of energy or demand savings for a single unit of an installed energy efficiency measure that (a) has been developed from data sources and analytical methods that are widely considered acceptable for the measure and purpose, and (b) is applicable to the situation being evaluated. Individual parameters or calculation methods can also be deemed."[1]

[1] Northeast Energy Efficiency Partnership. Glossary of Terms. Version 2.1. Available: http://www.neep.org/Assets/uploads/files/emv/emv-products/EMV_Glossary_Version_2.1.pdf

Commission 1-16, page 2

The overwhelming majority of energy savings in tables E-6 and G-6 are based on deemed and calculated savings, typically supported by evaluations. Documentation is available in the TRM.

e) While the various delivery mechanisms proposed (such as SEMP, OTF, or retrocommissioning) are intended to broaden the reach and increase the penetration of energy efficiency in the market, they do not affect the savings achieved per measure or measure category when they are installed. The energy savings expected through initiatives are determined by the end uses that comprise the C&I retrofit and new construction programs, such as lighting, or HVAC. The energy savings calculations and sources for various end uses are available in the TRM.

Commission 1-17

Request:

Attachment 2, p. 30. Regarding the use of deemed savings values in the Codes and Standards Initiative,

a) Please describe the "more refined savings methodology" upon which the deemed values are based?
b) Who is the Company's evaluation contractor?
c) When was the most recent evaluation of the C&S Initiative performed and what were the results of that evaluation?
d) Identify the authors of the "new code, IECC 2012" and whether it is available to the public.
e) Did the Company use a deemed savings values for other programs besides the Codes and Standards Initiative? If so, identify all other energy efficiency programs for which the Company estimated energy savings using a deemed value of savings approach?

Response:

a) The savings methodology was originally created in the fall of 2012, with results feeding into the Company's 2013 EEPP filed with the Commission in Docket 4366. The Company noted in that filing that it would continue to improve and develop this methodology in 2013 to better estimate potential savings and those savings attributed to the Company. Through the work of the Company and with the assistance of a third party evaluation team, the Company has conducted a comprehensive overhaul of the savings and attribution methodology tool, which the Company now believes is a better representation of potential and net savings. Major changes that were implemented include more accurate inputs and assumptions, better representation of estimated future growth of the Rhode Island building stock, better differentiation between new construction and retrofit projects, and a more specific focus on attribution and the dynamic influence that the Company's work in code compliance enhancement will have. The Company will use these refined savings numbers for the deemed savings in 2014.

b) The evaluation team consists of TetraTech, NMR Group, and Left Fork Energy. Each member of the evaluation team is familiar with nation-wide approaches to codes and standards evaluations. Each had different responsibilities including a review of past codes-and-standards-related literature, review of the residential code compliance baseline studies in Rhode Island and Massachusetts, and assessment of the savings spreadsheet model.

Commission 1-17, page 2

c) The C&S Initiative itself has not had a formal process or impact evaluation, as it just came into existence at the beginning of 2013. Related evaluations include the 2012 Residential and Commercial Baseline Studies, and the Savings and Attribution Methodology review that is scheduled for completion by the end of the 2013. The 2012 Residential and Commercial baseline studies, co-funded by the Company and the State of Rhode Island, were used to estimate savings for the Company's Codes & Standards Initiative. Both residential and commercial compliance baseline studies are located at the following website: http://www.rieermc.ri.gov/evaluationstudies.

d) The author of the 2012 IECC is the International Energy Conservation Code group. They seek various levels of input from building stakeholders and release a new version every three years. Rhode Island adopted the 2012 IECC code in July of 2013, with enforcement beginning on October 1, 2013. The state adopted a new energy code along with several other new building code versions, such as mechanical and electrical. The public document of the IECC 2012 (with Rhode Island amendments) are located at the following website:
http://sos.ri.gov/documents/archives/regdocs/released/pdf/BCSC/7284.pdf

e) Please see the Company's response to Commission 1-16(e). The Company uses a deemed value for a majority of its energy efficiency measures. Typically a deemed value, for example on a boiler, is calculated through evaluations of past installations which generate an average gross savings amount. This approach is consistent for most of the Company's product, appliances, lighting, and equipment programs. Regarding the Codes & Standards Initiative, a deemed savings value is defined as an estimated value using comprehensive modeling that factors in various assumptions and inputs, all of which are dynamic over time. Due to the unique nature of code compliance, there is no "product" upon which a deemed savings can be attributed. However, evaluations can still be done to assess deemed codes and standards savings and recalibrate them as needed.

Commission 1-18

Request:

Attachment 3, p. 13. Please provide a copy of the avoided costs study performed by Synapse.

Response:

The study "Avoided Energy Supply Costs in New England: 2013 Report" prepared by Synapse Energy Economics has been provided as Attachment COMM 1-15.

Commission 1-19

Request:

Attachment 3, p.17-19 (Prescriptive VSD Impact Evaluation). Regarding the impact evaluation study performed by DNV KEMA, what is the relevance of this study, performed in Massachusetts, to the Company's 2014 EEPP? Include specifically how the Company will incorporate the 94% realization rate of variable speed drives into the 2014 Plan and what specific programs within the C&I sector are impacted by this.

Response:

The Company applied the results of the Prescriptive VSD Impact Evaluation in the Company's 2014 EEPP. As noted on page 3 of Attachment 3:

> "(s)ome of these studies may be regional, or may have included other National Grid jurisdictions. The 2014 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."

Prescriptive VSDs are one area where the offerings in Rhode Island are similar to those offered by National Grid's Massachusetts affiliate.

The 94% realization rate for variable speed drives was incorporated as a planning assumption in the 2014 EEPP for the C&I electric retrofit and lost opportunity/new construction programs. This can be seen in the 2014 Technical Reference Manual, page M-177. Please see Attachment COMM 1-16 provided on CD-ROM for a copy of the TRM.

Commission 1-20

Request:

Attachment 3, p.24-25.

a) The Company refers to section 3.1 of the study (p.24) and 3.1.2 of the report (p.25). Please provide copies of these references.

b) Explain specifically how the savings estimate ratio, derived from this study, will be applied to the Home Energy Reports and how it will impact the overall energy savings estimate used in the cost-effectiveness test.

Response:

a) Please see Attachment COMM 1-20 for a copy of the "Massachusetts Cross Cutting Behavioral Program Evaluation Integrated Report," dated June 2013, which is the document referenced on pages 24 and 25 of Attachment 3. Please be advised that due to the voluminous nature of this document, the attachment is being provided on CD-ROM.

b) The savings estimate ratio determined in the report was calculated by dividing the modeled savings estimated (kWh or therm savings) provided by the evaluation contractors, ODC, by those estimated and reported by the vendor, OPOWER. The report found that the savings estimate ratio was 105% for electric and 111% for gas. These findings mean that OPOWER under-reports their modeled savings compared to the evaluation contractor modeled savings.

   OPOWER is the same implementation contractor in both Massachusetts and Rhode Island, and they use the same measurement protocols and models to calculate savings in both states. Therefore, the findings are applicable to several cohorts in the Rhode Island program. For 2014, the Company multiplied the vendor-calculated savings by the savings estimate ratio and used this in cost-effectiveness testing. This is an established measurement and verification practice when vendor calculations have been evaluated. Additionally, it is documented in the TRM and the Company will also use the value in tabulating results for the Home Energy Reports program throughout the year.

Commission 1-22

Request:

Plan, p. 4-5. Referring to the 2014 gas efficiency portfolio budget in comparison to the 3 year plan, the Company states, "This budget is greater because the cost of net savings is higher than predicted due to the incorporation of evaluation results that were not available three years ago." Identify the specific evaluation study/studies which contributed to the 2014 gas efficiency budget being higher than projected in the 3 year plan.

Response:

Net savings is one of the greatest factors that led to a higher cost per unit of energy saved compared to the 3-year plan. The specific evaluations listed in Attachment 3 which contributed to changes in net savings calculations and higher costs per unit are:

- The Cadmus Group, EnergyWise Single Family Impact Evaluation, October 2012
- The Cadmus Group, Impact Evaluation for Rhode Island Multifamily Gas Program EnergyWise Program, July 12, 2011
- The Cadmus Group, Inc., 2012 Residential Heating, Water Heating, and Cooling Equipment Evaluation: Net-to-Gross, Market Effects, and Equipment Replacement Timing, 2013
- ERS, Rhode Island Large Commercial and Industrial Retrofit and New Construction Program Custom Gas Evaluation, September 2012
- KEMA, Inc., Impact Evaluation of 2011 Prescriptive Gas Measures, 2013
- TetraTech 2011 Commercial and Industrial Programs Free-ridership and Spillover Study, September 7, 2012

Commission 1-23

Request:

Attachment 1, p.21. Define "Top Ten Products".

Response:

Top Ten USA is a non-profit organization that helps consumers find and purchase the most energy efficient products. The objective of Top Ten USA is to be the leading, independent source of consumer information on energy-efficient products. To make it easy for the consumer, Top Ten USA identifies the ten most efficient products within different product categories. More information can be found at www.toptenusa.org.

National Grid is working with Top Ten USA to encourage consumers to not only make an energy efficient purchase, but one of the Top Ten USA's most efficient product purchase.

The key criterion for listing is energy efficiency but, depending on the type of product, may also include environmental, health and safety concerns. In addition, to be listed, the product must be available for purchase in the U.S. market.

Both Top Ten USA's criteria setting and listing determinations are independent from manufacturers. They accept no funds from manufacturers.

In listing products, Top Ten USA relies on the best data available for a given product category which includes tests and analysis of products by the government and independent institutions, labels and declarations of manufacturers. Top Ten USA also performs random testing of some products that appear on the lists.

Commission 1-24

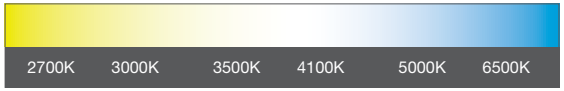
Request:

Does the Company offer any type of incentive to promote CLF recycling?

Response:

National Grid does not offer an incentive to promote CFL recycling. CFL recycling is available through major home improvement retailers and the recycling effort is supported through lighting education. Attachment COMM 1-24 is a flyer used at consumer events.

Prepared by or under the supervision of: Angela Li



A Note About Color

CFLs come in a wide variety of shades to fit every need and customize the mood of your space. Depending on the location of the bulb or the specific use it is fulfilling, you can find the bulb that works perfectly for your needs.

Light color is defined by a temperature scale measured in Kelvins (K). "Warm" colors (2700-3000K) match the yellowish light of incandescent bulbs, whereas "cool" colors provide a whiter light (3500-4100K) that is suitable for kitchens and work spaces, or bluer light (5000-6500K), which is good for reading.

ENERGY STAR® Qualified
Residential Light Fixtures

- Save about $70 each year in energy costs when you replace the five most frequently used light fixtures in your home, and the bulbs in them, with ENERGY STAR qualified models.

- Fixtures are available in a variety of decorative styles and shapes, for both indoor and outdoor use.

Important Tips

- When replacing bulbs, make sure you check the base size and bulb style for a correct match.
- A number of CFLs are now available for use in three-way, dimmable and/or outdoor applications. While shopping, always refer to packaging to determine proper usage.

- When placing a CFL in a dimmable light fixture, only use CFLs that are marked for use with dimmer switches. Only these bulbs will work properly. The same applies to three-way bulbs.
- For recessed cans, only choose bulbs marked "Indoor Reflector" or "For Indoor Use."

- Most photocells and timers are not designed to work with CFLs; be sure to check with the manufacturer of your electronic control device to ensure compatibility and functionality.

Recycling Your CFLs

Due to trace amounts of mercury, CFLs must be disposed of properly when they burn out. To identify local recycling options, go to **www.epa.gov/bulbrecycling** or **www.recycleabulb.com**.

To find incentives on ENERGY STAR® products, please visit **www.nationalgridus.com/ri-light**. For more information, call **1-877-886-2539**.

ASK ABOUT ENERGY STAR

Printed on 100% recycled paper.

These programs are funded by the energy efficiency charge on all customers' gas and electric bills, in accordance with Rhode Island law.

RI.01.13

nationalgrid

HERE WITH YOU. HERE FOR YOU.

How to Choose the Right Light

Take One!

www.nationalgridus.com/ri-light

In the average U.S. home, lighting accounts for about 20% of the electric bill. Using ENERGY STAR® Qualified Compact Fluorescent Light bulbs (CFLs) can cut down on your energy usage, as these bulbs provide the same amount of light (lumens) as standard bulbs, but at a lower wattage.

This means they use 75% less energy, last up to 10 times longer, and help protect the environment by reducing the impact on global warming.

Starting in January 2012, a new label for lighting products was placed on all lighting packages. This new label uses lumens, or light output, to determine the visible brightness of the bulb – equivalencies are displayed in the chart below. For example, if you are looking to replace a 60 watt bulb, look for an ENERGY STAR® Qualified CFL that provides 800 lumens or more, such as a 15-20 watt CFL.

CFL/Incandescent Equivalency Chart

Traditional Incandescent Bulb	CFL Equivalent	Brightness (measured in lumens)
40 watts	11 watts	Minimum of 450 lumens
60 watts	15 watts	Minimum of 800 lumens
75 watts	20 watts	Minimum of 1,100 lumens
100 watts	28 watts	Minimum of 1,600 lumens
150 watts	38 watts	Minimum of 2,600 lumens

How to Choose
the Right ENERGY STAR® Qualified CFL

	Spiral	Covered A-Shape	Globe	Tubed	Candle	Indoor Reflector	Outdoor Reflector
Table/ Floor Lamps	✓	✓		✓			
Pendant Fixtures		✓	✓				
Ceiling Fixtures	✓			✓			
Ceiling Fans	✓	✓			✓	✓	
Wall Sconces	✓			✓	✓		
Recessed Cans						✓	
Track Lighting						✓	
Outdoor Covered	✓	✓		✓	✓		
Outdoor Flood							✓

Commission 1-25

Request:

Plan, p. 23. When was the Technical Reference Manual last updated? Provide a red-lined version of the Technical Reference Manual which reveals the most recent revisions made to the TRM.

Response:

The Technical Reference Manual ("TRM") was updated concurrently with the development of the 2014 EEPP and finalized in November 2013. The Company has provided the 2014 TRM as Attachment COMM 1-16. As noted in the EEPP, the updates to the TRM reflect changes in program offerings (including new and removed measures), technology, baselines, and evaluation results. Some of the changes may also have been corrections based on ongoing internal and external review and checking of the data contained in the TRM.

The TRM data is stored in a database and the Manual itself is generated as a .pdf file from the database. It is not in a Word file, and therefore, a redline document cannot be prepared. In lieu of this, the Company, with the assistance of the Cadmus Group, has extracted data field information from the 2014 TRM database to an Excel file for comparison with a similar extract of data field information from the 2013 TRM database to indicate the revisions. There are three types of revisions: (1) addition or removal of measures; (2) changes to descriptions or parameters associated with measure categories; and (3) changes to values associated with measures. The results of these comparisons are provided on CD-ROM in Excel version as Attachment COMM 1-25-A. In this file, each type of change can be seen.

Attachment COMM 1-25-A contains a "Status in 2014" field in the "Updates Measure" and "Updates Measure Category" tabs. When comparing the 2013 and 2014 measure data, measures are:

- "Existing" in 2014 if they are active in both 2013 and 2014
- "New" in 2014 if they are active in 2014 but not active (or not in the database in 2013)
- "Removed" in 2014 if they were active in 2013 but not active in 2014
- "Inactive" if they were not active in either year. This could mean the measure was active prior to 2013 so it was already in the TRM tables, or had been planned but never made active, etc. Rather than deleting the information, these measures are given an "Inactive" designation to retain the latest information on them in the database.

The Company is providing a .pdf file that further explains the comparison file as Attachment COMM 1-25-B.

Prepared by or under the supervision of: Jeremy Newberger

Attachment COMM 1-25-A

As mentioned in the Company's response above, please refer to Attachment COMM 1-25-A on CD-ROM.

Prepared by or under the supervision of: Jeremy Newberger

Rhode Island Technical Reference Manual, Summary of Updates: PY2013 to PY2014

Table 1 compares the total number of active measure categories and measures in 2013 and 2014 for each TRM section. In 2014, there are 19 fewer measure categories across all sections, but 32 more active measures than in 2013.

Table 1: Active Measures and Measure Categories By Program

	Active Measure Categories			Active Measures		
TRM Section	**2014**	**2013**	**Difference**	**2014**	**2013**	**Difference**
Residential Electric Efficiency Measures	34	53	-19	160	145	15
Commercial Electric Efficiency Measures	32	30	2	80	70	10
Residential Gas Efficiency Measures	23	24	-1	85	79	6
Commercial Gas Efficiency Measures	23	24	-1	41	40	1
Total	**112**	**131**	-19	**366**	**334**	32

Table 2 compares the total number of active measures in 2013 and 2014 for each program. The number of measures increases in each program, with the following exceptions:

- The number of active measures is the same for these programs: Single Family Appliance Management, EnergyStar® Lighting, and Home Energy Reports
- For the Residential New Construction program, there are three fewer measures in 2014 compared to 2013.
- For the Commercial and Industrial MultiFamily program, there is one fewer measure in 2014 compared to 2013.

Table 2: Active Measures by Program

Programs	**2014**	**2013**	**Difference**
Commercial Retrofit	28	27	1
Direct Install	22	15	7
Commercial New Construction	64	60	4
EnergyWise MultiFamily	26	24	2
EnergyWise	28	15	13
Single Family Appliance Management	20	20	0
Residential New Construction	29	32	-3
EnergyStar® Lighting	12	12	0
EnergyStar® Products	22	21	1
EnergyStar® HVAC	74	68	6
Income Eligible MultiFamily	26	24	2
Home Energy Reports	8	8	0
Commercial and Industrial MultiFamily	7	8	-1
Total	**366**	**334**	**32**

Measure Category Data

Table 3 indicates the number of changes to Measure Category data for each TRM section. There were 233 changes to Measure Category data in 2014 compared to 2013.

Table 3: Changes to Measure Category Data by Section

Measure Category Data Field	Res Elec	Res Gas	C&I Elec	C&I Gas	Total
Description	10	5	2	7	**24**
Baseline Efficiency	15	10	11	10	**46**
High Efficiency	11	9	9	8	**37**
Sector	0	0	0	3	**3**
End Use	6	1	1	1	**9**
Market: Lost Opportunity	0	0	0	0	**0**
Market: Retrofit	0	0	0	0	**0**
EnergyImpact_Elec	4	5	1	1	**11**
EnergyImpact_Gas	3	1	1	1	**6**
EnergyImpact_Oil	3	2	1	2	**8**
EnergyImpact_Propane	2	1	2	1	**6**
Impact_Water	1	3	2	2	**8**
NonEnergyImpact	2	1	1	1	**5**
AlgorithmType	1	1	0	0	**2**
AlgorithmUnit	0	0	0	0	**0**
Algorithm	0	5	0	0	**5**
Hours	12	4	23	8	**47**
NonEnergyImpacts	1	0	0	0	**1**
ReferenceTables	0	0	12	3	**15**
Total	**71**	**48**	**66**	**48**	**233**

Measure Data

Table 4 indicates the number of changes to Measure data for each TRM section. There were 353 changes to Measure Category data in 2014 compared to 2013.

Table 4: Changes to Measure Data by Section

Measure Data Field	Res Elec	Res Gas	C&I Elec	C&I Gas	Total
Gross kWh	38	1	3	0	42
Gross kW	35	0	15	2	52
Gross MMBTU Gas	0	6	0	12	18
Gross MMBTU Oil	9	0	0	0	9
Gross MMBTU Propane	5	0	0	0	5
Water Gallons	5	1	0	2	8
Measure Life	10	0	2	0	12
ISR	4	0	0	0	4
SPF	0	0	0	0	0
RRe	7	6	6	2	21
RRsp	10	0	4	2	16
RRwp	10	0	4	2	16
CFsp	29	3	21	2	55
CFwp	17	3	17	4	41
FR	5	0	14	0	19
Sop	1	0	15	0	16
Sonp	0	0	0	0	0
NTG	5	0	14	0	19
Total	**190**	**20**	**115**	**28**	**353**

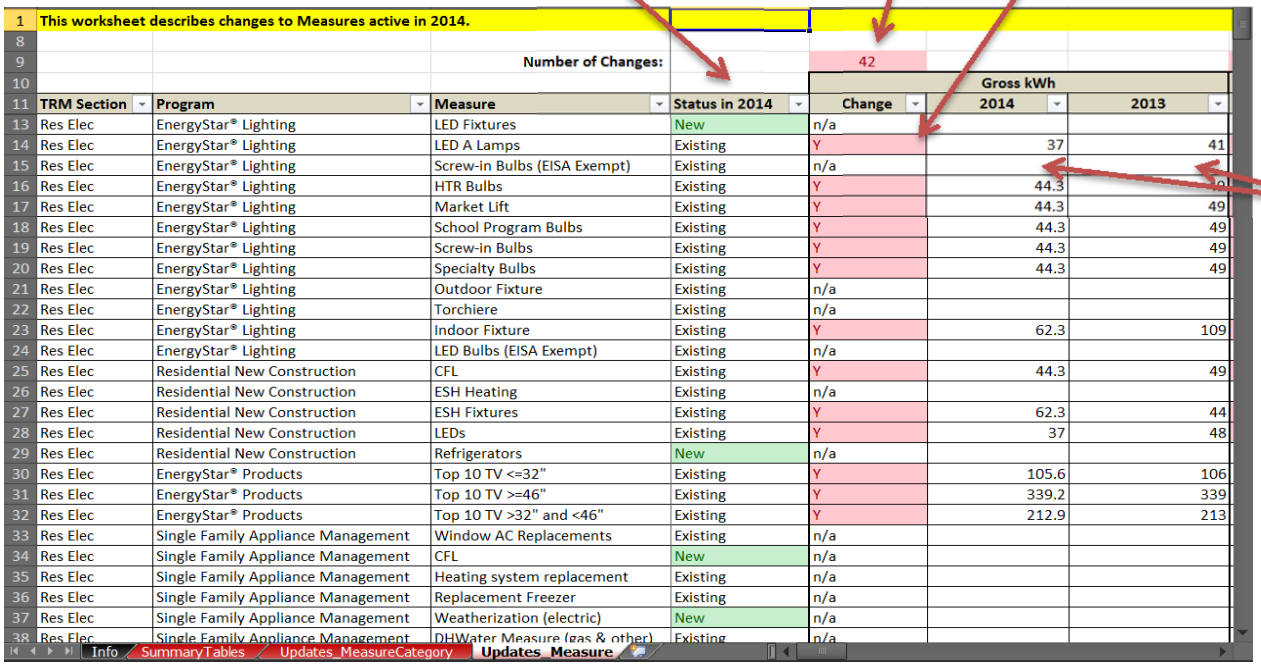
Example from TRM Comparison Workbook: Changes in Measure Data

Indicates whether the measure is New (not offered in 2013), Removed (no longer offered in 2014), or "Existing" (continued from 2013)

Indicates the total number of data changes for each data field

A "Y" indicates a difference in data from 2013 to 2014

Compare data for 2013 and 2014 if there is a change



1	This worksheet describes changes to Measures active in 2014.						
8							
9			Number of Changes:		42		
10						Gross kWh	
11	TRM Section	Program	Measure	Status in 2014	Change	2014	2013
13	Res Elec	EnergyStar® Lighting	LED Fixtures	New	n/a		
14	Res Elec	EnergyStar® Lighting	LED A Lamps	Existing	Y	37	41
15	Res Elec	EnergyStar® Lighting	Screw-in Bulbs (EISA Exempt)	Existing	n/a		
16	Res Elec	EnergyStar® Lighting	HTR Bulbs	Existing	Y	44.3	49
17	Res Elec	EnergyStar® Lighting	Market Lift	Existing	Y	44.3	49
18	Res Elec	EnergyStar® Lighting	School Program Bulbs	Existing	Y	44.3	49
19	Res Elec	EnergyStar® Lighting	Screw-in Bulbs	Existing	Y	44.3	49
20	Res Elec	EnergyStar® Lighting	Specialty Bulbs	Existing	Y	44.3	49
21	Res Elec	EnergyStar® Lighting	Outdoor Fixture	Existing	n/a		
22	Res Elec	EnergyStar® Lighting	Torchiere	Existing	n/a		
23	Res Elec	EnergyStar® Lighting	Indoor Fixture	Existing	Y	62.3	109
24	Res Elec	EnergyStar® Lighting	LED Bulbs (EISA Exempt)	Existing	n/a		
25	Res Elec	Residential New Construction	CFL	Existing	Y	44.3	49
26	Res Elec	Residential New Construction	ESH Heating	Existing	n/a		
27	Res Elec	Residential New Construction	ESH Fixtures	Existing	Y	62.3	44
28	Res Elec	Residential New Construction	LEDs	Existing	Y	37	48
29	Res Elec	Residential New Construction	Refrigerators	New	n/a		
30	Res Elec	EnergyStar® Products	Top 10 TV <=32"	Existing	Y	105.6	106
31	Res Elec	EnergyStar® Products	Top 10 TV >=46"	Existing	Y	339.2	339
32	Res Elec	EnergyStar® Products	Top 10 TV >32" and <46"	Existing	Y	212.9	213
33	Res Elec	Single Family Appliance Management	Window AC Replacements	Existing	n/a		
34	Res Elec	Single Family Appliance Management	CFL	New	n/a		
35	Res Elec	Single Family Appliance Management	Heating system replacement	Existing	n/a		
36	Res Elec	Single Family Appliance Management	Replacement Freezer	Existing	n/a		
37	Res Elec	Single Family Appliance Management	Weatherization (electric)	New	n/a		
38	Res Elec	Single Family Appliance Management	DHWater Measure (gas & other)	Existing	n/a		

Info | SummaryTables | Updates_MeasureCategory | Updates_Measure

Commission 1-26

Request:

Plan, p.23. On what date did National Grid provide the updated 2013 TRM to EERMC and its consultants?

Response:

The 2014 Rhode Island Technical Reference Manual is the version of the TRM that is associated with the 2014 Energy Efficiency Program Plan. The Company provided this manual to the EERMC's Consultant Team on October 31, 2013.

Commission 1-27

Request:

Did National Grid pay the Cadmus Group for its efforts and/or contribution toward the development of the 2013 Technical Reference Manual? If so, how much?

Response:

National Grid paid the Cadmus Group for its efforts toward the development of the 2013 Technical Reference Manual ("2013 TRM") and the 2014 Technical Reference Manual ("2014 TRM").

In 2012, National Grid paid the Cadmus Group $37,039 for the development of the 2013 TRM, including construction of the TRM database. To date, in 2013, National Grid has paid the Cadmus Group $6,075 for support in developing the 2014 TRM and 2013 Forward Capacity Market TRM, a version tailored for capacity market purposes that was completed in June 2013.

Prepared by or under the supervision of: Jeremy Newberger

Commission 1-28

Request:

Where are Sean Murphy and Lindsay Perry employed?

Response:

Sean Murphy and Lindsay (Perry) Foley are employees of National Grid USA Service Company, Inc.

Commission 1-29

Request:

Please provide bill impacts for the proposed rate changes.

Response:

Please refer to the attachments to this response for the requested bill impacts as a result of the Company's proposed electric and gas EEP charges, as revised on November 22, 2013 and November 26, 2013, respectively.

Attachment COMM-1-29-A contains the electric bill impacts and are the same as those submitted on November 22, 2013 as Schedule 1.

Attachment COMM-1-29-B contains the gas bill impacts and are the same as those submitted on November 26, 2013 as Schedule 2.

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to A-16 Rate Customers

Monthly kWh	Present Rates Total	Present Rates Standard Offer	Present Rates Delivery	Proposed Rates Total	Proposed Rates Standard Offer	Proposed Rates Delivery	Increase/(Decrease) Amount	Increase/(Decrease) % of Total	Percentage of Customers
150	$27.92	$11.06	$16.86	$27.97	$11.06	$16.91	$0.05	0.2%	13.7%
300	$49.77	$22.13	$27.64	$49.88	$22.13	$27.75	$0.11	0.2%	17.5%
400	$64.34	$29.50	$34.84	$64.48	$29.50	$34.98	$0.14	0.2%	11.8%
500	$78.91	$36.88	$42.03	$79.09	$36.88	$42.21	$0.18	0.2%	10.8%
600	$93.46	$44.24	$49.22	$93.68	$44.24	$49.44	$0.22	0.2%	9.4%
700	$108.03	$51.62	$56.41	$108.28	$51.62	$56.66	$0.25	0.2%	7.7%
1,000	$151.72	$73.74	$77.98	$152.08	$73.74	$78.34	$0.36	0.2%	15.0%
2,000	$297.37	$147.48	$149.89	$298.09	$147.48	$150.61	$0.72	0.2%	14.1%

Present Rates		
Customer Charge		$5.00
LIHEAP Charge		$0.83
Transmission Energy Charge	kWh x	$0.02036
Distribution Energy Charge	kWh x	$0.03797
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07079

Proposed Rates		
Customer Charge		$5.00
LIHEAP Charge		$0.83
Transmission Energy Charge	kWh x	$0.02036
Distribution Energy Charge	kWh x	$0.03797
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07079

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to A-60 Rate Customers

Monthly kWh	Present Rates Total	Present Rates Standard Offer	Present Rates Delivery	Proposed Rates Total	Proposed Rates Standard Offer	Proposed Rates Delivery	Increase/(Decrease) Amount	Increase/(Decrease) % of Total	Percentage of Customers
150	$20.61	$11.06	$9.55	$20.66	$11.06	$9.60	$0.05	0.2%	10.7%
300	$40.35	$22.12	$18.23	$40.46	$22.12	$18.34	$0.11	0.3%	23.2%
400	$53.51	$29.50	$24.01	$53.66	$29.50	$24.16	$0.15	0.3%	14.9%
500	$66.67	$36.87	$29.80	$66.85	$36.87	$29.98	$0.18	0.3%	12.2%
600	$79.83	$44.24	$35.59	$80.05	$44.24	$35.81	$0.22	0.3%	9.6%
700	$93.00	$51.62	$41.38	$93.25	$51.62	$41.63	$0.25	0.3%	7.3%
1,000	$132.48	$73.74	$58.74	$132.84	$73.74	$59.10	$0.36	0.3%	12.3%
2,000	$264.09	$147.48	$116.61	$264.82	$147.48	$117.34	$0.73	0.3%	9.8%

Present Rates		
Customer Charge		$0.00
LIHEAP Charge		$0.83
Transmission Energy Charge	kWh x	$0.02036
Distribution Energy Charge	kWh x	$0.02450
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07079

Proposed Rates		
Customer Charge		$0.00
LIHEAP Charge		$0.83
Transmission Energy Charge	kWh x	$0.02036
Distribution Energy Charge	kWh x	$0.02450
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07079

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to C-06 Rate Customers

Monthly kWh	Present Rates Total	Present Rates Standard Offer	Present Rates Delivery	Proposed Rates Total	Proposed Rates Standard Offer	Proposed Rates Delivery	Increase/(Decrease) Amount	Increase/(Decrease) % of Total	Percentage of Customers
250	$48.12	$19.43	$28.69	$48.21	$19.43	$28.78	$0.09	0.2%	35.2%
500	$84.96	$38.86	$46.10	$85.14	$38.86	$46.28	$0.18	0.2%	17.0%
1,000	$158.65	$77.73	$80.92	$159.01	$77.73	$81.28	$0.36	0.2%	19.0%
1,500	$232.32	$116.59	$115.73	$232.87	$116.59	$116.28	$0.55	0.2%	9.8%
2,000	$306.01	$155.46	$150.55	$306.74	$155.46	$151.28	$0.73	0.2%	19.1%

Present Rates		
Customer Charge		$10.00
LIHEAP Charge		$0.83
Transmission Energy Charge	kWh x	$0.02204
Distribution Energy Charge	kWh x	$0.03411
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Proposed Rates		
Customer Charge		$10.00
LIHEAP Charge		$0.83
Transmission Energy Charge	kWh x	$0.02204
Distribution Energy Charge	kWh x	$0.03411
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-02 Rate Customers

Hours Use: 200

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
			Standard			Standard			
kW	kWh	Total	Offer	Delivery	Total	Offer	Delivery	Amount	% of Total
20	4,000	$660.98	$310.92	$350.06	$662.44	$310.92	$351.52	$1.46	0.2%
50	10,000	$1,515.99	$777.29	$738.70	$1,519.64	$777.29	$742.35	$3.65	0.2%
100	20,000	$2,941.02	$1,554.58	$1,386.44	$2,948.31	$1,554.58	$1,393.73	$7.29	0.2%
150	30,000	$4,366.05	$2,331.88	$2,034.17	$4,376.99	$2,331.88	$2,045.11	$10.94	0.3%

Present Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Proposed Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-02 Rate Customers

Hours Use: 300

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	6,000	$865.34	$466.38	$398.96	$867.53	$466.38	$401.15	$2.19	0.3%
50	15,000	$2,026.88	$1,165.94	$860.94	$2,032.35	$1,165.94	$866.41	$5.47	0.3%
100	30,000	$3,962.80	$2,331.88	$1,630.92	$3,973.73	$2,331.88	$1,641.85	$10.93	0.3%
150	45,000	$5,898.70	$3,497.81	$2,400.89	$5,915.11	$3,497.81	$2,417.30	$16.41	0.3%

Present Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Proposed Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-02 Rate Customers

Hours Use: 400

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	8,000	$1,069.68	$621.83	$447.85	$1,072.60	$621.83	$450.77	$2.92	0.3%
50	20,000	$2,537.76	$1,554.58	$983.18	$2,545.05	$1,554.58	$990.47	$7.29	0.3%
100	40,000	$4,984.57	$3,109.17	$1,875.40	$4,999.15	$3,109.17	$1,889.98	$14.58	0.3%
150	60,000	$7,431.36	$4,663.75	$2,767.61	$7,453.23	$4,663.75	$2,789.48	$21.87	0.3%

Present Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Proposed Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-02 Rate Customers

Hours Use: 600

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	12,000	$1,478.40	$932.75	$545.65	$1,482.77	$932.75	$550.02	$4.37	0.3%
50	30,000	$3,559.54	$2,331.88	$1,227.66	$3,570.48	$2,331.88	$1,238.60	$10.94	0.3%
100	60,000	$7,028.10	$4,663.75	$2,364.35	$7,049.98	$4,663.75	$2,386.23	$21.88	0.3%
150	90,000	$10,496.68	$6,995.63	$3,501.05	$10,529.49	$6,995.63	$3,533.86	$32.81	0.3%

Present Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Proposed Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-02 Rate Customers

Hours Use: 500

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	10,000	$1,274.04	$777.29	$496.75	$1,277.69	$777.29	$500.40	$3.65	0.3%
50	25,000	$3,048.65	$1,943.23	$1,105.42	$3,057.77	$1,943.23	$1,114.54	$9.12	0.3%
100	50,000	$6,006.33	$3,886.46	$2,119.87	$6,024.56	$3,886.46	$2,138.10	$18.23	0.3%
150	75,000	$8,964.02	$5,829.69	$3,134.33	$8,991.36	$5,829.69	$3,161.67	$27.34	0.3%

Present Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Proposed Rates		
Customer Charge		$135.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$2.89
Transmission Energy Charge	kWh x	$0.00716
Distribution Demand Charge-xcs 10 kW	kW x	$4.85
Distribution Energy Charge	kWh x	$0.00561
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	$0.07462

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-32 Rate Customers

Hours Use: 200

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	40,000	$4,821.65	$2,245.83	$2,575.82	$4,836.24	$2,245.83	$2,590.41	$14.59	0.3%
750	150,000	$17,835.35	$8,421.88	$9,413.47	$17,890.04	$8,421.88	$9,468.16	$54.69	0.3%
1,000	200,000	$23,750.66	$11,229.17	$12,521.49	$23,823.58	$11,229.17	$12,594.41	$72.92	0.3%
1,500	300,000	$35,581.28	$16,843.75	$18,737.53	$35,690.66	$16,843.75	$18,846.91	$109.38	0.3%
2,500	500,000	$59,242.54	$28,072.92	$31,169.62	$59,424.83	$28,072.92	$31,351.91	$182.29	0.3%

Present Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-32 Rate Customers

Hours Use: 300

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	60,000	$6,465.82	$3,368.75	$3,097.07	$6,487.70	$3,368.75	$3,118.95	$21.88	0.3%
750	225,000	$24,000.97	$12,632.81	$11,368.16	$24,083.00	$12,632.81	$11,450.19	$82.03	0.3%
1,000	300,000	$31,971.49	$16,843.75	$15,127.74	$32,080.87	$16,843.75	$15,237.12	$109.38	0.3%
1,500	450,000	$47,912.54	$25,265.63	$22,646.91	$48,076.60	$25,265.63	$22,810.97	$164.06	0.3%
2,500	750,000	$79,794.62	$42,109.38	$37,685.24	$80,068.06	$42,109.38	$37,958.68	$273.44	0.3%

Present Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

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Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-32 Rate Customers

Hours Use: 400

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	80,000	$8,109.99	$4,491.67	$3,618.32	$8,139.16	$4,491.67	$3,647.49	$29.17	0.4%
750	300,000	$30,166.59	$16,843.75	$13,322.84	$30,275.97	$16,843.75	$13,432.22	$109.38	0.4%
1,000	400,000	$40,192.32	$22,458.33	$17,733.99	$40,338.15	$22,458.33	$17,879.82	$145.83	0.4%
1,500	600,000	$60,243.78	$33,687.50	$26,556.28	$60,462.53	$33,687.50	$26,775.03	$218.75	0.4%
2,500	1,000,000	$100,346.70	$56,145.83	$44,200.87	$100,711.28	$56,145.83	$44,565.45	$364.58	0.4%

Present Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-32 Rate Customers

Hours Use: 500

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	100,000	$9,754.15	$5,614.58	$4,139.57	$9,790.61	$5,614.58	$4,176.03	$36.46	0.4%
750	375,000	$36,332.22	$21,054.69	$15,277.53	$36,468.94	$21,054.69	$15,414.25	$136.72	0.4%
1,000	500,000	$48,413.16	$28,072.92	$20,340.24	$48,595.45	$28,072.92	$20,522.53	$182.29	0.4%
1,500	750,000	$72,575.04	$42,109.38	$30,465.66	$72,848.48	$42,109.38	$30,739.10	$273.44	0.4%
2,500	1,250,000	$120,898.78	$70,182.29	$50,716.49	$121,354.51	$70,182.29	$51,172.22	$455.73	0.4%

Present Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-32 Rate Customers

Hours Use: 600

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	120,000	$11,398.32	$6,737.50	$4,660.82	$11,442.07	$6,737.50	$4,704.57	$43.75	0.4%
750	450,000	$42,497.85	$25,265.63	$17,232.22	$42,661.91	$25,265.63	$17,396.28	$164.06	0.4%
1,000	600,000	$56,633.99	$33,687.50	$22,946.49	$56,852.74	$33,687.50	$23,165.24	$218.75	0.4%
1,500	900,000	$84,906.28	$50,531.25	$34,375.03	$85,234.41	$50,531.25	$34,703.16	$328.13	0.4%
2,500	1,500,000	$141,450.87	$84,218.75	$57,232.12	$141,997.74	$84,218.75	$57,778.99	$546.87	0.4%

Present Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$825.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00842
Distribution Demand Charge - > 200 kW	kW x	$3.70
Distribution Energy Charge	kWh x	$0.00590
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-62 Rate Customers

Hours Use: 200

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	600,000	$82,642.95	$33,687.50	$48,955.45	$82,861.70	$33,687.50	$49,174.20	$218.75	0.3%
5,000	1,000,000	$125,932.12	$56,145.83	$69,786.29	$126,296.70	$56,145.83	$70,150.87	$364.58	0.3%
7,500	1,500,000	$180,043.58	$84,218.75	$95,824.83	$180,590.46	$84,218.75	$96,371.71	$546.88	0.3%
10,000	2,000,000	$234,155.04	$112,291.67	$121,863.37	$234,884.21	$112,291.67	$122,592.54	$729.17	0.3%
20,000	4,000,000	$450,600.88	$224,583.33	$226,017.55	$452,059.21	$224,583.33	$227,475.88	$1,458.33	0.3%

Present Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

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Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

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Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-62 Rate Customers

Hours Use: 300

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	900,000	$104,889.83	$50,531.25	$54,358.58	$105,217.95	$50,531.25	$54,686.70	$328.12	0.3%
5,000	1,500,000	$163,010.24	$84,218.75	$78,791.49	$163,557.12	$84,218.75	$79,338.37	$546.88	0.3%
7,500	2,250,000	$235,660.77	$126,328.13	$109,332.64	$236,481.09	$126,328.13	$110,152.96	$820.32	0.3%
10,000	3,000,000	$308,311.29	$168,437.50	$139,873.79	$309,405.04	$168,437.50	$140,967.54	$1,093.75	0.4%
20,000	6,000,000	$598,913.38	$336,875.00	$262,038.38	$601,100.88	$336,875.00	$264,225.88	$2,187.50	0.4%

Present Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-62 Rate Customers

Hours Use: 400

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	1,200,000	$127,136.70	$67,375.00	$59,761.70	$127,574.20	$67,375.00	$60,199.20	$437.50	0.3%
5,000	2,000,000	$200,088.37	$112,291.67	$87,796.70	$200,817.54	$112,291.67	$88,525.87	$729.17	0.4%
7,500	3,000,000	$291,277.96	$168,437.50	$122,840.46	$292,371.71	$168,437.50	$123,934.21	$1,093.75	0.4%
10,000	4,000,000	$382,467.54	$224,583.33	$157,884.21	$383,925.87	$224,583.33	$159,342.54	$1,458.33	0.4%
20,000	8,000,000	$747,225.89	$449,166.67	$298,059.22	$750,142.55	$449,166.67	$300,975.88	$2,916.66	0.4%

Present Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-62 Rate Customers

Hours Use: 500

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	1,500,000	$149,383.58	$84,218.75	$65,164.83	$149,930.45	$84,218.75	$65,711.70	$546.87	0.4%
5,000	2,500,000	$237,166.49	$140,364.58	$96,801.91	$238,077.95	$140,364.58	$97,713.37	$911.46	0.4%
7,500	3,750,000	$346,895.15	$210,546.88	$136,348.27	$348,262.34	$210,546.88	$137,715.46	$1,367.19	0.4%
10,000	5,000,000	$456,623.79	$280,729.17	$175,894.62	$458,446.71	$280,729.17	$177,717.54	$1,822.92	0.4%
20,000	10,000,000	$895,538.38	$561,458.33	$334,080.05	$899,184.21	$561,458.33	$337,725.88	$3,645.83	0.4%

Present Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

S:\2013 Analysis\2014 EE Plan Filing (Gas & Elec)\Comm 1-29\[Att COMM-1-29-A (Elec Impacts).XLS]Input Section

Calculation of Monthly Typical Bill
Total Bill Impact of Proposed
Rates Applicable to G-62 Rate Customers

Hours Use: 600

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	1,800,000	$171,630.45	$101,062.50	$70,567.95	$172,286.70	$101,062.50	$71,224.20	$656.25	0.4%
5,000	3,000,000	$274,244.62	$168,437.50	$105,807.12	$275,338.37	$168,437.50	$106,900.87	$1,093.75	0.4%
7,500	4,500,000	$402,512.33	$252,656.25	$149,856.08	$404,152.96	$252,656.25	$151,496.71	$1,640.63	0.4%
10,000	6,000,000	$530,780.04	$336,875.00	$193,905.04	$532,967.54	$336,875.00	$196,092.54	$2,187.50	0.4%
20,000	12,000,000	$1,043,850.88	$673,750.00	$370,100.88	$1,048,225.88	$673,750.00	$374,475.88	$4,375.00	0.4%

Present Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Energy Efficiency Program Charge (1)	kWh x	$0.00906
Renewable Energy Distribution Charge	kWh x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Proposed Rates		
Customer Charge		$17,000.00
LIHEAP Charge		$0.83
Transmission Demand Charge	kW x	$3.23
Transmission Energy Charge	kWh x	$0.00710
Distribution Demand Charge	kW x	$3.31
Distribution Energy Charge	kWh x	($0.00051)
Transition Energy Charge	kWh x	$0.00162
Proposed Energy Efficiency Program Charge (2)	kWh x	$0.00941
Renewable Energy Distribution Charge	kW x	$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	$0.05390

Note (1): Consists of the the current Energy Efficiency Program Charge of 0.876¢/kWh plus the Renewables Charge of 0.03¢/kWh

Note (2): Consists of the the proposed Energy Efficiency Program Charge of 0.911¢/kWh plus the Renewables Charge of 0.03¢/kWh

National Grid - RI Gas
2014 Energy Efficiency Plan Filing - 2014 Energy Efficiency Program Charge
Bill Impact Analysis with Various Levels of Consumption:

Residential Heating:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(1)											
(2)											
(3)											
(4)											
(5)		550	$858.87	$848.50	$10.37	1.2%	$0.00	$0.00	$0.00	$0.31	$10.06
(6)		608	$932.02	$920.56	$11.46	1.2%	$0.00	$0.00	$0.00	$0.34	$11.12
(7)		667	$1,006.30	$993.73	$12.58	1.3%	$0.00	$0.00	$0.00	$0.38	$12.20
(8)		727	$1,080.81	$1,067.09	$13.72	1.3%	$0.00	$0.00	$0.00	$0.41	$13.31
(9)		788	$1,153.47	$1,138.61	$14.87	1.3%	$0.00	$0.00	$0.00	$0.45	$14.42
(10)	Average Customer	**846**	$1,221.27	$1,205.30	**$15.97**	**1.3%**	$0.00	$0.00	$0.00	$0.48	$15.49
(11)		904	$1,289.23	$1,272.16	$17.07	1.3%	$0.00	$0.00	$0.00	$0.51	$16.56
(12)		966	$1,361.66	$1,343.45	$18.21	1.4%	$0.00	$0.00	$0.00	$0.55	$17.66
(13)		1,023	$1,428.06	$1,408.77	$19.29	1.4%	$0.00	$0.00	$0.00	$0.58	$18.71
(14)		1,081	$1,494.89	$1,474.49	$20.40	1.4%	$0.00	$0.00	$0.00	$0.61	$19.79
(15)		1,145	$1,567.64	$1,546.04	$21.61	1.4%	$0.00	$0.00	$0.00	$0.65	$20.96

Residential Heating Low Income:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(16)											
(17)											
(18)											
(19)											
(20)		550	$816.38	$806.01	$10.37	1.3%	$0.00	$0.00	$0.00	$0.31	$10.06
(21)		608	$886.79	$875.33	$11.46	1.3%	$0.00	$0.00	$0.00	$0.34	$11.12
(22)		667	$958.30	$945.72	$12.58	1.3%	$0.00	$0.00	$0.00	$0.38	$12.20
(23)		727	$1,030.08	$1,016.36	$13.72	1.4%	$0.00	$0.00	$0.00	$0.41	$13.31
(24)		788	$1,100.29	$1,085.43	$14.87	1.4%	$0.00	$0.00	$0.00	$0.45	$14.42
(25)	Average Customer	**846**	$1,165.87	$1,149.90	**$15.97**	**1.4%**	$0.00	$0.00	$0.00	$0.48	$15.49
(26)		904	$1,231.63	$1,214.56	$17.07	1.4%	$0.00	$0.00	$0.00	$0.51	$16.56
(27)		966	$1,301.71	$1,283.50	$18.21	1.4%	$0.00	$0.00	$0.00	$0.55	$17.66
(28)		1,023	$1,365.96	$1,346.67	$19.29	1.4%	$0.00	$0.00	$0.00	$0.58	$18.71
(29)		1,081	$1,430.68	$1,410.28	$20.40	1.4%	$0.00	$0.00	$0.00	$0.61	$19.79
(30)		1,145	$1,501.21	$1,479.60	$21.61	1.5%	$0.00	$0.00	$0.00	$0.65	$20.96

National Grid - RI Gas
2014 Energy Efficiency Plan Filing - 2014 Energy Efficiency Program Charge
Bill Impact Analysis with Various Levels of Consumption:

Residential Non-Heating:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(35)		140	$327.76	$325.12	$2.64	0.8%	$0.00	$0.00	$0.00	$0.08	$2.56
(36)		155	$345.59	$342.67	$2.92	0.9%	$0.00	$0.00	$0.00	$0.09	$2.83
(37)		171	$364.69	$361.46	$3.23	0.9%	$0.00	$0.00	$0.00	$0.10	$3.13
(38)		184	$380.17	$376.68	$3.48	0.9%	$0.00	$0.00	$0.00	$0.10	$3.38
(39)		198	$396.86	$393.15	$3.71	0.9%	$0.00	$0.00	$0.00	$0.11	$3.60
(40)	Average Customer	**214**	$415.56	$411.54	**$4.02**	**1.0%**	$0.00	$0.00	$0.00	$0.12	$3.90
(41)		228	$432.63	$428.33	$4.30	1.0%	$0.00	$0.00	$0.00	$0.13	$4.17
(42)		244	$451.74	$447.13	$4.61	1.0%	$0.00	$0.00	$0.00	$0.14	$4.47
(43)		258	$468.42	$463.57	$4.86	1.0%	$0.00	$0.00	$0.00	$0.15	$4.71
(44)		275	$488.62	$483.43	$5.20	1.1%	$0.00	$0.00	$0.00	$0.16	$5.04
(45)		288	$504.19	$498.76	$5.43	1.1%	$0.00	$0.00	$0.00	$0.16	$5.27

Residential Non-Heating Low Income:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(50)		140	$305.34	$302.70	$2.64	0.9%	$0.00	$0.00	$0.00	$0.08	$2.56
(51)		155	$322.49	$319.58	$2.92	0.9%	$0.00	$0.00	$0.00	$0.09	$2.83
(52)		171	$340.87	$337.64	$3.23	1.0%	$0.00	$0.00	$0.00	$0.10	$3.13
(53)		184	$355.76	$352.27	$3.48	1.0%	$0.00	$0.00	$0.00	$0.10	$3.38
(54)		198	$371.82	$368.10	$3.71	1.0%	$0.00	$0.00	$0.00	$0.11	$3.60
(55)	Average Customer	**214**	$389.81	$385.79	**$4.02**	**1.0%**	$0.00	$0.00	$0.00	$0.12	$3.90
(56)		228	$406.23	$401.93	$4.30	1.1%	$0.00	$0.00	$0.00	$0.13	$4.17
(57)		244	$424.62	$420.01	$4.61	1.1%	$0.00	$0.00	$0.00	$0.14	$4.47
(58)		258	$440.66	$435.81	$4.86	1.1%	$0.00	$0.00	$0.00	$0.15	$4.71
(59)		275	$460.10	$454.90	$5.20	1.1%	$0.00	$0.00	$0.00	$0.16	$5.04
(60)		288	$475.08	$469.64	$5.43	1.2%	$0.00	$0.00	$0.00	$0.16	$5.27

National Grid - RI Gas
2014 Energy Efficiency Plan Filing - 2014 Energy Efficiency Program Charge
Bill Impact Analysis with Various Levels of Consumption:

C & I Small:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC		GET	EE
								Base DAC	ISR		
(65)		880	$1,407.00	$1,400.21	$6.79	0.5%	$0.00	$0.00	$0.00	$0.20	$6.59
(66)		973	$1,513.14	$1,505.62	$7.52	0.5%	$0.00	$0.00	$0.00	$0.23	$7.29
(67)		1,067	$1,619.66	$1,611.41	$8.25	0.5%	$0.00	$0.00	$0.00	$0.25	$8.00
(68)		1,162	$1,724.87	$1,715.89	$8.99	0.5%	$0.00	$0.00	$0.00	$0.27	$8.72
(69)		1,258	$1,825.46	$1,815.75	$9.71	0.5%	$0.00	$0.00	$0.00	$0.29	$9.42
(70)	Average Customer	**1,352**	$1,922.85	$1,912.42	**$10.43**	**0.5%**	$0.00	$0.00	$0.00	$0.31	$10.12
(71)		1,446	$2,021.06	$2,009.87	$11.20	0.6%	$0.00	$0.00	$0.00	$0.34	$10.86
(72)		1,542	$2,120.69	$2,108.76	$11.93	0.6%	$0.00	$0.00	$0.00	$0.36	$11.57
(73)		1,635	$2,217.30	$2,204.65	$12.65	0.6%	$0.00	$0.00	$0.00	$0.38	$12.27
(74)		1,730	$2,314.90	$2,301.52	$13.38	0.6%	$0.00	$0.00	$0.00	$0.40	$12.98
(75)		1,825	$2,412.54	$2,398.45	$14.09	0.6%	$0.00	$0.00	$0.00	$0.42	$13.67

C & I Medium:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC		GET	EE
								Base DAC	ISR		
(80)		7,941	$9,309.28	$9,247.90	$61.38	0.7%	$0.00	$0.00	$0.00	$1.84	$59.54
(81)		8,796	$10,218.71	$10,150.70	$68.01	0.7%	$0.00	$0.00	$0.00	$2.04	$65.97
(82)		9,650	$11,126.64	$11,052.03	$74.61	0.7%	$0.00	$0.00	$0.00	$2.24	$72.37
(83)		10,505	$12,036.07	$11,954.85	$81.23	0.7%	$0.00	$0.00	$0.00	$2.44	$78.79
(84)		11,361	$12,945.90	$12,858.06	$87.84	0.7%	$0.00	$0.00	$0.00	$2.64	$85.20
(85)	Average Customer	**12,217**	$13,856.04	$13,761.57	**$94.46**	**0.7%**	$0.00	$0.00	$0.00	$2.83	$91.63
(86)		13,073	$14,766.20	$14,665.12	$101.08	0.7%	$0.00	$0.00	$0.00	$3.03	$98.05
(87)		13,928	$15,675.08	$15,567.37	$107.71	0.7%	$0.00	$0.00	$0.00	$3.23	$104.48
(88)		14,782	$16,583.57	$16,469.27	$114.30	0.7%	$0.00	$0.00	$0.00	$3.43	$110.87
(89)		15,637	$17,492.45	$17,371.51	$120.94	0.7%	$0.00	$0.00	$0.00	$3.63	$117.31
(90)		16,492	$18,401.92	$18,274.40	$127.52	0.7%	$0.00	$0.00	$0.00	$3.83	$123.69

National Grid - RI Gas
2014 Energy Efficiency Plan Filing - 2014 Energy Efficiency Program Charge
Bill Impact Analysis with Various Levels of Consumption:

C & I LLF Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(91)											
(92)											
(93)											
(94)											
(95)		41,066	$44,235.34	$43,917.82	$317.52	0.7%	$0.00	$0.00	$0.00	$9.53	$307.99
(96)		45,488	$48,765.48	$48,413.78	$351.70	0.7%	$0.00	$0.00	$0.00	$10.55	$341.15
(97)		49,910	$53,295.69	$52,909.75	$385.94	0.7%	$0.00	$0.00	$0.00	$11.58	$374.36
(98)		54,334	$57,827.65	$57,407.55	$420.10	0.7%	$0.00	$0.00	$0.00	$12.60	$407.50
(99)		58,757	$62,358.73	$61,904.41	$454.32	0.7%	$0.00	$0.00	$0.00	$13.63	$440.69
(100)	Average Customer	**63,179**	$66,889.06	$66,400.58	**$488.47**	**0.7%**	$0.00	$0.00	$0.00	$14.65	$473.82
(101)		67,600	$71,418.16	$70,895.49	$522.67	0.7%	$0.00	$0.00	$0.00	$15.68	$506.99
(102)		72,023	$75,949.23	$75,392.35	$556.88	0.7%	$0.00	$0.00	$0.00	$16.71	$540.17
(103)		76,447	$80,481.83	$79,890.74	$591.08	0.7%	$0.00	$0.00	$0.00	$17.73	$573.35
(104)		80,870	$85,012.94	$84,387.66	$625.28	0.7%	$0.00	$0.00	$0.00	$18.76	$606.52
(105)		85,292	$89,543.10	$88,883.61	$659.48	0.7%	$0.00	$0.00	$0.00	$19.78	$639.70

C & I HLF Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(106)											
(107)											
(108)											
(109)											
(110)		50,411	$48,294.78	$47,904.98	$389.79	0.8%	$0.00	$0.00	$0.00	$11.69	$378.10
(111)		55,841	$53,263.57	$52,831.82	$431.75	0.8%	$0.00	$0.00	$0.00	$12.95	$418.80
(112)		61,273	$58,234.07	$57,760.30	$473.77	0.8%	$0.00	$0.00	$0.00	$14.21	$459.56
(113)		66,699	$63,199.66	$62,683.91	$515.74	0.8%	$0.00	$0.00	$0.00	$15.47	$500.27
(114)		72,129	$68,168.48	$67,610.76	$557.72	0.8%	$0.00	$0.00	$0.00	$16.73	$540.99
(115)	Average Customer	**77,558**	$73,136.43	$72,536.76	**$599.67**	**0.8%**	$0.00	$0.00	$0.00	$17.99	$581.68
(116)		82,989	$78,105.33	$77,463.68	$641.65	0.8%	$0.00	$0.00	$0.00	$19.25	$622.40
(117)		88,416	$83,071.71	$82,388.06	$683.65	0.8%	$0.00	$0.00	$0.00	$20.51	$663.14
(118)		93,847	$88,041.34	$87,315.72	$725.62	0.8%	$0.00	$0.00	$0.00	$21.77	$703.85
(119)		99,275	$93,008.53	$92,240.94	$767.60	0.8%	$0.00	$0.00	$0.00	$23.03	$744.57
(120)		104,705	$97,977.42	$97,167.84	$809.58	0.8%	$0.00	$0.00	$0.00	$24.29	$785.29

National Grid - RI Gas
2014 Energy Efficiency Plan Filing - 2014 Energy Efficiency Program Charge
Bill Impact Analysis with Various Levels of Consumption:

C & I LLF Extra-Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(121)											
(122)											
(123)											
(124)											
(125)		174,357	$157,195.72	$155,847.62	$1,348.10	0.9%	$0.00	$0.00	$0.00	$40.44	$1,307.66
(126)		193,136	$173,559.73	$172,066.41	$1,493.32	0.9%	$0.00	$0.00	$0.00	$44.80	$1,448.52
(127)		211,912	$189,921.42	$188,282.92	$1,638.51	0.9%	$0.00	$0.00	$0.00	$49.16	$1,589.35
(128)		230,688	$206,283.67	$204,499.97	$1,783.70	0.9%	$0.00	$0.00	$0.00	$53.51	$1,730.19
(129)		249,466	$222,646.84	$220,718.00	$1,928.85	0.9%	$0.00	$0.00	$0.00	$57.87	$1,870.98
(130)	Average Customer	**268,243**	$239,009.19	$236,935.14	**$2,074.05**	**0.9%**	$0.00	$0.00	$0.00	$62.22	$2,011.83
(131)		287,018	$255,370.29	$253,151.09	$2,219.21	0.9%	$0.00	$0.00	$0.00	$66.58	$2,152.63
(132)		305,796	$271,734.11	$269,369.72	$2,364.39	0.9%	$0.00	$0.00	$0.00	$70.93	$2,293.46
(133)		324,573	$288,096.57	$285,587.00	$2,509.58	0.9%	$0.00	$0.00	$0.00	$75.29	$2,434.29
(134)		343,350	$304,459.00	$301,804.22	$2,654.78	0.9%	$0.00	$0.00	$0.00	$79.64	$2,575.14
(135)		362,127	$320,821.48	$318,021.54	$2,799.95	0.9%	$0.00	$0.00	$0.00	$84.00	$2,715.95

C & I HLF Extra-Large:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	GET	EE
(136)											
(137)											
(138)											
(139)											
(140)		447,421	$373,404.07	$369,944.60	$3,459.47	0.9%	$0.00	$0.00	$0.00	$103.78	$3,355.69
(141)		495,605	$413,050.44	$409,218.43	$3,832.01	0.9%	$0.00	$0.00	$0.00	$114.96	$3,717.05
(142)		543,789	$452,697.59	$448,493.02	$4,204.57	0.9%	$0.00	$0.00	$0.00	$126.14	$4,078.43
(143)		591,972	$492,343.23	$487,766.12	$4,577.11	0.9%	$0.00	$0.00	$0.00	$137.31	$4,439.80
(144)		640,155	$531,988.82	$527,039.14	$4,949.68	0.9%	$0.00	$0.00	$0.00	$148.49	$4,801.19
(145)	Average Customer	**688,340**	$571,636.42	$566,314.22	**$5,322.21**	**0.9%**	$0.00	$0.00	$0.00	$159.67	$5,162.54
(146)		736,523	$611,282.40	$605,587.64	$5,694.75	0.9%	$0.00	$0.00	$0.00	$170.84	$5,523.91
(147)		784,708	$650,929.52	$644,862.18	$6,067.34	0.9%	$0.00	$0.00	$0.00	$182.02	$5,885.32
(148)		832,891	$690,575.92	$684,136.05	$6,439.87	0.9%	$0.00	$0.00	$0.00	$193.20	$6,246.67
(149)		881,074	$730,221.53	$723,409.12	$6,812.41	0.9%	$0.00	$0.00	$0.00	$204.37	$6,608.04
(150)		929,259	$769,869.41	$762,684.42	$7,184.99	0.9%	$0.00	$0.00	$0.00	$215.55	$6,969.44

Commission 1-30

Request:

Please provide a schedule broken down by year for each of the last 10 years that provides the total EE budget, total spending budget, total incentive earned and system benefit charge. Please provide gas and electric information separately.

Response:

Please see Attachment COMM 1-30.

Prepared by or under the supervision of: Jeremy Newberger

Commission 1-30

Request:

Please provide a schedule broken down by year for each of the last 10 years that provides the total EE budget, total spending budget, total incentive earned and system benefit charge. Please provide gas and electric information separately.

Response:

Please see Attachment COMM 1-30.

Prepared by or under the supervision of: Jeremy Newberger

Rhode Island Energy Efficiency 2003 - 2013

Electric	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013[6]
Energy Efficiency Budget ($Million)[1]	$23.1	$22.6	$23.1	$22.4	$22.5	$21.0	$32.4	$37.6	$59.2	$61.4	$77.5
Spending Budget ($Million)[2]	$16.3	$15.8	$17.6	$16.5	$16.4	$14.7	$23.5	$28.8	$45.3	$55.3	$64.8
Actual Expenditures ($Million)[3]	$22.8	$19.5	$23.4	$23.7	$21.9	$19.2	$31.7	$29.7	$40.0	$50.7	-
Earned Incentive	$712,557	$604,876	$795,648	$760,623	$716,075	$675,282	$1,085,888	$1,333,996	$1,929,273	$2,469,411	$3,241,000
System Benefits Charge ($/kWh)	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002	$0.0029	$0.0032	$0.00526	$0.00589	$0.00862

Gas[4]	2003	2004	2005	2006	2007	2008	2009	2010	2011[5]	2012	2013[6]
Energy Efficiency Budget ($Million)[1]	-	-	-	-	-	$7.3	$7.6	$4.8	$7.3	$13.7	$19.5
Spending Budget ($Million)[2]	-	-	-	-	-	$6.6	$6.1	$4.5	$6.2	$12.9	$17.9
Actual Expenditures ($Million)[3]	-	-	-	-	-	$7.4	$6.3	$5.5	$4.9	$13.3	-
Earned Incentive	-	-	-	-	-	$321,801	$262,121	$231,310	$239,863	$586,036	$898,300
System Benefits Charge ($/Decatherm)	-	-	-	-	-	$0.107	$0.15	$0.15	$0.411	$0.384	$0.414

Notes:

(1) Energy Efficiency Budget includes total expenditures and commitments. Includes all demand side management program-related expenses, including rebates, administration and general expenses, evaluation, commitments for future years and Company incentive.

(2) Spending Budget includes Implementation and Evaluation Expenses; exluceds EERMC Costs, Commitments and Copays and Outside Finance Costs.

(3) Actual Expenditures is actual spend during calendar year. Includes expenditures and commitments. Includes all demand side management program-related expenses, including rebates, administration and general expenses, evaluation, commitments for future years and Company incentive.

(4) Gas programs began during July 2007 and were not reported on separately that year since programs were still in development. The 2007 gas programs are included in 2008 reporting. Systems Benefit Charge was $0.063 per decatherm from January 1, 2007 - June 30, 2007 and $0.107 per decatherm from July 1, 2007 through December 31, 2008.

(5) On December 16, 2011 the Commission ordered that National Grid could increase the gas System Benefits Charge from $0.15 to $0.411 per decatherm for the period of August 1, 2011 through December 31, 2011.

(6) 2013 values are planned.

Commission 1-31

Request:

Please explain the rationale for creating a tiered system benefit charge for the gas EE program.

Response:

As stated in Commission 1-12, the residential and C&I sectors have different customer and market demands as well as costs for delivering energy savings. As a result, the budget needs are different between the sectors. With varying budget needs, the single system benefit charge that has been proposed and implemented thus far has resulted in a growing cross-subsidization between the sectors. While two sector-specific gas EEP charges as proposed do not eliminate this subsidy, they will reduce the subsidy from that which would have been inherent with a uniform EEP Charge. Therefore, the settling parties agreed that creating two sector-specific gas EEP charges for 2014 was more equitable because the sectors would be assessed a charge that more closely meet their particular budgetary needs.