

**APPENDIX A**

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**NEW HAMPSHIRE ELECTRIC UTILITIES  
BEFORE THE  
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

**2009 CORE New Hampshire  
Energy Efficiency Programs**

Granite State Electric Company d/b/a National Grid  
New Hampshire Electric Cooperative, Inc.  
Public Service Company of New Hampshire  
Unitil Energy Systems, Inc.

**NHPUC Docket No.  
DE 08-120**

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## I. INTRODUCTION

This filing for the 2009 CORE Energy Efficiency Programs is being made jointly by Granite State Electric Company d/b/a National Grid, New Hampshire Electric Cooperative, Inc., Public Service Company of New Hampshire and Unutil Energy Systems, Inc. (referred to throughout the remainder of this document as "the NH Electric Utilities"). This Introduction is an overview of the programs and highlights of the results achieved to date along with overarching operational proposals for the coming year. The remainder of the filing includes descriptions of the programs, individual program budgets and goals, and utility specific program offerings.

### A. Overview of CORE Energy Efficiency Programs

The CORE Energy Efficiency Programs were born out of the Energy Efficiency Working Group recommendations (Docket No. DR 96-150) that were developed between May 1998 and June 1999 and largely approved by the Commission in November 2000. Thereafter, the NH Electric Utilities, Commission Staff, and other interested parties held numerous technical sessions and settlement talks and made many filings before they received final approval from the Commission in May 2002 to launch the CORE Programs. This represented the first time that a coordinated effort had been made by the electric utilities to offer the same programs statewide.

There are eight CORE programs providing products and services tailored for business, residential and income-eligible customers or members'. Each year the NH Electric Utilities work together to review the CORE Programs, make adjustments and improvements as needed or suggested by customers, interested parties, Staff and program administrators. The plans also include utility-specific programs that are used to test certain aspects of energy efficiency and to try new programs that may be pertinent to one utility's customers or to test new technologies.

Since the introduction of the CORE Programs in June 2002, the NH Electric Utilities have reported program results quarterly. In the beginning, results were slow in coming, but customer demand for energy efficiency products and services has steadily grown to the point where, today, the NH electric utilities are making commitments for projects that will be completed next year and the year after.

The CORE Energy Efficiency Programs in place today have been thoughtfully developed and enhanced by many different parties since 1998. The results of the CORE Energy Efficiency Programs since their inception on June 1, 2002, through December 31, 2007, have consistently exceeded expectations. Key benchmarks highlighting the results include:

- The programs have saved 5.3 billion lifetime kWh – enough energy to power the city of Concord for 13.9 years!

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<sup>1</sup> Hereinafter the word "customer" will be understood to mean both customers and NHEC members.

- ❑ Saving 5.3 billion kWh is equivalent to saving \$839 million at today's average cost of 15.9 ¢/kWh – benefiting both customers and the NH economy. Based on CORE Program expenditures, this represents a return for customers of more than \$8 for every program dollar invested.
- ❑ We have provided customers with 365,000 efficiency products or services and reached customers in every city and town served by the NH Electric Utilities. In addition we have provided training and information through customer seminars, point-of-sale displays, brochures, and catalogs to tens of thousands more.
- ❑ Reducing customers' energy needs has the added benefit of reducing power plant emissions. Based on the regional dispatch of plants, we will reduce emissions of CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> by 3.3 million tons – equivalent to the annual emissions of more than 688,000 cars.

New Hampshire CORE Energy Efficiency Programs Results Summary						
	2003	2004	2005	2006	2007	Total
Lifetime kWh Savings (Million)	1,368	925	1,022	973	997	5,285
Customers Served	59,699	51,136	81,581	86,555	86,113	365,084
Dollars Saved (Millions)	\$217.1	\$146.8	\$162.2	\$154.4	\$158.2	\$838.7
Emissions Reductions (Tons)	1,036,277	546,431	603,754	539,520	552,982	3,278,964
Lifetime kWh Cost (Cents)	1.70	1.80	1.95	1.95	1.90	

**Table 1.1 – CORE Program Results Summary**

The CORE Programs have saved energy at an average cost under 2.0 cents per lifetime kWh – as compared to the average retail price of 15.87 cents/kWh<sup>2</sup>. As energy costs continue to increase, these comparisons become even more compelling. While the NH Electric Utilities are proud of the results achieved to-date, they are very much aware of the need to be looking ahead and to work with Staff and other interested parties to find opportunities to improve the quality and effectiveness of the CORE programs.

<sup>2</sup> OEP's "Average Fuel Prices as of September 2, 2008", <http://www.nh.gov/oep/programs/energy/fuelprices.htm>.

**B. Program Funding**

Initially, the NH CORE Energy Efficiency Programs were funded solely by a portion of the System Benefits Charge on customer's bills. In recent years the budgets have been supplemented by ISO-NE's Forward Capacity Market and impacted by state law.

ISO-NE Other Demand Resource Transition Period Payments<sup>3</sup>

ISO-NE has implemented the Forward Capacity Market, with the first Commitment Period being June 1, 2010 through May 31, 2011. All generation and demand resources installed after June 16,2006, have been eligible to receive capacity payments in accordance with ISO-NE's Market Rules. The New Hampshire electric utilities have offered the demand savings resulting from the CORE NH Energy Efficiency Programs to ISO-NE for capacity payments. Estimated ISO-NE payments for 2009 have been included in the 2009 CORE Energy Efficiency Program budgets. These FCM payments were split first 13.5% for Home Energy Assistance (HEA) and of the remainder, 70% went for C&I and 30% for Residential programs.

Senate Bill 228 Budget Impact

The 2009 budgets for NHEC and PSNH have been reduced by \$86,112 and \$935,077 respectively, one third of the amount used for the Special Winter Electric Assistance Program, as a result of Senate Bill 228 (2005 N.H. Laws Ch. 298). During 2006, this bill provided for reallocation of certain SBC funds otherwise reserved for energy efficiency programs to the Special Winter Electric Assistance Program. Senate Bill 228 allows a utility that required funding for this special program to "reduce its energy efficiency expenditures in equal installments over a period of 3 years by the equivalent total amount utilized to fund the temporary emergency measures". This 2009 budget will be the last to be impacted by Senate Bill 228.

New Hampshire CORE Energy Efficiency Programs 2009 Program Funding					
	GSE	NHEC	PSNH	UNITIL	Total
1. Initial Energy Efficiency Funding	\$1,998,619	\$1,342,764	\$14,867,377	\$1,789,314	\$19,998,074
2. + ISO-NE FCM Proceeds	\$119,801	\$30,000	\$403,326	\$43,515	\$596,642
3. - SB 228 Repayment	\$0	(\$86,112)	(\$935,077)	\$0	(\$1,021,189)
4. Total Energy Efficiency Funding	\$2,118,420	\$1,286,652	\$14,335,326	\$1,832,829	\$19,573,227

**Table 12 – 2009 Program Funding**

<sup>3</sup> <https://www.iso-neprograms.com/login/>

NH has additional funding mechanisms in various stages of implementation that have somewhat different, yet similar, goals as the SBC Energy Efficiency Funding. As these efforts are implemented and managed by the NHPUC Office of Sustainable Energy, the NH Electric Utilities stand ready to assist the NHPUC as needed to help deliver additional services to NH residents.

#### House Bill 1434, Regional Greenhouse Gas Emissions Reductions Fund<sup>4</sup>

The NH Electric Utilities recognize that House Bill 1434 (2008 N.H. Laws Ch. 182) authorizes the use of the Greenhouse Gas Emissions Reduction Fund to support energy efficiency, conservation, and demand response programs to reduce greenhouse gas emissions generated within the state. The success of the New Hampshire CORE Energy Efficiency Programs demonstrates that the NH Electric Utilities are well positioned to provide assistance to the Sustainable Energy Division in the discharge of its responsibilities as they relate to the cost-effective implementation of programs to reduce greenhouse gas emissions. The existing CORE and Utility Specific Programs include a broad range of measures that cost-effectively address the program objectives outlined in HB 1434. The NH Electric Utilities are accordingly prepared to expand and augment current programs in areas that will complement and enhance the savings potential already being achieved through the application of the System Benefits Charge. Examples of such measures might include weatherization of fossil-heated homes, furnace upgrades or replacements, and efficiency improvements to fossil-fueled industrial process systems.

#### Renewable Energy Portfolio Standards<sup>5</sup>

The NH Electric Utilities also believe they can play a significant role in the efficient use of the incentives that are available for renewable energy systems. The effectiveness and scope of the benefits produced by the renewable energy fund can be increased through the combination of renewable energy systems with end-use efficiency measures that are typically more cost-effective to implement. End-use efficiency improvements, when combined with renewable energy systems, have the potential to drive customers toward net zero energy consumption. A combined programmatic approach has the potential to raise customer awareness and participation in projects which include both energy efficiency measures and renewable energy systems. In addition, this combined approach offers the opportunity to expand the number of customers who can be served by the renewable energy fund. This is because the end-use efficiency improvements can reduce energy demand resulting in smaller renewable system capacity requirements.

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<sup>4</sup> <http://www.gencourt.state.nh.us/legislation/2008/hb1434.html>

<sup>5</sup> <http://www.gencourt.state.nh.us/legislation/2008/hb1628.html>

### C. Evolving Nature of the CORE Programs

While the program names and the customers they serve have not changed, the CORE programs themselves are continuing to evolve in response to changing technology, market conditions, program evaluations, and new standards, as well as input from customers and other interested parties. The following examples illustrate this point:

- ❑ With the reduction in the retail price of compact fluorescent lighting (CFL) and the introduction of multi-packs, we have reduced rebate levels. This is intended to strike a balance between the best use of limited funds with helping customers overcome the higher initial costs of compact fluorescent lighting.
- ❑ The 2008 lighting catalog introduced new, low mercury content CFLs that contain as little as 1 mg of mercury. This coincided with a change to New Hampshire state law, effective January 1, 2008, which requires that all CFLs be recycled at the end of their useful life. The NH Electric Utilities, partnering with the NH Department of Environmental Services, have worked with NH lighting retailers to offer recycling services. As of October 1, 2008, we now have 48 retail stores that accept burned out CFLs for free. These retailers place the CFLs into specially designed lined boxes that when full are picked up by an environmental services company where all mercury will be properly extracted for reuse. The retailers include: True Value Hardware, ACE Hardware, Home Depot, Aubuchon's Hardware and Friendly Lumber Company.
- ❑ New for 2009 is a pilot proposal to include homes with fossil fueled heating systems in the Home Energy Solutions Program. This proposal recognizes that some utilities have few remaining electric-heat customers interested in participating. In addition, passage of the RGGI bill (HB 1434) as well as a Special Session bill in September 2008 to allocate additional funding for weatherization, demonstrate a high level of interest in the state for expanded weatherization services.
- ❑ In an ongoing effort to improve lighting efficiency, the utilities are promoting High Performance T8 systems and providing training to distributors, energy service companies, and customers. We are also looking ahead to advancements in new, production-grade LED lamps and LED fixtures which may be available at competitive pricing as soon as 2010.
- ❑ The incentive structure for the ENERGY STAR® Homes program was changed to include a sliding scale with higher incentives for as performance improves. The standard for what constitutes an ENERGY STAR Home also changed due to the new program guidelines released September 30, 2005. Two important changes include the Thermal Bypass Checklist and the HERS Index. The Thermal Bypass Checklist is a visual inspection of air barriers and insulation to ensure proper installation. The HERS Index is a scoring system in which a home built to the specifications of the HERS Reference Home (based on the 2006 International Energy Conservation Code) scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0. The lower a home's HERS

Index, the more energy efficient it is in comparison to the HERS Reference Home.

- ❑ Reporting for the low income Home Energy Assistance Program has been expanded in response to requests from interested parties. For 2009, the parties and Staff have agreed that the Home Energy Assistance Program be funded at 13.5% of total budget funding, including both the System Benefits Charge as well as the ISO-NE Forward Capacity Market payments. Also, recognizing the rising cost for fuel, products and services, the incentive cap for this program has been increased from \$4,000 to \$5,000 per home.
- ❑ The Energy Policy Act of 2005<sup>6</sup> established standards and provided tax credits for new homes and commercial buildings that performed significantly better than code. Changes were made to the CORE Programs to identify homes which met the standard and to provide certification to assist in claiming the tax credit. The tax credits are due to expire at the end of 2008; however, the NH Electric Utilities will continue to monitor the situation and will make program adjustments as appropriate.
- ❑ In response to product improvements, the ENERGY STAR appliance standards continue to ratchet upwards. For example, the efficiency standard for clothes washers was increased 36% in January 2007 and will increase another 5% in July 2009. The changing standards and the introduction of new models by manufacturers result in continual changes to the list of ENERGY STAR labeled washers. In response to these changes, the utilities are working with retailers to ensure accuracy in point of sale labeling and are monitoring program cost-effectiveness.

#### D. Measurement & Verification and the ISO-NE Forward Capacity Market

In this filing, the utilities want to recognize an emerging role for Monitoring and Evaluation (M&E). Effective June 16,2006, the Federal Energy Regulatory Commission (FERC) approved a Settlement Agreement that addresses the **future** capacity needs of New England. As part of that Settlement, the Independent System Operator (ISO-NE) has been leading an effort: (1) to develop rules that will govern a new Forward Capacity Market (FCM) that will begin operation June 1,2010, and (2) develop rules which will govern the Transition Period leading up to the start of the FCM. Under the terms of these rules, energy efficiency measures installed after June 16,2006, and which can be demonstrated to be operational during hours of peak electrical usage, are eligible to receive capacity payments.

Measurement and Verification (M&V) will be used to evaluate the impact of efficiency measures at the time of system peak and thus the capacity value that will be used in determining any applicable payments. As currently drafted, state utility commissions are responsible for approving M&V plans for efficiency measures installed through programs

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<sup>6</sup> [http://energy.senate.gov/public/\\_files/ConferenceReport0.pdf](http://energy.senate.gov/public/_files/ConferenceReport0.pdf) and [http://www.energystar.gov/index.cfm?c=products.pr\\_tax\\_credits#7](http://www.energystar.gov/index.cfm?c=products.pr_tax_credits#7)

under their jurisdiction. The utilities will work with the Staff and other interested parties to ensure that the CORE Programs' M&E efforts evolve in such a way that they are in alignment with ISO-NE M&V requirements in order to minimize expense and possible duplication of effort.

Continuing the policy approved by the Commission last year, the NH Electric Utilities recommend that in 2009 demand savings achieved via these energy efficiency programs continue to be reported by the utilities to ISO-NE as Other Demand Resources (ODR). Customers who participate in these energy efficiency programs must agree to forego any associated ISO-NE qualifying capacity payments and allow their electric utility to report kW savings and collect the payments on behalf of all customers. All ISO-NE capacity payments received will be used to supplement the utilities' energy efficiency program budgets.

#### E. Customer Comments

While aggregate measures of success such as kilowatt-hours saved, customers served, and emissions reduced provide a sense of the overall impact of the CORE programs, it is also important to recognize the tangible impact of the programs on individual residents and businesses. The following comments from customers who have participated in the energy efficiency programs illustrate the impact these programs have had on New Hampshire families and businesses. These are just a few examples of the comments that participants in the New Hampshire energy efficiency programs have shared.

- *"Just a little note to let you know how pleased I was with being part of NH Saves Assistance. I am very **thankful** and I appreciate everything that was done in my home. The men that came were v e y considerate and helpful to my environment. Instead of tracking in and out of my home they put a cloth down to protect my rug area. They all worked well together and took the time to explain to me what was being done. I've learned how much more conservative I can be with the use of power in my home. Being a **fixed** income, it will be such a great help to me. Thank you so much for everything."*

*"The new windows and over head insulation has made our apartment much warmer and cut down on **running** the heat. Windows are nice for old people to take care of and wash and keep clean!"*

*"We are very pleased and **thankful** for all the work done on our trailer. We live on a small pension and any kindness done make a big **difference** in our lives."*

*"Everyone was excellent. We are grateful for the work, especially the **thermostats**. We never knew what temperature the old ones were on."*

*"Exceptional Program, we are now much warmer, saving on oil & electricity by almost 1/2."*

*"I was very inzpressed. I didn't even know my furnace was omitting carbon*

*dioxide and probably wouldn't have known."*

*"The difference in my drafty old house was amazing. As soon as the basement was finished the difference was very noticeable."*

Comments from different HEA income eligible weatherization program participants.

- ☐ *"Contractor was Awesome! He was very patient with our schedule and went in depth with regards to explanations."*

*"Contractor is an excellent, knowledgeable capable person. Thirty dollars dropped off my first electric bill."*

*"Contractor was very organized, efficient & approachable. He could always be reached by phone or email."*

*"Just a short note to say thanks for the opportunity to take advantage of having our home evaluated under the Solutions program. I would like to complement the contractor for a very professional and efficient manner in which they did his work. They lived up to their name."*

Comments from different HES weatherization program participants.

- ☐ *"For the first time the Housing Authority participated in something like this, the process was very easy, certainly a worthwhile undertaking. ENERGY STAR Homes staff were great to work with, and everything went very well. We plan to go with ENERGY STAR for our next project."*

ENERGY STAR Home Participant, Diane Kierstead, Executive Director, Salem Housing Authority

- ☐ *"There has been a night and day difference since we enrolled in the Appliance Program. Ten years ago we had only one ENERGY STAR appliance on our sales floor. Today, eighty percent of our clothes washers are ENERGY STAR."*

ENERGY STAR Appliance Retailer, Dave Fouper - Manager of Baron's TV and Appliance

- ☐ *"I am so happy with the unit (economizer and controls for walk in coolers) I have shown all my customers... well a lot of them."*

Small Business Energy Solutions participant

- *"We replaced over 100 hp of mechanical aerators at our waste water treatment lagoons with five solar-powered aerators. Although the new systems have only been in operation for a short time, we are excited about their potential. Not only will the town realize tens of thousands of dollars in annual savings, the new equipment from SolarBee Inc. moves more water and is virtually maintenance free. I've been in the business for 22 years and I wouldn't believe if I didn't see it for myself:"*  
 Kevin McKinnon, Director of Public Works, Town of Colebrook, Small Business Energy Solutions Program participant.
- *"Lighting is much better for manufacturing team! Everyone was easy to work with, professional and knowledgeable. . .thank you!"*  
 Phil Gamache, Vyn-All Corporation, Small Business Energy Efficiency Program participant
- *"First let me say thanks for coordinating this class. The bottom line is that it will be valuable for me both currently and in the future to know and understand the information presented. Ifelt like it was re-taking my 4 year Industrial Engineering class all over in just 4 ½ days"*  
 Tom Robichaud, NH Ball Bearing, Certified Energy Manager Class participant
- *"Your facility is top notch, your people are friendly and professional. The energy audit class was extremely informative. I am already using the skills I acquired, from the course, to analyze other schools in our district. In time we should realize tremendous energy efficiencies in our buildings. The course that you put together is an asset of great proportions. I will highly recommend it to any and all fellow maintenance people I encounter. Once again, thank you, and continued success in this endeavor."*  
 Commercial Energy Auditing Class participant.
- *"...students learned about renewable and nonrenewable energy resources, and the importance of both conserving and recycling. They took time to walk around the school looking for areas to improve energy efficiency and the students came up with many suggestions as to how to conserve more! Programs like this are informative, make learning fun, and provide connections to the lives of the children. Many of them went home and talked to parents about ways they could recycle and conserve energy at home! Information in this workshop is difficult to grasp, but activities like this help students understand and make more sense of it all. An added bonus is that teachers will be able to use many of the hands on activities with new students next year."*  
 Note signed by five teachers at the Center Woods School in Weare, NH following the Energy 4U2 (pronounced for-you-too) Program for third graders.

#### F. Statewide Consistency and Coordinated Program Management

The uniform planning, delivery, evaluation and access to energy efficiency programs will continue under the proposed 2009 CORE NH Energy Efficiency Programs. To the extent practicable, the efficient delivery of services will not depend on the community in which the customer resides or does business. CORE Program offerings are designed to be consistent throughout the State with equal access for any eligible customer subject to available budget. Each utility will continue to have flexibility in its implementation strategies and may deliver its programs in a particular way. However, from a customer's perspective, the programs will continue to look virtually the same in all service territories:

In the first Settlement Agreement in Docket No. DE 01-057 the parties provided:

The Utilities will establish a CORE Program Management Team (the "Management Team") to oversee all CORE Program activities and to resolve problems as they arise. The Management Team will be comprised of representatives from each utility and will make decisions by consensus with one member specifically designated as the liaison with the Parties and Staff. The Management Team will meet at least quarterly to review program progress and to resolve problems. [October 3,2001, Section 5, page 11]

The Management Team will continue to fulfill its responsibilities to coordinate and oversee statewide activities, recognize problems in program delivery early on, communicate those problems among the NH utilities, identify corrective actions, and provide quarterly status reports to the Staff and interested parties.

Steps are also being taken to more closely align the CORE Programs with efficiency programs offered to New Hampshire's natural gas customers. From an organizational standpoint, with the completion of the National Grid/Keyspan merger and the acquisition by year end of Northern Utilities by Unitil, both of the state's regulated gas utilities will become part of one of the CORE Utilities. Further, in an effort to improve communications, gas program representatives are now included in the Quarterly CORE Programs Review Meetings with interested Parties and Staff. And finally, from a customer perspective, dual fuel customers are offered an opportunity to participate in both the gas and electric programs.

#### G. Administrative Costs

The NH Electric Utilities, Commission Staff, and other interested parties have spent considerable time and effort setting up uniform program administration and reporting protocols, as well as joint marketing and coordinated monitoring and evaluation for all eight of the CORE Programs. The NH Electric Utilities will continue to direct their limited time and resources to successful program implementation, and the Commission Staff and other interested parties will be able to judge each utility's performance relative to agreed-upon program performance goals that are clear and measurable.

Cost-control measures are in place in the performance incentive mechanism, in that an inefficiently managed and administered program will likely fail to meet its cost-effectiveness and energy savings goals. On the other hand, the level of administrative costs that are spent on successful programs will vary from program to program and utility to utility for valid reasons. For example, a small utility and a large utility will generate unequal amounts of System Benefits Charge revenue and have unequal program budgets. However, what matters is that each utility devotes sufficient resources to operate the CORE Programs effectively in their service territory, as demonstrated by the outcomes of the programs and measured through the performance criteria (i.e., cost-effectiveness and energy savings).

#### H. Performance Incentive

In accordance with Commission Order No. 24,203, issued September 5,2003, the utilities will continue to utilize the approved performance incentive mechanism. The current incentive mechanism fosters efficient program implementation efforts and the achievement of program goals while retaining most funding for program efforts. The performance incentive also serves as a motivating factor for the NH Electric Utilities and holds each utility accountable for meeting their individual program goals. If any individual utility does not meet its program goals, it will not earn its target incentive, and the Commission can require the utility to take corrective measures.

#### I. Multi-year Project Approval

In 2003 the Commission authorized what was termed "multi-year approval" – a process whereby customers with multi-year projects could receive a commitment assuring program continuity and funding for long term projects. The NH Electric Utilities seek to continue multi-year approval and specifically request authorization to make customer commitments during 2009 for projects to be completed in 2009, 2010, and 2011. All customer classes currently eligible to participate in the CORE Programs will be eligible. The remainder of this section provides background and support for continuing this policy.

Customers of the NH Electric Utilities often plan and budget for large capital projects with multi-year lead times. Construction projects, renovations and replacement of existing equipment for 2010 and 2011 will be developed in 2009, and the resources necessary to fund such projects need to be arranged when these customers' decisions are made. Large commercial and industrial customers sometimes have two-year planning horizons for large capital expenditures, which are essential to the growth of the NH economy. Home Builders will plan construction starts for the following year based upon the number of ENERGY STAR Homes that are approved by the local electric utility. With pre-approval of the number of households that can be served by the Home Energy Assistance Program, the Community Action Agencies or other contractors delivering these services can better plan for the crews that will be necessary to keep on board and coordinate with the Department of Energy Home Weatherization jobs.

The NH Electric Utilities will make commitments to customers who have presented definitive plans for projects to be completed in subsequent years. The energy efficiency measures will include those measures that are approved under the then existing CORE Programs and utility-specific programs. All 2009 program guidelines and rules will apply to the 2010 and 2011 commitments. Customers receiving commitments in 2009 will not be barred from participating in any new programs introduced in 2010 and 2011 which supplement or supplant the existing programs, subject to any limits on the dollar amount that a single customer may receive under the 2010 and 2011 programs. The funds will be paid out of the 2010 and 2011 budget amounts, respectively; however, the commitment to the customer will be made contingent upon the continuation of funding.

The total of all customer commitments, in any given program, in any given future year, will not exceed 40% of the amount budgeted for that program in 2009 for Customer Rebates and Services without prior concurrence of the Parties and Staff. Any such commitments will be monitored and reported in the NH Electric Utilities' quarterly reports. All customer commitments will be made contingent upon the continuation of the program funding.

#### J. Interim Changes in Program Budgets

The NH Electric Utilities recommend continuation of the budget adjustment guidelines currently in place. Specifically,

- Once the budgets are approved, there will be no movement of funds between the residential and commercial industrial sectors unless specifically approved by the Commission.
- Budget transfers to or from individual programs of 20% of the individual program's budget or less can be made without consultation and without Commission approval. Notice to the Staff and interested parties is required.
- Budget transfers to or from individual programs greater than 20% of the individual program's budget shall be filed with the Commission. Staff and interested parties may file any comments with the Commission within two weeks of the filing. If no action has been taken by Staff and interested parties, the budget transfer request shall be deemed approved unless the Commission notifies the company of the need for a more in-depth review within thirty (30) days of the filing.
- Notwithstanding the 2<sup>nd</sup> and 3<sup>rd</sup> bullets above, no funds shall be transferred out of the Home Energy Assistance Program without prior approval by the Commission.

## II. CORE PROGRAM OFFERINGS

### A. Residential Program Descriptions

#### 1. ENERGY STAR® Homes Program

##### **Overview:**

This program is intended to transform New Hampshire's housing stock by offering incentives to build homes that are at least 20% more efficient than homes built to the 2006 International Energy Conservation Code (IECC)<sup>7</sup>. The program is fuel neutral and aligned with a national effort developed by the U.S. Environmental Protection Agency. The New Hampshire ENERGY STAR Homes program provides builders with technical assistance, financial incentives and instruction needed to ensure that homes meet stringent ENERGY STAR technical standards. The program provides incentives for home certification, upgrades to ENERGY STAR products, and a sliding scale performance based incentive designed to encourage builders to improve efficiency levels above the minimum required by the national program. The program also addresses market transformation by providing a Home Energy Rating (HERS)<sup>8</sup> - a nationally recognized index for measuring a home's energy efficiency. The program targets both single and multi-family homes and is open to customers building a new home or undertaking a complete renovation of their existing home.

NH Electric Utility staff will coordinate program delivery to ensure that consistent services are provided to home builders across the state. In addition, the utilities will continue to collaborate with the New Hampshire gas utilities to incorporate their rebates for high efficiency HVAC equipment. During 2002-2008, implementation efforts included builder and subcontractor training as well as marketing and distribution of promotional materials to raise awareness of and interest in ENERGY STAR Homes. On September 30, 2005 the EPA made changes to the federal ENERGY STAR Homes Program and the NH utilities have incorporated these changes into this program. These new standards resulted in the following changes to the program in 2008 and beyond:

- ✓ Home Energy Rater must perform a "Thermal Bypass Inspection" using checklist.
- ✓ Air duct testing is now mandatory to ensure tighter standards are met.
- ✓ Some ENERGY STAR products (heating or cooling equipment, windows, or lighting/appliances) must be part of the new home.

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<sup>7</sup> The New Hampshire Energy Code, adopted in August 2007, is based upon the 2006 International Energy Conservation Code.

<sup>8</sup> As of 2007, an ENERGY STAR® home must meet the Home Energy Rating System (HERS) index of no more than 85 on a scale of 100-0 (in accordance with the *Mortgage Industry National Home Energy Rating Standards* administered by the Residential Energy Services Network (RESNET). This HERS index is recognized by the US Environmental Protection Agency as the qualification for ENERGY STAR® home designation.

During 2008, the focus will be to continue educating builders on the national 2007 program changes and assisting them as they work to meet the new requirements. Efforts will also include educating consumers on the benefits of building to the ENERGY STAR level and beyond. The NH electric utilities will continue to work with the Home Builders & Remodelers Association of NH, customers, and building trade allies (e.g., insulation and HVAC contractors) to encourage the construction of ENERGY STAR homes in the state

The Environmental Protection Agency<sup>g</sup> recognized New Hampshire as one of 15 states leading the nation in ENERGY STAR homes.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Customers to be completed:	554	512
Projected lifetime kWh savings:	2,686,115	4,944,960

Over time there will be an increased awareness of and demand for ENERGY STAR Homes by homebuyers, renters, homebuilders and the real estate community.

**Budget:**

January 1 - December 31, 2009 Budget:	\$1,458,510	\$1,362,346
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**Measures of Success & Market Transition Strategy:**

Success factors for this program include: the number of homes completed versus goal, the energy savings achieved, and the benefit/cost ratio. We expect that increased awareness of and demand for "ENERGY STAR Homes" may eventually decrease the need for incentives. New technologies may change the types of products that are eligible for rebates in the future. Evaluations will help determine program changes, if needed, over time.

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<sup>g</sup> See [http://energystar.gov/index.cfm?c=news.nr\\_news#states](http://energystar.gov/index.cfm?c=news.nr_news#states)

## 2. Home Energy Solutions Program

### **Overview:**

This program will continue to upgrade the existing housing stock in NH by assisting customers with improvements to the energy efficiency of their home. Basic services include insulation, weatherization, and cost effective appliance and lighting upgrades. Participating customers can receive up to \$4,000 in program services. Co-payments are required and are determined based on the measures installed. The program also has a strong educational component designed to help customers better understand their home and the factors that affect energy use.

### **Delivery:**

In an effort to balance the need to serve remaining electric heat customers with weatherization needs and requests from customers with fossil fuel heated homes, the utilities plan to incorporate a fuel blind weatherization component to this program. These customers will be eligible for the same basic services provided to customers with electrically heated homes. NH Electric Utility personnel will administer the program and will contract for the delivery of program services.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Customers to be served:	1,528	868
Projected lifetime kWh savings:	28,329,553	7,160,161

In addition to improving the energy efficiency of NH homes, another benefit will be the continued development of a NH infrastructure that can support and deliver energy efficiency improvements. Other benefits include developing a demand for energy efficiency by homebuyers, renters, property owners, homebuilders, and the real estate community.

### **Budget:**

January 1 - December 31, 2009 Budget:                      \$1,956,794      \$2,019,389

### **Measures of Success & Market Transition Strategy:**

Success factors for this program include attaining the planned participation and energy savings goals. New technologies may change the types of products that are eligible for rebates in the future. Evaluations will help determine program changes, if needed, over time.

### 3. ENERGY STAR® Lighting Program

#### **Overview:**

This program will continue to increase the use and availability of energy efficient lighting products in New Hampshire. The program is open to all residential customers and will (1) offer rebates for interior and exterior ENERGY STAR labeled bulbs and fixtures, (2) promote the efficiency and environmental benefits of the latest lighting technologies, and (3) leverage the ENERGY STAR branding across three programs - Lighting, Homes, and Appliances.

Program delivery will be through New Hampshire retailers, mail order catalogs, and utility web sites. Contractors will continue to provide retailer training and to work with the more than 100 retailers to ensure the availability and visibility of ENERGY STAR lighting products. Services will also include rebate processing and the development and placement of cooperative advertising with participating retailers. Instant rebate coupons for qualifying bulbs and fixtures will make these products more affordable at participating retailers.

The program catalog is designed to raise customers' awareness of the products, to inform them of the new technologies being developed, and to make it easy to purchase products. The NH Electric Utilities will continue promoting energy efficient lighting via special events with retailers and directly with customers via Energy Fairs, Trade Shows, etc. A statewide toll free number and website will remain available to all New Hampshire residential customers.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Products Incented:	320,725	300,201
Projected lifetime kWh savings:	94,647,184	90,960,835

The overall goal of the program is to raise the visibility and availability of ENERGY STAR lighting products in order to build customer demand to the point that the market will become self-sustaining.

#### **Budget:**

January 1 - December 31, 2009 Budget:                    \$1,353,907    \$1,339,352

#### **Measures of Success & Market Transition Strategy:**

Program success factors will include attaining the planned participation and energy saving goals, increased market share, and customer awareness and acceptance of the ENERGY STAR brand. Evaluations will help determine program changes, if needed, over time.

#### 4. ENERGY STAR® Appliance Program

##### **Overview:**

This program will increase the use and availability of energy efficient appliances in New Hampshire. It will be tailored to the needs of New Hampshire, but coordinated with similar national or regional initiatives. A prime objective is to raise awareness and educate consumers on the benefits of ENERGY STAR rated appliances through joint marketing, promotional, and educational materials. The program is open to all residential customers and will feature a \$50 rebate for ENERGY STAR rated clothes washers and a \$20 rebate for ENERGY STAR rated room air conditioners. Rebate levels may be adjusted during the year to meet current market conditions.

Contractors will continue to provide services including retailer retention and recruitment, training, point of purchase promotional materials, and product labeling for the more than 90 participating retailers. Services will also include rebate processing and the development and placement of cooperative advertising with participating retailers. In addition, the NH Electric Utilities will seek opportunities to collaborate with manufacturers on matching rebate programs.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Products Incented:	13,340	12,720
Projected lifetime kWh savings:	16,667,155	19,545,785

The overall goal of the program is to raise the visibility and availability of ENERGY STAR appliances in order to build customer demand to the point that the market will become self-sustaining.

##### **Budget:**

January 1 - December 31, 2009 Budget:	\$891,903	\$889,198
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##### **Measures of Success & Market Transition Strategy:**

Program success factors will include attaining the planned participation and energy saving goals, and increasing market share. Customers will be surveyed to determine the impact of ENERGY STAR labeling and promotion on their purchasing decisions. Evaluations will help determine program changes, if needed, over time.

## B. Low Income Weatherization

### 1. Home Energy Assistance Program

This program is designed to help low income customers manage their energy use and reduce their energy burden. Basic services include insulation, weatherization, cost effective appliance and lighting upgrades, and appropriate health and safety measures. Participating customers can receive up to \$5,000 in program services. Customers served by Community Action Agencies may be eligible for additional DOE Weatherization Assistance (Wxn) funding. The program will also have a strong educational component specifically tailored for income eligible customers and designed to help them better understand their home and the factors that affect energy use.

The utilities are committed to working with the Community Action Agencies (CAAs), the Office of Energy and Planning, The Way Home (TWH), and other interested parties to improve and expand the collaboration initiated during the first phase of this program (see Attachment A). Specific goals for this collaboration include expanding the number of participants served by the CAAs and increasing the number of jobs jointly funded by the CORE and Wxn programs.

#### **Delivery:**

The Community Action Agencies (CAAs) and other independent contractors will deliver the program in a way that maximizes participation and energy saving goals. The NH Electric Utilities and contractors will cooperatively market the program, address customer intake, schedule work, conduct the initial home visit, install energy efficient measures, and perform quality assurance. The program will be open to all customers who meet the eligibility criteria for participation in the Fuel Assistance Program, the NH Electric Assistance Program, the DOE Weatherization Program and anyone living in subsidized housing or municipal and non-profit shelters serving the needy.

Qualified CAAs will be offered right of first refusal to deliver services under the Low Income Home Energy Assistance Program provided: (1) The CAAs agree to participate in a bidding process with other energy service providers to establish qualifications and pricing for program services. (2) The CAAs agree to provide services at established statewide rates. Where the same services are provided in the Home Energy Solutions Program, pricing would be the same for both programs. (3) CAAs would meet established statewide standards for customer response time, work quality, and delivery of program services. These statewide standards will apply to both the Home Energy Assistance as well as the Home Energy Solutions Programs.

The Electric Utilities will strive to market the program in such a fashion as to promote a reasonably level flow of work. In cases where the CAAs cannot provide low income energy efficiency services in accordance with the approved CORE weatherization production schedule, or they choose not to deliver the services, the work will be assigned to other qualified vendors who will be held to the same standards for pricing, customer responsiveness and work quality. In such cases, the utility will provide notice to the CAA, and thereafter to the Weatherization Directors Association (WDA), that the work is being assigned to other qualified vendors. The

utility will offer to discuss the matter with the CAA and WDA; however, the utility shall be permitted to assign work to other qualified vendors once notice has been provided to the CAA. If the matter cannot be resolved, the CAA reserves the right to file an appropriate motion with the Commission for resolution of the matter.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Customers to be served:	955	691
Projected lifetime kWh savings:	26,481,691	19,744,078

The program will be coordinated closely with the Electric Assistance Program (EAP) in order to identify eligible customers. While all income eligible customers may participate in this program, working with EAP participants to reduce their energy burden has the further benefit of increasing the EAP funds available to other customers.

**Budget:**

January 1 - December 31, 2009 Budget:	\$2,441,012	\$2,641,742
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**Measures of Success & Market Transition Strategy:**

Success factors for this program include: attaining the planned participation and energy savings goals, high customer satisfaction ratings, and successful delivery of all program services through the CAAs and independent contractors. No market transition strategy is recommended at this time based on the significant need for these services in the state, and the relatively small number who can be served in any given year due to budget constraints. This is consistent with the recommendation of the Energy Efficiency Working Group<sup>10</sup>.

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<sup>10</sup> See Final Report of the Energy Efficiency Working Group, July 6, 1999, Docket No. DR 96-150, page A34.

## C. Commercial & Industrial Program Descriptions

### 1. New Equipment and Construction Program

#### **Overview:**

This program targets customers, 100 kW and larger, with new construction, major renovation, or failed equipment replacement projects. The program offers prescriptive and custom rebates designed to cover the lesser of a one year payback or 75% of incremental costs up to the customer's incentive cap. The program also offers Technical Assistance including project evaluation, measure identification, equipment monitoring, and efficiency studies. Technical Assistance and Commissioning services may require a customer co-payment.

Other initiatives will include: Energy Efficient Schools Initiative - offering rebates of up to 100% of incremental costs; Building Codes - training on the proper implementation of New Hampshire's commercial energy building code; and Compressed Air Services - assisting customers with comprehensive audits and training. NH Electric Utilities will initially reserve five percent of the program budget for the Energy Efficient Schools Initiative; however, actual funding will be higher or lower depending on the number of new school building opportunities.

#### **Delivery:**

NH Electric Utility staff will be responsible for delivery of this program through multiple channels including: Account Executives and Energy Service Representatives working directly with customers; Economic Development staff working with new prospects as well as assisting customers who are relocating; and Energy Efficiency Program Administrators generating leads through the building development community, real estate professionals, and town permitting offices. The program will emphasize the benefits of selecting premium efficiency alternatives during the design stage of a project.

#### **Goals/Benefits:**

	2008	2009
Estimated Number of Customers to be served:	196	151
Projected lifetime kWh savings:	108,803,808	97,633,457

#### **Budget:**

January 1 - December 31, 2009 Budget:	\$2,771,151	\$2,587,328
Energy Efficient Schools Initiative Percent	5%	

#### **Measures of Success & Market Transition Strategy:**

Program success will be based on attaining the planned participation and energy saving goals. Evaluations will help determine program changes, if needed, over time.

## 2. Large C&I Retrofit Program

### **Overview:**

This program targets customers, 100 kW and larger<sup>11</sup>, operating aging, inefficient equipment and systems. The program offers prescriptive and custom rebates designed to cover the lesser of a one year payback or 35%<sup>12</sup> of equipment and installation costs up to the customer's incentive cap. Opportunities typically include lighting, motors, HVAC, variable frequency drives as well as custom measures. The program also offers Technical Assistance including project evaluation, measure identification, equipment monitoring, compressed air leak detection, and energy audits. Technical Assistance services may require a customer co-payment.

This program also includes an educational component that will offer training seminars of interest to commercial, municipal and industrial customers. Training seminars being considered include Commercial Audit Training, Compressed Air Services, Certified Energy Manager Class, and EPA's Motor Master.

### **Delivery:**

Account Executives and Energy Service Representatives will offer this program directly to customers. Audits may be used to identify the opportunities for energy efficiency improvements. Customers wishing to take advantage of this program will sign a rebate application that documents what will be done, the estimated completion date, and the anticipated incentive amount.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Customers to be served:	195	168
Projected lifetime kWh savings:	212,712,289	165,209,310

### **Budget:**

January 1 - December 31, 2009 Budget:	\$3,234,760	\$3,038,634
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### **Measures of Success & Market Transition Strategy:**

Program success will be based on attaining the planned participation and energy saving goals. Evaluations will help determine program changes, if needed, over time.

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<sup>11</sup> National Grid and Unitil will limit this program to customers with demands of "200 kW and larger", allowing those customers under 200 kW to participate in the Small Business Energy Solutions Program.

<sup>12</sup> National Grid will pay up to 50% on Custom Retrofit Projects due to current market saturation in its service territory.

### 3. Small Business Energy Solutions Program

#### **Overview:**

This program will provide turnkey energy efficiency services for customers under 100 kW demand<sup>13</sup>. Program offerings include but are not limited to lighting, programmable thermostats, electric hot water measures, and refrigeration measures. The program pays 50% <sup>14</sup>of the installed costs up to the customer's incentive cap.

#### **Delivery:**

Utility personnel will administer the program and will contract for the delivery of program services. Leads will be generated from referrals from Customer Service or Energy Service Representatives, past audits, and other marketing efforts. Contractors will meet with the customer, perform a simple audit of the customer's facility, and recommend cost effective energy saving measures for installation. Customers may elect to have measures installed by the utility's contractor or a licensed electrician of their own choosing.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Customers to be served:	612	528
Projected lifetime kWh savings:	105,895,911	102,703,290

#### **Budget:**

January 1 - December 31,2009 Budget:	\$3,194,294	\$2,938,614
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#### **Measures of Success & Market Transition Strategy:**

Program success will be based on attaining the planned participation and energy saving goals as well as customer satisfaction with the program. Evaluations will help determine program changes, if needed, over time.

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<sup>13</sup> National Grid and Unitil have opened this program to customers with an average demand up to 200 kW due to the high level of market saturation these companies have achieved among customers with demands under 100 kW.

<sup>14</sup> National Grid will pay 70% in its service territory.

#### 4. Educational Programs

##### **Overview:**

The NH Electric Utilities believe that educational programs play an important role in raising awareness about energy efficiency and complement the other programs. The Educational Programs planned for 2009 are as follows:

1. Energy Code Training: Provide financial support for the State of NH/NHPUC joint statewide residential and C&I energy code trainings.
2. Collaborative Seminars: Partner with trade allies to encourage and sponsor energy efficiency seminars and presentations for NH businesses.
3. C&I Customer Education: Develop and offer training seminars and workshops of interest to C&I customers and professionals (e.g., NH Commercial Energy Auditing Course). These seminars and workshops will help building owners, facility personnel, architects, engineers, energy service companies and others better understand the opportunities for improving the energy performance of their buildings and equipment.
4. Energy Education for Students: The NH Electric Utilities will support programs such as:
  - Grades K-2: Poss's Energy Posse
  - Grade 3: Teacher Consultants performing 1 hour Energy Efficiency classes in schools
  - Grades 3-4: "We understand it's up to us to use energy...wisely!" ("Energy UUUU")
  - Grades 3-4: Energy UUUU2, a 1-day program for students and their teachers
  - Grades 5-6: Watt Watchers, a 2-day program for students on lighting surveys
  - Grades 7-12: Savings Through Energy Management (STEM)
  - Grades 7-12: Bright Ideas, a 3-day program for students and their teachersThe purpose of these programs is to educate students in grades K-12 about energy efficiency. The NH Electric Utilities will conduct outreach to schools to promote these programs.

In addition, the NH Electric Utilities have committed to numerous education initiatives as part of its CORE programs. The residential and low income education initiatives are integral to the delivery of the respective programs and are budgeted with the programs.

##### **Delivery:**

Varies by program; educational classes are presented by industry specialists.

##### **Goals/Benefits:**

Each educational effort is focused on meeting the needs of a particular customer or group of customers; however, the common theme of these efforts is to raise awareness and understanding of the benefits of energy efficiency, and encourage the implementation of energy efficiency improvements.

**Budget:**

<b>Educational Program Budgets</b>	<b>GSE</b>	<b>NHEC</b>	<b>PSNH</b>	<b>UNITIL</b>	<b>2009</b>
Energy Code Training	\$480	\$1,500	\$11,820	\$2,000	<b>\$15,800</b>
Collaborative Seminars	\$1,860	\$2,000	\$14,900	\$2,000	<b>\$20,760</b>
C/I Customer Education	\$2,340	\$3,200	\$26,000	\$4,000	<b>\$35,540</b>
Energy Education K-12	\$3,928	\$22,363	\$75,000	\$7,000	<b>\$108,291</b>
<b>Total</b>	<b>\$8,608</b>	<b>\$29,063</b>	<b>\$127,720</b>	<b>\$15,000</b>	<b>\$180,391</b>

**Measures of Success:**

Success of these programs is based on customer satisfaction. This includes informal feedback from instructors and participants as well as customer satisfaction surveys used to evaluate a particular training session. These programs will be modified as needed to meet changing customer needs.

### III. Utility Specific Program Descriptions

#### NEW HAMPSHIRE ELECTRIC COOPERATIVE, INC.

##### A. Load Management System

**Overview:**

Load Management is a Demand-Side Management (DSM) technique that NHEC, with NHPUC approval, has offered since 1993. By means of a radio-controlled switch, NHEC is able to turn off, or control electric baseboard heat and electric water heaters in the homes of participating members. NHEC members receive the benefit of lower bills through the off-peak Heating and Controlled Water Heating Rates. NHEC's participating members have embraced this space heating and water heating strategy.

NHEC plans to maintain and operate the existing Load Management infrastructure, but will not actively market the program to new participants.

**Delivery:**

NHEC will continue to provide load management programs and services upon member requests as well as to existing program participants requiring maintenance. Field Technicians trained in the load management programs and its related equipment will deliver these programs.

**Goals/Benefits:**

Approximately 4,000 members system wide have had water heater controls installed. Additionally, approximately 1,000 members have had Electric Thermal Storage (ETS), Dual Fuel (DF), and Storage Water Heater controls installed. Continued maintenance of these controls and related equipment is one focus of this program.

**Budget:**

	2008	2009
January 1 - December 31, 2009 Budget:	\$105,514	\$104,720

**Measures of Success & Market Transition Strategy:**

Success for this program will be based on the continued maintenance of existing load management equipment. As wholesale energy markets mature, modifications may be proposed to this program

## B. Smart Start Program

### **Overview:**

The Smart Start Program provides members with an opportunity to install energy efficient measures with no up front costs, and pay for them over time with the savings obtained from lower energy costs. Under the program, NHEC pays all of the costs associated with the purchase and installation of the approved measures. A Smart Start Delivery Charge, calculated to be less than the monthly savings, is added to the member's monthly electric bill until all costs are repaid. The program is designed to overcome many of the traditional barriers to energy efficiency projects including: high first cost, customer uncertainties related to achieving energy savings, customer reluctance to install measures if there is a possibility of moving from the premise before benefiting from the efficiency project, and the so-called "split incentive", where a landlord gets little return on an investment that reduces a tenant's energy costs and a tenant has no incentive to invest in their landlord's building.

### **Delivery:**

NHEC staff will identify potential projects and make Smart Start offers where it applies. These offers may be combined with other energy efficiency programs for which the member is eligible.

### **Budget:**

January 1, - December 31,2009

	2008	2009
	\$20,510	\$15,263

### **Measures of Success & Market Transition Strategy:**

Success factors for this program include Member acceptance of Smart Start offers, achieving high customer satisfaction ratings, and having a low default rate on Smart Start loans.

### C. High Efficiency Heat Pump Program

#### **Overview:**

The objective of the High Efficiency Heat Pump Program is to assist residential members to reduce their energy costs by installing high efficiency heat pump technologies. These technologies include standard high efficiency heat pumps and geothermal heat pumps. The program has a number of goals, which include:

1. Increasing availability of energy efficient, zero onsite emission solutions to NHEC member's heating and cooling needs;
2. Assessing the market potential and technical feasibility of various heat pump technologies;
3. Identifying barriers to increased penetration of energy efficient heat pumps and ways to overcome them;
4. Determining the cost effectiveness of various heat pump technologies and applications; and
5. Assessing the viability for a more extensive program in future years.

HVAC projects commonly have ductwork layouts that are incorrectly designed and constructed and have ducts that are sealed and insulated improperly, if they are sealed and insulated at all. As part of this High Efficiency Heat Pump Program, NHEC may have a third party mechanical engineer design the ductwork for new construction or retrofit applications. All ductwork will be designed, installed, replaced, sealed and insulated properly.

#### **Delivery:**

NHEC will continue to offer these technologies to residential members for new construction and residential retrofit applications. Certainly, the feasibility and cost-effectiveness of specific applications will vary by type of construction/renovation activity, and types of equipment being considered.

	2008	2009
<b>Goals/Benefits:</b>		
Estimated Number of Members to be served:	12	15
Projected lifetime kWh savings:	4,273,326	5,077,000
Projected Benefit/Cost Ratio:	1.47	1.55

#### **Budget:**

January 1 - December 31,2009:	\$116,936	\$87,257
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#### **Measures of Success & Market Transition Strategy:**

Success factors for this program include attainment of the planned participation and estimated savings, and high customer satisfaction ratings.

## PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

This section provides details on issues and programs specific to PSNH.

### A. Budget Narrative

The following assumptions were used to develop PSNH's budget:

1. The budget is based on forecasted 2009 sales of 8,259,654 MWh (down 1.5% from 2008 forecast of 8,385,334 MWh) and a System Benefits Charge (SBC) rate of 1.8 mills/kWh.
2. This budget is reduced by \$935,077, one third of the amount used for the Special Winter Electric Assistance Program, as a result of Senate Bill 228 (2005 N.H. Laws Ch. 298). During 2006, this bill provided for reallocation of certain SBC funds otherwise reserved for energy efficiency programs to the Special Winter Electric Assistance Program. Senate Bill 228 allows those utilities that required funding for this special program to "reduce its energy efficiency expenditures in equal installments over a period of 3 years by the equivalent total amount utilized to fund the temporary emergency measures".
3. Estimated ISO-NE Forward Capacity Payments for January – December 2009 were added to this budget (\$403,326). (In NHPUC Order No. 24,719 on December 22, 2007, the NHPUC stated "We also believe that it is appropriate, as a preliminary matter, to contribute any payments received by utilities for Core program peak load reduction back to the Core programs."). These funds were split first 13.5% for Home Energy Assistance (HEA) and then 70% of the remainder for C&I and 30% for Residential.
4. All customers fund the Low Income Energy Efficiency Program (HEA) in proportion to their contributions to SBC revenues. Funding for this program comes "off the top" of the budget. For 2009, a change was made to fund HEA at 13.5% of the budget. (In prior years, PSNH determined its budget for this program using the same ratios used by the Low Income Subcommittee of the Energy Efficiency Working Group. In their report the Subcommittee had a first year statewide budget of \$1.5 million with an SBC of 1.0 mills/kWh. This statewide low income budget grew to \$2.5 million in year three when PSNH's SBC was assumed to be 2.5 mills/kWh. In determining the budget, PSNH used the same relative proportions and assumed PSNH's contribution to the statewide total was **74.64%**.)
5. Monitoring and evaluation was estimated and budgeted at 5% of the overall budget.
6. The funds remaining after funding the Low Income program are allocated between customer classes in proportion to contributions to SBC revenues (39.3% residential, 60.7% Commercial & Industrial);
7. A set aside was reserved for a shareholder incentive. The actual incentive will be based on the methods approved by the New Hampshire Public Utilities Commission. Two separate calculations are required. The first applies to the Smart Start Program and is based on 6% of Smart Start loans repaid<sup>15</sup>. The second applies to all other programs and is based on the calculations recommended by the Energy Efficiency

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<sup>15</sup> Docket DE 01-080, Order No. 23,851, November 29, 2001, Section III, page 19.

Working Group and approved by the Commission. The Shareholder Incentive section of this document covers this calculation in more detail. The incentive set aside for Smart Start is included in the Smart Start budget. The set aside for the remaining programs was estimated at 8%<sup>16</sup>; the budget includes separate line items for the estimated commercial and residential incentives.

In addition there are several factors that could impact the budget during implementation of the CORE Programs including:

8. Any difference between the actual spending level achieved in the 2008 CORE Programs and the System Benefits Charge revenues collected will be allocated to future year program budgets.
9. PSNH plans to monitor spending in each of the programs and propose adjustments as necessary (e.g. in response to customer demand) in accordance with the guidelines proposed in the Executive Summary of this filing.
10. PSNH will accrue interest<sup>17</sup> monthly at the prime rate on the average net balance of the SBC revenues less funds expended for programs and services.
11. PSNH's budget and SBC revenues are based on sales projections. Actual sales may differ resulting in proportionately more or less SBC revenue available for energy efficiency programs. Budgets will be adjusted to reflect actual sales.

The budget is presented in Attachment H.

#### B. Availability of C&I Programs

PSNH proposes to offer the CORE and Utility specific programs to all of the Company's commercial and industrial customers except for those taking service under Backup Delivery Service Rate B. Rate B is designed for customers who require backup and maintenance delivery service, but who normally provide their own generation during which time they make no contribution to the System Benefits Charge.

#### C. Customer Installed Generation

PSNH's commercial and industrial customers who supply a portion of their energy needs through means which by-pass their meter and for which no System Benefits Charge revenues are collected will qualify for services and incentives offered as part of the state-wide energy efficiency programs with certain restrictions. The energy supply could be generation installed by the Customer or another party on the customer's side of the meter. However, the restrictions noted below apply regardless of the source of the energy (collectively referred to here as "customer generation").

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<sup>16</sup> More precisely, this calculation is based on 8% of the non-incentive portion of the budget in accordance with the Energy Efficiency Working Group Report which states on page 21, part 3f, " For incentive calculation purposes only, 'planned energy efficiency budget' is defined as the total program budget minus shareholder incentives..."

<sup>17</sup> DE 96-150, Order 23,574, November 1,2000, page 25.

- Customer generation which exceeds 50% of the customer's annual maximum kW demand ("Demand") will not qualify for services and incentives.
- A customer's maximum incentive will be based on the net of their demand less the name plate rating of the customer generation. For example, a Rate GV customer with a demand of 150 kW who installs 60 kW of generation will be capped at the incentive available to Rate G customers. The table below depicts incentive levels for commercial and industrial customers. Incentives are limited to the customer's end uses and may not be applied to the generation equipment.
- Customers who install generation within one year of the date they install measures for which they receive a monetary incentive must refund any difference between the incentive received and the incentive for which they would qualify after installing generation. Any such amount would be repaid within 60 days of PSNH's request for payment.

This policy does not apply to customer generation used for emergency supply during service outages on PSNH's transmission and distribution system. The customer may periodically test emergency generators and may participate in a PSNH demand reduction program using the customer's emergency generation. In addition, customer generation which meets the requirements for net metering are not subject to the restrictions noted above.

**D. Incentive Caps on C&I Programs**

In order to manage the overall budget and to help achieve an equitable distribution of program funds, PSNH proposes the following annual caps on the level of incentives offered to any individual customer:

<b>Customer Classification</b>	<b>Retrofit Programs Annual Cap</b>	<b>New Construction Cap Annual Cap</b>
Rate G Customers (100 kW and below)	\$50,000	\$50,000
Rate GV Customers (101 kW to 1,000 kW)	\$50,000 plus \$5,000 for each GWH <sup>18</sup> above 1 GWH	\$100,000
Rate LG Customers (in excess of 1,000 kW)	\$100,000 plus \$1,000 for each GWH above 10 GWH	\$150,000

The retrofit caps apply to the total of all retrofit program incentives paid. Retrofit and New Equipment & Construction incentives are independent of one another. Customers selected to participate in the C&I RFP Pilot Program described below in Section I may earn additional incentives and are not limited by the annual incentive caps shown above.

<sup>18</sup> GWH – a gigawatt-hour (equal to 1,000,000 kilowatt-hours). The cap will be based on the customer's GWHs for the preceding calendar year. For new or expanding facilities, the cap will be based on the estimated annual usage.

## E. Smart Start Program

### **Overview:**

The Smart Start Program provides customers with an opportunity to install energy saving measures with no up front costs and to pay for them over time with the savings obtained from lower energy costs. Under the program, PSNH pays all of the costs associated with the purchase and installation of approved measures. A Smart Start Delivery Charge, calculated to be no more than the monthly savings, is added to the monthly electric bill until all costs are repaid. The program is designed to overcome many of the traditional barriers to energy efficiency projects including: high first cost, customer uncertainties related to achieving energy savings, customer reluctance to install measures if there is a possibility of moving from the premise before benefiting from the efficiency project, and the so-called "split incentive" where a landlord gets little return on an investment that reduces a tenant's energy costs and a tenant has no incentive to invest in their landlord's building.

### **Delivery:**

PSNH plans to continue offering Smart Start to municipal customers. Company personnel will meet with municipal customers to inform them of the program, identify potential projects, and to make Smart Start offers. Smart Start offers may be combined with other energy efficiency programs for which the customer is eligible.

This program provides eligible customers with an opportunity to purchase energy efficient products and services with no up-front costs.

### **Budget:**

Program Implementation

2008	2009
\$50,000	\$50,000

### **Measures of Success & Market Transition Strategy:**

Success factors for this program include attaining the planned participation goal, achieving high customer satisfaction ratings, and having a low default rate on Smart Start loans.

F. ENERGY STAR® Homes Program Enhancement: Geothermal Option

**Overview:**

This enhancement will provide an incentive for customers to install geothermal heat pumps as part of the ENERGY STAR Homes Program.

**Delivery:**

Delivery would be coordinated with the CORE ENERGY STAR Homes Program. Geothermal systems contractors would provide the services specific to this option.

**Goals/Benefits:**

	2008	2009
Estimate number of customers to be served	34	40
Projected lifetime kWh savings:	15,282,147	16,723,166
Projected Benefit/Cost Ratio:	1.18	1.48

According to the Environmental Protection Agency, geothermal systems are the most energy efficient, environmentally clean, and cost efficient space conditioning systems available". PSNH has been a strong supporter of geothermal systems in New Hampshire since 1994. More than 400 New Hampshire builders, contractors, and vendors have participated in earlier programs and this infrastructure is growing as evidenced by customer demand and the turn out at forums such as the most recent geothermal heat pump manufacturer's training sessions as well as interest in the International Ground Source Heat Pump Association's upcoming accredited installer program. This enhancement to the ENERGY STAR Homes Program is important to the continued viability and growth of geothermal systems in New Hampshire.

**Budget:**

January 1 - December 31, 2009 Budget:	\$316,410	\$346,769
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**Measures of Success & Market Transition Strategy:**

Success factors for this program include attaining the planned participation and energy savings goals. The geothermal option would be available for the duration of the ENERGY STAR Homes Program.

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<sup>19</sup> <http://www.ghpc.org/home.htm>

## G. Education Enhancement - C&I Customer Partnerships

### **Overview:**

Partner with up to five customer groups to provide focused education to members on energy efficiency technologies and opportunities available in NH.

### **Delivery:**

There is no set format envisioned for this proposal; it is intentionally left open to accommodate a wide range of opportunities. However, a few examples may serve to illustrate the type of partnerships undertaken so far.

In 2008, PSNH partnered with:

- ✓ the New Hampshire Community Technical Colleges to provide training and educational tools and equipment to reinforce the infrastructure for energy efficiency in New Hampshire and provide hands-on experiences for the next generation of energy auditors. For example, a Blower Door Tester was purchased for the Lakes Region Community College to teach student show to find air leaks in homes and buildings. A Cellulose Insulation Blower is being purchased for the Manchester Community College to provide students with hands-on experience using the newest techniques in insulating homes. This equipment will allow the technical colleges to help train future energy efficiency professionals on the most current practices and technologies.
- ✓ the NH Lodging & Restaurant Association in the development and implementation of a "sustainable lodging" program. The goal of the program was to work with the state's lodging and restaurant industry to address energy efficiency, waste stream management, and water usage. The program specifically targets the needs of the restaurant and lodging industry in New Hampshire through Seminars, Newsletters, and the installation of efficiency measures.

### **Goals/Benefits:**

In its order<sup>20</sup> approving the CORE Programs, the Commission expressed interest in finding innovative approaches for market transformation. PSNH believes this proposal provides an opportunity to work with customers and other parties to develop alternatives to traditional approaches.

	2008	2009
<b>Budget:</b>		
January 1 - December 31, 2009 Budget:	\$30,000	\$30,000

### **Measures of Success & Exit Strategy**

Specific success factors will vary depending on the partnership; however, in general, the goal will be to advance the partnership to a point where it can become self-sustaining.

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<sup>20</sup> Order No. 23,850, November 29, 2001, page 18

## H. C&I RFP Pilot Program for Competitive and Economic Development

### **Objective:**

To promote competitive market development in the energy efficiency industry by encouraging third parties to bid for energy efficiency projects on a competitive basis. The RFP Pilot Program is aimed at energy efficiency potential from large C&I projects that are not participating through other existing energy efficiency programs.

### **Target Market:**

The minimum customer size is 350 kW of demand, the minimum project energy saving is 100,000 kWh per year (can be aggregated sites), and the minimum total project cost is \$200,000. C&I customers of PSNH, energy service companies<sup>21</sup> and other third party service providers representing C&I customers are eligible to participate in this program.

The respondents to the RFP can be any PSNH customer<sup>22</sup>, or organization, group or individual representing a PSNH customer who contracts with PSNH to provide energy savings from an approved energy efficiency project. It is expected that bidders typically will be of two types:

1. customers with significant in-house technical capability, or
2. customers allied with firms that specialize in implementing energy efficiency projects and have a staff of professionals trained to identify energy efficiency opportunities, calculate potential savings, design system modifications, manage construction and installation of energy efficiency measures, and measure energy savings.

### **Services Offered:**

The program offers incentives for measurable energy savings achieved by the installation of energy efficiency measures as specified in a project agreement. Eligible improvements include energy-efficient equipment, products, and measures that are cost-effective according to the criteria established by the NH Energy Efficiency Working Group and approved by the NHPUC. The estimated savings are verified using approved protocols. The estimated savings are measured based on the difference between the energy use of the new versus the existing customer equipment.

Some eligible measures include replacing standard fluorescent lighting with high efficiency fluorescent lighting, installing variable speed drives on motors, installing lighting controls to reduce lighting operating hours, and replacing low efficiency air conditioning equipment with high efficiency equipment.

Measures that are not eligible include new construction projects, any power-producing project such as cogeneration, switching from electric energy to another fuel (fuel switching), and any repair or maintenance project.

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<sup>21</sup> Contractors involved in the implementation of PSNH's C&I energy efficiency programs are ineligible to participate in the RFP Pilot.

<sup>22</sup> Except for Rate B customers (see Availability under C&I Program Descriptions).

Because one of the program's goals is to assess the degree to which projects require incentives, this program will not have published incentives. Each proposal will need to identify the required incentive amount. All bids are evaluated based upon a comparison of energy savings and other price and non-price variables. Non-price variables include such factors as whether the project includes items other than lighting (HVAC and process) and whether the environmental impacts reduce on-site emissions or waste stream impacts. All projects must be qualified on the basis of established cost-effectiveness criteria.

The RFP solicits responses for proposals in two tracks, a Project Track and a Study Track. The Project Track seeks proposals that can be developed in a short period of time and still have sufficient detail to accurately estimate energy savings, project costs, and other parameters. The Study Track seeks proposals for projects which appear to have sufficient energy savings, but need additional study due to complexity, engineering study costs, or other reasons.

**Incentive Strategy:**

Incentives are intended to be market driven in that bidders (or potential participants) request the incentive level that is needed to implement a retrofit or replacement energy efficient project. If their incentive bid is too high or their project savings are too low, a competing project will be awarded the limited program funds.

**Delivery:**

Potential bidders are invited to an annual bidders conferences" to learn how to participate in the program. PSNH will provide information on this program and these sessions to companies greater than 200 kW peak demand who might qualify either individually or on an aggregated basis. Potential third party energy service companies will also be notified. Collateral materials will be made available to educate these groups on the RFP Program.

**Goals/Benefits:**

	2008	2009
Estimated Number of Customers to be served:	<b>3</b>	3
Projected lifetime kWh savings:	27,376,636	13,287,932
Projected Benefit/Cost Ratio:	3.01	1.97

This program is designed to foster competition and to stimulate the development of innovative energy efficiency projects. It will also provide an opportunity to incent larger projects that might not be pursued because of funding "caps" in other programs. And finally, it will provide the data needed to assess whether or not the incentive levels in the other C&I programs are set appropriately. For example, if bidders in the RFP program consistently seek incentives lower than those offered in the CORE C&I programs, it may be possible to lower the CORE incentive levels.

**Budget:**

January 1 - December 31, 2009 Budget:

\$519,350      \$475,726

**Measures of Success & Market Transition Strategy:**

Success factors for this program include: attaining the planned participation and energy savings goals, and generating a high level of interest among customers and contractors that results in a competitive bidding process.

A decision to discontinue this program will be based on factors such as customer/contractor participation, incentive level requirements, and project level details (e.g. innovative energy efficiency measures vs. lighting only projects). PSNH staff will review the success of this program annually.

**UNITIL ENERGY SYSTEMS, INC.**

**A. Energy Efficiency Website**

**Overview:**

In addition to the CORE programs, Unitil Energy Systems, Inc. ("UES" or "Company") will continue to maintain and enhance as needed, its existing energy efficiency-related ("EE) website and web-based energy use analysis application.

The Company's website provides customers with easy access to energy efficiency-related information and educational materials. Energy savings tips, programs materials and contact information are provided for both the residential and commercial customers.

Customers are also provided with on-line tools which allow them to explore how they use energy in their homes and businesses. The HomeEnergySuite™ ("HES") features an interactive house to help customers understand where and how energy is used in the home and a home energy calculator that allows residential customers to estimate energy use and costs based on inputs. Other tools in the HES include appliance and lighting calculators, a residential energy library, the Fundamentals of Electricity module, and the popular Kids Korner. The CommercialEnergySuite™ ("CES") module helps commercial customers, primarily small-to-medium-sized, understand their energy use and find ways to reduce their operating costs. CES includes an energy calculator (ComCalc) and reference libraries of technical information about commercial buildings and energy use, including the Understanding Demand library.

**Implementation / Delivery:**

Implementation will consist of maintaining and updating the energy efficiency-related website content and the HomeEnergySuite and CommercialEnergySuite. Additionally, the Company is reaching out to primary school educators to make them aware of the resources available to them in our "Teacher Feature" module of Kids Korner.

**Goal and Benefits:**

This program offers residential and small-to-medium commercial customers a convenient way to examine their energy use and better understand their energy costs. To the extent it can eliminate on-site audits, it is a relatively inexpensive way to provide customers with the information they need to control their energy use. It also provides an alternative option for customers who may not be ready to make energy efficiency investments or simply wish to make improvements on their own.

**Program Budget:**

	2008	2009
January 1 - December 31, 2009 Budget:	\$39,000	\$38,500

**Measures of Success:**

Success for this education enhancement will be measured by the number of participants ("hits" on the site) and customer feedback on their experience with the on-line resources.

## IV. MONITORING & EVALUATION

### A. MONITORING AND EVALUATION PLAN

A settlement agreement about Core program efforts in 2006 approved by the New Hampshire Public Utilities Commission on March 17, 2006 (Order No. 24,599 in DE 05-157) transferred responsibility for monitoring and evaluation efforts from the Utilities to Commission Staff. Under that agreement, the Commission agreed to seek input and advice from the utilities on monitoring and evaluation and to also coordinate efforts with the Utilities' Core programs implementation efforts. In addition, there was also agreement:

(1) to provide utilities with the opportunity to comment on preliminary study findings and results prior to publication, (2) to invite interested parties to attend and provide input at evaluation presentations, (3) to permit utilities, on a case-by-case basis considered in light of study design, costs, schedule and similar issues, to participate in regional monitoring and evaluation studies as well as studies conducted by multi-jurisdictional utilities, and (4) that the Commission would aggressively pursue all available means to protect customer confidential information as permitted by the Right-to-Know Law, RSA 91-A, given that monitoring and evaluation studies frequently require access to such information. (Order No. 24,599, Page 5)

The Commission Staff and the Utilities collaboratively work together to prioritize the M&E needs of New Hampshire. For 2009, the Utilities have identified two areas as priority: (1) Establishing a Multi-Year Evaluation Plan that addresses the needs of New Hampshire as well as the Forward Capacity Market; and (2) a study to characterize the market for ENERGY STAR® appliances rebated in the State.

The 2008 M&E focus has been on a study to evaluate the potential for cost-effective energy efficiency investments in the residential, small commercial, large commercial and industrial classes in New Hampshire. This study is underway and is scheduled to be completed during the 4<sup>th</sup> quarter of 2008.

In 2008, as in 2007, New Hampshire joined in several studies that were initiated as part of the State Program Working Group's (SPWG) effort to facilitate collaboration among New England states who must conduct Measurement & Verification activities as required by the ISO-NE for participation in the Forward Capacity Market. The following studies commenced or were completed in 2008:

1. RLW Analytics, Inc., *Coincidence Factor Study for Residential Room Air Conditioners*, June 23, 2008.
2. Nexus Market Research, Inc., RLW Analytics, Inc., *Residential Lighting Measure Life Study*, June 4, 2008.

3. RLW Analytics, Inc., Review of ISO-New England Measurement and *Verification* Equipment Requirements, June 2008.

Other studies may be conducted in 2009 as a result of SPWG collaboration. New Hampshire may also participate in and support the efforts of Northeast Energy Efficiency Partnership's (NEEP) Regional Evaluation, Measurement & Verification Forum as well as appropriate projects initiated by this Forum.

Additionally, an updated avoided energy supply cost study (conducted jointly on a regional basis) was completed in 2007 for use in supporting 2008 and 2009 planning efforts. Avoided energy supply costs are typically updated on a regional basis every two years, so it is anticipated that an update to the 2007 results will be conducted in 2009.

Other New Hampshire utility-specific studies initiated or completed in 2008 include:

1. PA Consulting Group, *2007 Commercial and Industrial Programs Free-ridership and Spillover Study*, June 23, 2008.
2. RLW Analytics, Inc., *Sample Design and Impact Evaluation Analysis of the 2007 Custom Program*, July 20, 2008.
3. Demand Management Institute, *Impact Evaluation of 2006 Custom Process Installations – Part I*, May 2, 2008.
4. SBW Consulting, Inc., *Impact Evaluation of 2006 Custom Process Installations – Part II*, June 20, 2008.
5. UTS Energy Engineering, LLC, *Impact Evaluation of 2006 Custom Process Installations – Part III*, June 24, 2008.
6. Demand Management Institute, *Impact Evaluation of 2005 Custom HVAC Installations – Part I*, February 27, 2008.
7. SAIC, *Impact Evaluation of 2005 Custom HVAC Installations – Part II*, July 10, 2008.
8. RLW Analytics, Inc., *Coincidence Factor Study, Residential and Commercial Industrial Lighting Measures*, Spring 2007.
9. Michael Ozog, Summit Blue Consulting, LLC, *Large Commercial and Industrial Retrofit Program, Impact Evaluation*, 2007.
10. Michael Ozog, Summit Blue Consulting, LLC, *Multiple Small Business Services Programs, Impact Evaluation*, 2007.

## **B. REPORTING**

Beginning in 2002, the NH Electric Utilities have worked with Parties and Staff to refine the NH CORE Energy Efficiency Quarterly Reports that are used to help gauge the progress of both the CORE Programs and the Utility Specific Programs. These reports provide information on the progress towards goals of each program by utility and in aggregate. These quarterly reports are defined as follows:

1. **"CORE NH Program Highlights"** compares program goals to actual accomplishments and includes data about progress toward achieving program goals, including actual expenditures, participation, and lifetime kWh savings.
2. **"Budget Details Report"** provides a series of pie charts illustrating program and sector (e.g. residential and commercial/industrial) expenditures by the program tracking activities defined on the next page.
3. **"Home Energy Assistance Program Report":**
  - states the number of single family homes and the number of multi-family units that received energy efficiency measures and services for that quarter.
  - identifies the county where energy efficiency services were provided and includes the number of units in the county where such services were provided or measures installed.
  - identifies for each Electric Utility and for the state in total, the number of projects completed, the number of jobs funded by both CORE and DOE, the cumulative collaborative DOE expenditures, the cumulative collaborative CORE expenditures, and the cumulative non collaborative CORE expenditures.
  - provides a breakdown of the types of measures installed and services provided sorted by county, utility, and dwelling type (e.g. single or multi-family).
  - provides a breakdown of completed jobs by county and contractor type (e.g. Local CAA, Outside CAA, Private Contractor).
  - includes an action plan for any utility that is below its quarterly production goals by more than 20%. The action plan shall include revised production goals. The subsequent quarterly report shall report on the status of the revised production goals.

These reports will be submitted to the Commission with copies to the Parties and Staff in advance of quarterly meetings of the CORE Management Team with Parties and Staff.

### Program Tracking Activities

Tracking Activity	Description
ADMINISTRATION – INTERNAL	Used to track all internal utility costs associated with program design, development, regulatory support, and quality assurance. Costs captured in this activity include: employee labor, benefits, expenses, materials, and supplies
ADMINISTRATION – EXTERNAL	Used to track the total cost of contractors and consultants used in support of program design, development, regulatory support, and quality assurance. Captures all of the utility's external costs associated with program administration.
CUSTOMER REBATES & SERVICES	All rebate dollars paid directly to customers as well as "indirect" payments to customers such as discounted prices. Also includes all costs directly attributable to providing energy efficiency services to customers (e.g. technical audits, employee and contract labor for installing efficiency measures, expenses, materials, and supplies).
INTERNAL IMPLEMENTATION SERVICES	Used to track the utility's internal costs associated with delivering program services to customers. Costs captured in this activity include: employee labor, benefits, expenses, materials, and supplies.
MARKETING	Used to track all costs associated with marketing, advertising, trade shows, toll free numbers, and WEB site. Costs captured in this activity include: labor, benefits, expenses, consultants, contractors, materials, and supplies.
EVALUATION	Used to track all costs associated with monitoring and evaluation. Costs captured in this activity include: labor, benefits, expenses, consultants, contractors, tracking systems, materials, and supplies.

## V. Shareholder Incentive Methodologies

### Basic Calculation

The NH Electric Utilities are allowed to earn a portion of their energy efficiency budget as an incentive "to motivate companies to achieve and exceed program goals." NHPUC Order No. 24,203, at 13 (September 5, 2003). The formula used to calculate this incentive was initially proposed by the Energy Efficiency Working Group in its final report and the Commission adopted the formula in its order regarding Electric Utility Restructuring – Energy Efficiency Programs, 85 NHPUC 684,694 (2000) and approved the formula in Order No. 23,982 (May 31,2002) regarding the CORE Energy Efficiency Programs. Most recently, the Commission found that "the present incentive mechanism provides a just and reasonable balance between the interest of shareholders and the interest of customers." Order No. 24,203, at 13 (September 5,2003)

Three factors influence the incentive: (1) the size of the budget, (2) the ratio of the actual Benefit-to-Cost Ratio achieved to the predicted Benefit-to-Cost Ratio, and (3) the ratio of the kWh savings achieved to the predicted kWh savings. The basic formula is:

$$\text{INCENTIVE} = [4\% \times \text{BUDGET}] \times [(\text{BC}_{\text{ACT}}/\text{BC}_{\text{PRE}}) + (\text{kWh}_{\text{ACT}}/\text{kWh}_{\text{PRE}})]$$

Where:

- INCENTIVE -Shareholder incentive in dollars
- BUDGET – Total dollars budgeted less the shareholder incentive
- BC<sub>ACT</sub> - Actual Benefit-to-Cost ratio achieved
- BC<sub>PRE</sub> - Predicted Benefit-to-Cost ratio
- kWh<sub>ACT</sub> - Actual Lifetime Kilowatt-hour savings achieved
- kWh<sub>PRE</sub> - Predicted Lifetime Kilowatt-hour savings

### Residential and Commercial/Industrial Incentive Components

The shareholder incentive is made up of a residential component and a commercial/industrial component. The residential component is determined by summing the budgets and kWh savings and calculating a combined program benefit-to-cost ratio for residential programs. These values are then used in the formula above to determine an overall residential incentive. Programs included in the residential calculation are as follows: Home Energy Solutions, Low Income Energy Efficiency (Home Energy Assistance), ENERGY STAR® Homes, ENERGY STAR® Lighting, ENERGY STAR® Appliances and any utility specific programs. The commercial/industrial component is determined in an analogous manner. Programs included in the commercial/industrial calculation are as follows: New Equipment & Construction, Large C&I Retrofit, Small Business Energy Solutions, Education, and any utility specific programs.

## Avoided Costs

The NH Electric Utilities requested and the NHPUC **approved**<sup>23</sup> the use of a single avoided cost methodology for Generation, Transmission, and Distribution. In determining the Benefit-to-Cost ratio, the NH Electric Utilities used the avoided generation costs from the 2007 *Avoided-Energy-Supply Costs in New England*<sup>24</sup>.

For the avoided Transmission and Distribution costs, we used the weighted average of all the NH Electric Utilities costs. Refer to Attachments B and C for additional information on avoided costs.

Other assumptions used in determining the future and present values of benefits include inflation at 1.98%<sup>25</sup> per annum and a nominal discount rate of 5.00%<sup>26</sup>.

## Threshold Conditions

There are three threshold conditions that apply to the shareholder incentive calculation. Specifically,

1. The combined benefit-to-cost ratio for residential programs must be 1.0 or greater. If not, there is no incentive associated with program cost effectiveness. The **commercial/industrial** component is calculated similarly.
2. The actual lifetime kWh savings for the residential programs must be 65% or greater than the predicted lifetime kWh savings; otherwise, there will be no incentive associated with kWh savings. Kilowatt-hour savings for the **commercial/industrial** component are treated similarly.
3. The Residential and **Commercial/Industrial** components are calculated separately and are independent of one another. The residential incentive component is capped at 12% of the combined budget for residential programs. The **commercial/industrial** component is calculated similarly.

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<sup>23</sup> DE 01-057, Order No. 23,850, November 29,2001, page 19.

<sup>24</sup> *Avoided Energy Supply Costs in New England*, August 2007.

<sup>25</sup> Used the Gross Domestic Product: Implicit Price Deflator and calculated the difference between the April 1, 2006 and April 1, 2007 rates. See <http://research.stlouisfed.org/fred2/datdGDPDEF.txt>

<sup>26</sup> Prime rate as of June 1,2007, in accordance with Energy Efficiency Working Group Report, Section 7, page 17. Prime rate data taken from <http://www.nfsn.com/library/prime.htm>.

### Potential Earnings: Shareholder Incentive Set Aside

The NH Electric Utilities have set aside a portion of their budget for the shareholder incentive. The Energy Efficiency Working Group Report states, "For incentive calculation purposes only, 'planned energy efficiency budget' is defined as the total program budget minus shareholder incentives<sup>27</sup> ..." To comply with this, the NH Electric Utilities budgeted for an 8% shareholder incentive as follows:

$$\text{INCENTIVE} = 8\% \times [\text{BUDGET}_{\text{ToT}} - \text{INCENTIVE}]$$

Where:

INCENTIVE - Shareholder incentive in dollars

BUDGET<sub>ToT</sub> - Total dollars budgeted

Solving this equation for the shareholder incentive:

$$\text{INCENTIVE} = 0.074074 \times \text{BUDGET}_{\text{ToT}}$$

### Smart Start Shareholder Incentive

A different methodology has been adopted by the Commission for determining the Smart Start shareholder incentive. It is calculated as 6% of loans repaid. PSNH and NHEC have included the Smart Start incentive set aside in their program budgets.

### Shareholder Incentive Calculations

Attachments D, E, F, and G present each utility's calculations for cost effectiveness, shareholder incentive, planned benefit-to-cost ratios, and planned energy savings for each program.

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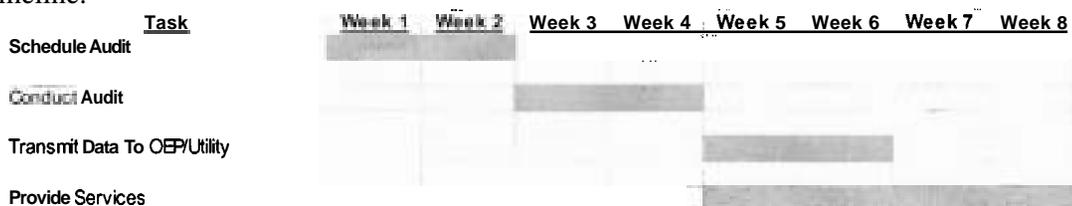
<sup>27</sup> DR 96-150, Energy Efficiency Working Group Report, July 6, 1999, page 21, part 3f.

## VI. Attachments

### ATTACHMENT A: CORE/WXN COLLABORATION IMPLEMENTATION PLAN

#### Project Timeline

While each customer situation may be different, the CAAs will make every effort to contact a customer within two weeks of the time the customer is assigned and to work with the customer to conduct all necessary audits within four weeks, and to complete the installation of all approved measures within eight weeks. The following illustrates the typical project timeline.



#### Implementation Targets:

Initial Contact Customer:	2 weeks
Lead Assignment to Invoice Submittal:	8 weeks (on average) Up to 10 weeks (with exceptional conditions) Over 10 weeks – CAAs must submit customer specific documentation explaining the reason(s) for the extended timeline. No case should exceed 12 weeks.

#### Program Outline

##### Customer Intake

*This step produces a prioritized list of eligible customers from the combined intake efforts of the Wxn and CORE programs. Eligibility for CORE includes customers who meet the eligibility criteria for participation in the Electric Assistance Program, the Fuel Assistance Program, the DOE Weatherization Program or anyone living in subsidized housing. Customers who are eligible for DOE Weatherization and who authorize any required data sharing between their Utility and CAA, will be eligible for funding from both programs. See the Customer Intake Process diagram below for additional detail.*

- a) CORE Customers (Utility Marketing)
  - i. Marketing priority is based on (first priority) electric heat and (second priority) high usage, and then to all EAP participants
  - ii. Utilities send marketing package with Customer Reply Card
  - iii. Interested customers request services by returning Customer Reply Card
- b) Direct inquiries to Utilities from customers not participating in the EAP
  - i. Customers accepted based on (first priority) electric heat and (second priority) high usage
  - ii. Customer's eligibility is verified by CAA.
  - iii. Customer is notified of eligibility outcome.
- c) Weatherization Program Customers (CAA Marketing)

- i. Customers are prioritized in accordance with DOE Wxn Program rules (e.g. elderly, young children, persons with disabilities, households with high energy burden), and as needed, to meet CORE prioritization requirements described in Section (a)(i) above.
- ii. Customers will be given an opportunity to request services from both Wxn and the CORE energy efficiency program and authorize required data sharing.

## 2. Work Scheduling

*In this step eligible customers are assigned to a CAA, and an audit is scheduled. Every effort will be made to contact the customer within a two week period to schedule the audit at a mutually agreeable time.*

- a) Utility assigns jobs to CAA. Alternatively, Utility may request CAAs to develop leads and initiate A-lead jobs<sup>21</sup> from the Wxn waiting list. CAAs initiate B-lead jobs<sup>29</sup> from the Wxn waiting list.
- b) CAA prescreens customer (e.g. electric heat? high use? still at this address?, previously served? any remaining opportunities? Etc.)
- c) Utility assigns all customers who will receive CORE program services and who pass the prescreen regardless of how they were brought into the program (EAP list, direct inquiry, and Wxn customers). *[Note: Based on field experience, this step may be moved to a point after the audit if it can simplify overall implementation of the program.]*
- d) CAA schedules audit within two weeks of job assignment.
- e) CAA notifies Utility of audit schedule date.
- f) If audit is not scheduled within two weeks, Utility may elect to reassign job to another CAA or a non-CAA contractor, approved by the Utility and trained in low income program delivery.

### Conduct Audit

*In this step the CAA will conduct all necessary home audits as detailed below, the initial blower door and combustion air zone testing as appropriate, and provide the customer and the Utility with their report. The home visit is typically completed within four weeks of assigning the job; report distribution may take longer as noted below.*

- a) For A-lead jobs that include weatherization services, the audit software creates a list of cost effective measures to install.
- b) For B-lead jobs conduct **Baseload** Audit which will identify measures such as refrigerator replacement, CFLs, etc. The Utility provides a list of predetermined cost effective measures to install.
- c) Auditors will also identify any health and safety items **and/or** customer education that need to be addressed.
- d) The auditor will review the preliminary audit results with the customer **and/or** landlord, and if appropriate, seek written customer approval to provide weatherization services.

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<sup>28</sup> Jobs where CORE pays for conservation measures, i.e. wall insulation, air sealing, baseload etc. and DOE pays for health & safety and repairs (For details see Section on Project Funding).

<sup>29</sup> Jobs where DOE pays for non-baseload conservation measures, wall insulation, air sealing, health & safety, and repairs and CORE pays for baseload (For details see Section on Project Funding).

- e) Audit data is sent electronically to Utility within six weeks of the time the job is assigned.
- f) During the home visit, the CAA auditor identifies energy saving actions the customer can take and provides appropriate educational materials.
- g) A report is provided to customer/landlord within two weeks of the home visit and details the list of proposed services to be provided.

#### 4. Provide Services

*This step includes the installation of measures, continuing customer education, the inspection of all completed work, customer signoff, and invoicing.*

- a) All services, final inspections, and invoicing will typically be completed within eight weeks of authorization to provide services.
- b) CAA conducts final inspection on all jobs. Final inspection includes:
  - i. Post-completion blower door and combustion air zone test
  - ii. Review of all work completed by sub contractors to ensure compliance with program specifications
- c) CAA delivers education component of program including:
  - i. Energy efficiency materials (as appropriate, may be covered in step 3.f above)
  - ii. Review the "as installed" measures and audit report with the customer/landlord
- d) Obtain customer/landlord acknowledgement and approval of the services provided.
- e) When job (including Final Inspection) is complete, CAA electronically sends job completion report and invoice to Office of Energy & Planning (OEP) and Utility as appropriate.
- f) A customer satisfaction survey is mailed to the customer; survey results are shared by the Utility and OEP as appropriate.

#### 5. Quality Assurance

*This step provides overall assurance that services are delivered in compliance with all program requirements.*

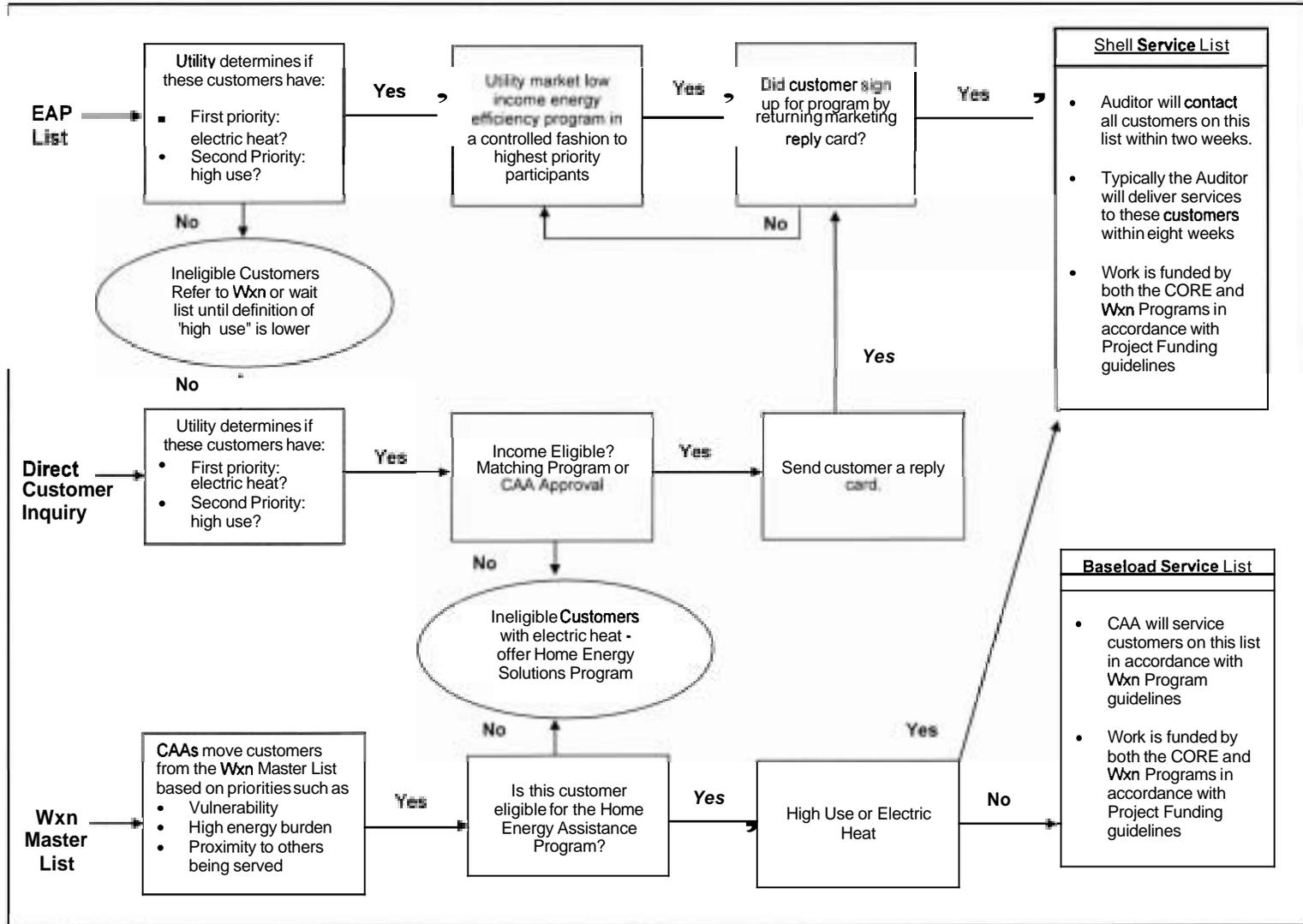
- a) To ensure compliance with federal auditing requirements, OEP personnel will inspect a sampling of all jobs receiving Wxn funding. The Utilities will coordinate their QA activity with OEP when possible to avoid duplicate inspections of the same premise.
- b) QA will typically be conducted on a minimum of 10% of all jobs – more as deemed necessary.

#### 6. Job Closeout

*This step includes follow-up on any customer concerns and invoice payment.*

- a) Follow-up on any call back or QA concerns before processing invoices for payment.
- b) Review and pay CAA invoices. Check for errors such as "double billing."
- c) Process Customer Satisfaction Surveys.

## Customer Intake Process



**Project Funding**

Measures will be funded based on the table below. The current program "caps" are \$5,000 for the CORE low income program and \$2,500 for Wxn.

Measure Description	Funding Source	
	Shell	Baseload
Health & Safety	CORE/DOE <sup>30</sup>	DOE
Repair/Replace Non-electric Heating system <sup>31</sup>	DOE	DOE
Refrigerator	CORE	CORE
Lighting	CORE	CORE
Weatherization Services	CORE	DOE
Repair/Replace Electric Heating System <sup>32</sup> & Controls	CORE	CORE
<i>Additional Measures As They Are Defined</i>	<i>To Be Determined</i>	<i>To Be Determined</i>

**CORE Program Auditor Training**

All program auditors will be trained in the following areas. Training will be coordinated with utilities, OEP, and software vendor(s) to insure continuity, efficiency and consistency:

- a) Sensitivity to low income customer's needs and guidelines for safe professional behavior in the low income community
- b) Health and safety protocols related to Wxn will be reviewed and emphasized
- c) Health and safety elements relating to appliances will be covered in depth
- d) In-depth appliance diagnostics training
- e) Training on customer education including how adults learn and how best to motivate customers to conserve.
- f) Elements (b) through (e) must be coordinated with appliance software training and must thoroughly address the elements in the Customer Education Specifics Chart.
- g) Auditing software and the process for communicating data to the Utilities.

The training will be offered as needed to accommodate new staff and changing program requirements. Costs for training may be shared between OEP and the Utilities.

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<sup>30</sup> In the event the work is assigned to a non-CAA contractor or DOE funds are not available, CORE funds may be used for Health & Safety measures.

<sup>31</sup> Applies to qualifying systems fired by oil, propane, and solid fuels.

<sup>32</sup> Applies to electric heating systems only (for National Grid, does not apply to thermal storage or heat pump systems).

### **Training For Customer Service Representatives**

Utility Customer Service Representatives will be trained to handle customer inquiries regarding the CORE/Wxn program as well as other related programs designed to assist low income customers such as the Electric Assistance Program, the Fuel Assistance Program, and winter protections.

### **Low Income Customer Education and Training**

Customer education will include a review of the customer's energy usage, and ways to reduce the energy usage. The auditor will discuss advantages of efficient lighting and appliances as well as life style changes that could reduce energy usage. The auditor will also discuss the weatherization opportunities in the customer's home. The booklet *Practical Tips for Saving Energy & Money at Home*, will be provided to all program participants. Written materials will be available in English, Spanish, and other languages as appropriate.

### **Capacity Planning**

The tables on the next page depict (1) the Quarterly Production Schedule for each Utility and (2) the year end Job Distribution By County and By Utility.

The Utilities are committed to working with OEP and the CAAs to ensure there are sufficient qualified CAA personnel to meet program goals. If problems develop, the Utilities will address them with the CAAs and OEP before reassigning work to non-CAA contractors. It is understood that OEP cannot reimburse non-DOE approved subgrantees, and this must be taken into account in any work reassignment plan. For example, this would create significant problems in reassigning work that is already in progress. As such, to the extent non-CAA contractors were required to meet program goals, they would likely be given work that had not yet been assigned.

### **Maximizing Potential Benefits To Income Eligible Customers**

The fundamental principle underlying the collaboration with the Community Action Agencies (CAAs) is that by working together, it will be possible to bring more services to more low income customers. As detailed in the Project Funding Table above, both Shell and Baseload jobs will be jointly funded by CORE and DOE dollars for all jobs implemented by the CAAs. The following table details the quarterly production schedule as well as the annual distribution of jobs by county and utility.

## Low Income CORE & Wxn Participants by County

### 2009 HEA Quarterly Production Schedule

Utility	Total Jobs	1st. Qtr.	2nd. Qtr.	3rd. Qtr.	4th. Qtr.
		24%	25%	26%	25%
Unitil	76	12	16	22	26
NGRID	55	13	17	16	9
NHEC	46	11	11	14	10
PSNH	514	128	127	129	130
<b>TOTAL</b>	<b>691</b>	<b>164</b>	<b>171</b>	<b>181</b>	<b>175</b>
<i>Year-to-date TOTAL</i>		164	335	516	691

### 2009 HEA Job Distribution By County and By Utility

BY COUNTY	Unitil		Nationalgrid		NHEC		PSNH		Totals		Grand Total
	Shell	Baseload	Shell	Baseload	Shell	Baseload	Shell	Baseload	Shell	Baseload	
	A	B	A	B	A	B	A	B	A	B	
Belknap					5	2	38	6	43	8	51
Carroll					5	1	53	3	58	4	62
Cheshire			9	2			30	4	39	6	45
Coos					2	1	56	5	58	6	64
Grafton			11	3	12	3	18	3	41	9	50
Hillsborough			8	1			120	45	128	46	174
Merrimack	30	8			2	1	39	4	71	13	84
Rockingham	30	8	8	2	4	1	22	12	64	23	87
Strafford					1	0	32	3	33	3	36
Sullivan			9	2	4	2	17	4	30	8	38
<b>Program Totals</b>	<b>60</b>	<b>16</b>	<b>45</b>	<b>10</b>	<b>35</b>	<b>11</b>	<b>425</b>	<b>89</b>	<b>565</b>	<b>126</b>	
<b>Grand Totals</b>	<b>76</b>		<b>55</b>		<b>46</b>		<b>514</b>		<b>691</b>		<b>691</b>

A = Shell job - where Utility pays for conservation measures, ie wall insulation, air sealing, **baseload** etc. and DOE pays for H&S, heating system, repairs (See Section on Project Funding)

B =Baseload job - where Utility pays for baseload measures and DOE pays for non-baseload conservation measures, ie: wall insulation, air sealing, etc., H&S and repairs (See Section on Project Funding)

## ATTACHMENT B: COMPLETED MONITORING & EVALUATION STUDIES

### Evaluation Studies Completed since 2000

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2. RER, 1999 Energy Initiative Lighting Program Impact Evaluation, June 20, 2000.
3. RLW Analytics, Inc., Energy Initiative and Small C&I Programs Indoor Prescriptive Lighting Impact Study, June 19,2000.
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7. SBW Consulting, Inc., Impact Evaluation Study of 1999 Custom Industrial Process Installations, June 1,2000.
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11. RER, Multifamily EnergyWise Program Impact Evaluation, July 2000.
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13. RLW Analytics, ENERGY STAR Market Update FINAL REPORT, June 28, 2000.
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  27. Ebu Alpay, Scott Dimetrosky, Ken Seiden, Ph.D., Quantec, LLC, Impact Evaluation of the 2001 Appliance Management Program, July 1,2002.
  28. Bruce Harley, Conservation Service Croup, Inc., Energy Consumption Analysis of the ENERGY STAR® Homes Program, June 15,2002.
  29. Select Energy Services, Inc., Evaluation of 2000 Custom Process Installations – Part I, June 26,2002.
  30. DMI, Final Report for National Grid USA Service Company Evaluation of 2000 Custom Process Installations-Part II, June 26,2002.  
SBW Consulting Inc., Impact Evaluation of 2000 Custom Comprehensive Installation FINAL REPORT, June 27,2002.
  32. RLW Analytcs, Impact Evaluation Analysis of the 2001 Custom Program, June 26,2002.
  33. PA Government Services, Inc., National Grid 2002 Commercial and Industrial Free-ridership and Spillover Study, May 30,2003.
  34. RLW Analytics, Design 2000plus Lighting Hours of Use and Load Shape Measurement Executive Summary, May 30,2003.
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  38. Select Energy Services, Inc., Evaluation of 2001 Custom Process Installations – Part III Compressed Air, June 30,2003.
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  40. RLW Analytics, Impact Evaluation Analysis of the 2002 Custom Program, July 2, 2003.
  41. Jane S. Peters, Ph.D., Marjorie R. McRae, Ph.D., Jessica B. Letteney, Research Into Action, Inc. and Tom Rooney, P.E. GDS Associates, Inc., Evaluation of the

- Building Operator Training and Certification (BOC) Program in the Northeast, September 6,2002.
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  49. Science Applications International Corporation, Impact Evaluation of 2002 Custom Lighting Installations Final Report, July 15,2004.
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  51. Summit Blue Consulting, Billing Analysis of the Small Business Services Program Final Report, June 7,2004.
  52. RLW Analytics, 2003 Multiple Small Business Lighting Retrofit Program Impact Evaluation Final Report, June 2004.
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  57. Summit Blue Consulting, Impact Analysis of the 2004 Energy Initiative Program Final Report, July 26,2005.
  58. RLW Analytics, Sample Design and Impact Evaluation Analysis of the 2004 Custom Program, October 26,2004.
  59. Select Energy Services, Inc., Final Report for National Grid USA Service Company Evaluation of 2003 Custom Process Installations – Part I, August 24, 2005.
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62. Select Energy Services, Inc., Final Report for National Grid USA Service Company Evaluation of 2003 Custom HVAC Installations – Part II, September 27, 2005.
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64. PA Government Services Inc., National Grid USA Process Evaluation of 2004 Targeted Demand Response Program, June 30,2005.
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75. GDS Associates and ENTECH Engineering, Survey of Commercial New Construction Activities in New Hampshire, May 2000
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121. Nexus Market Research, Inc., RLW Analytics, Inc., *Residential Lighting Measure Life Study*, June 4,2008.
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## **ATTACHMENT C: AVOIDED COSTS**

### Summary of Avoided Electric Costs

In accordance with Commission Order No. 23,850, in DE 01-057, dated November 29, 2001, the NH Electric Utilities have based their avoided costs on the 2007 *Avoided-Energy-Supply Costs* in New England ("2007 AESC"). Use of common avoided costs by the utilities ensures that all New Hampshire customers will have access to the same programs and services.

The present value of avoided costs over the life of program measures was calculated using a discount rate of 5.00% and a general inflation rate of 1.98%. The use of the 15% adder to represent non-quantified benefits – including environmental and other benefits as recommended by the Energy Efficiency Working Group, originally authorized by the NHPUC in DR 96-150, Order No. 23,574, dated November 1, 2000, was discontinued because the 2007 AESC avoided costs include market-based price proxies for power plant emissions of NO<sub>x</sub>, SO<sub>2</sub>, Mercury and CO<sub>2</sub>.

The 2007 AESC avoided costs also include a 10% generic retail adder to account for the expected differential between retail and wholesale market prices. In recognition of diversity among states and utilities in energy service procurement and retail pricing policies, the contractor provided the sponsors the option to remove the adder from the avoided cost data. PSNH and NHEC have concluded that the 2007 AESC forecasted wholesale prices of energy and capacity represent a better approximation to the cost of energy service avoided by their retail customers than the prices which include a 10% increase to the wholesale prices.

### Avoided Transmission and Distribution Costs

In accordance with Commission Order No. 23,850, in DE 01-057, dated November 29, 2001, the NH Electric Utilities have based their avoided transmission and distribution costs on the weighted average of NH utility costs and have escalated them for inflation and put them in 2009 dollars. Use of common avoided costs by the utilities ensures that all New Hampshire customers will have access to the same programs and services.

The following table also includes an adjustment to reduce the energy and capacity line loss multipliers by the estimated losses that are accounted for in the 2007 forecast of energy prices.

Marginal T&D Costs and Line Loss Factors (\$2006)								
	MDC (\$/kW-yr)		MTC (\$/kW-yr)	Transmission Capacity	Line Loss Multipliers			
	Res.(1)	C&I(2)			Summer Capacity	Winter Capacity	On-Peak Energy	Off-Peak Energy
Granite State	\$48.19	\$48.19	\$23.36	1.1220	1.1500	1.1350	1.0630	1.0890
PSNH	\$28.50	\$28.50	\$5.03	1.0000	1.0820	1.0820	1.0820	1.0840
Unitil	\$67.48	\$67.48	\$27.03	1.0000	1.1217	1.1217	1.1217	1.0152
NHEC	\$95.59	\$95.59	\$60.89	1.0000	1.0917	1.0917	1.0917	1.0917
MWh Sales to Ultimate Customers in 2007								
Granite State	659,619	6.10%						
PSNH	8,136,539	75.29%						
Unitil	1,252,802	11.59%						
NHEC	757,906	7.01%						
Total	10,806,866	100.00%						
Weighted Average Marginal T&D Costs and Line Loss Factors (2009 Energy Line Loss Multipliers have been reduced by estimated transmission losses.)								
	MDC (\$/kW-yr)		MTC (\$/kW-yr)	Transmission Capacity	Line Loss Multipliers			
	Res.(1)	C&I(2)			Summer Capacity	Winter Capacity	On-Peak Energy	Off-Peak Energy
2006\$	\$38.92	\$38.92	\$12.62	1.007	1.091	1.091	1.086	1.077
2009\$	\$41.28	\$41.28	\$13.38	1.007	1.055	1.055	1.039	1.030

**ATTACHMENT D: NATIONAL GRID PROGRAM COST-EFFECTIVENESS**

National Grid Program Cost-Effectiveness

**2009 TRC BENEFIT COST TEST**

National Grid

Summary of Benefit, Expenses, Evaluation Costs (2009\$)

Sector	Program Name	TRC Benefit/Cost	Total Benefits (\$000)	Total Costs (\$000)	Program Implementation Expenses <sup>1</sup> (\$000)	Customer Contribution <sup>2</sup> (\$000)	Evaluation Cost (\$000)	Shareholder Incentive (\$000)
Commercial & Industrial	New Construction	4.13	\$2,221.5	\$537.5	\$381.7	\$136.7	\$19.1	NA
	Large Business Energy Solutions	2.17	1610.70	740.80	323.50	401.12	16.18	NA
	Small Business Energy Solutions	2.20	966.78	439.93	303.22	116.48	20.22	NA
	<b>Commercial &amp; Industrial Total</b>	<b>2.66</b>	<b>\$4,799.0</b>	<b>\$1,803.3</b>	<b>\$1,008.4</b>	<b>\$654.4</b>	<b>\$55.5</b>	<b>\$85.1</b>
Residential	ENERGY STAR Homes	3.48	\$960.6	\$275.7	\$262.6	\$0.0	\$13.1	NA
	Home Energy Solutions	0.91	82.23	90.49	81.47	4.94	4.07	NA
	ENERGY STAR Lighting	2.47	276.24	111.63	77.76	29.98	3.89	NA
	ENERGY STAR Appliances	1.30	171.94	132.11	84.39	43.50	4.22	NA
	Home Energy Assistance	1.47	390.27	264.90	252.29	0.00	12.61	NA
<b>Residential Total</b>	<b>2.00</b>	<b>\$1,881.3</b>	<b>\$938.6</b>	<b>\$758.5</b>	<b>\$78.4</b>	<b>\$37.9</b>	<b>\$63.7</b>	
<b>Grand Total</b>		<b>2.44</b>	<b>\$6,680.3</b>	<b>\$2,741.9</b>	<b>\$1,766.9</b>	<b>\$732.8</b>	<b>\$93.4</b>	<b>\$148.8</b>

Notes:

1) The Small Business Energy Solutions Implementation expenses are net of the projected customer co-pay for 2009 installations (\$101,189), which appears in the Customer Contribution

2) Includes co-pays by direct participants and spillover.

National Grid Program Cost-Effectiveness

2009 TRC BENEFIT COST TEST																
National Grid																
Summary of Expenses, Benefits, kW, and kWh by Program (2009\$)																
Sector	Program Name	Benefit (\$000)	Capacity			Energy			New Resource			Load Reduction in kW			kWh Saved	
			Generation	Transmission	MDC	Peak	Off Peak	Peak	Off Peak	Peak	Summer	Winter	Annual	Lifetime		
																Summer
Commercial & Industrial	New Construction	\$2,222	\$566	\$0	\$61	\$077	\$256	\$157	\$124	\$0	378	378	186	5,559	19,342	
	Large Business Energy Solutions	\$1,611	\$345	\$0	\$19	\$126	\$348	\$290	\$181	\$189	\$0	268	268	208	5,655	18,443
	Small Business Energy Solutions	\$967	\$202	\$0	\$23	\$357	\$86	\$185	\$42	\$0	168	168	168	98	2,026	793
Commercial & Industrial Total		\$4,799	\$1,113	\$0	\$103	\$532	\$732	\$573	\$355	\$0	775	775	484	11,009	32,433	
Residential		\$961	\$17	\$0	\$2	\$9	\$11	\$5	\$5	\$906	10	10	184	479	42	
ENERGY STAR Homes		\$82	\$0	\$0	\$1	\$19	\$22	\$10	\$10	\$8	8	8	22	85	81	
Home Energy Solutions		\$79	\$0	\$0	\$1	\$19	\$22	\$10	\$10	\$8	8	8	22	85	81	
ENERGY STAR Appliances		\$276	\$18	\$0	\$2	\$87	\$42	\$42	\$0	33	33	124	216	540	1,442	
ENERGY STAR Appliances		\$172	\$27	\$0	\$3	\$24	\$12	\$12	\$0	20	20	72	275	74	1,015	
Home Energy Assistance		\$396	\$14	\$0	\$2	\$28	\$13	\$16	\$13	\$281	9	9	17	143	90	
Residential Total		\$1,881	\$85	\$0	\$10	\$31	\$175	\$85	\$84	\$1,257	80	80	185	898	828	
Grand Total		\$6,680	\$1,192	\$0	\$113	\$409	\$1,536	\$966	\$888	\$439	855	855	678	11,937	47,771	

National Grid Shareholder Incentive Calculation

**National Grid**  
**Target Shareholder Incentive - 2009**

**Commercial/Industrial Incentive**

1. Target Benefit/Cost Ratio	2.79
2. Threshold Benefit/Cost Ratio	1.00
3. Target lifetime MWh	44,582
4. Threshold MWh	28,978
5. Budget	\$1,063,876
6. CE Percentage	4.00%
7. Lifetime k/Wh Percentage	4.00%
<b>8. Target C/I Incentive</b>	<b>\$85,110</b>
<b>9. Cap</b>	<b>\$127,665</b>

**Residential Incentive**

10. Target Benefit/Cost Ratio	2.15
11. Threshold Benefit/Cost Ratio	1.00
12. Target lifetime MWh	7,198
13. Threshold MWh	4,678
14. Budget	\$796,434
15. CE Percentage	4.00%
16. Lifetime k/Wh Percentage	4.00%
<b>17. Target Residential Incentive</b>	<b>\$63,715</b>
<b>18. Cap</b>	<b>\$95,572</b>
<b>19. TOTAL TARGET INCENTIVE</b>	<b>\$148,825</b>

**Line No. Notes:**

- 1, 5, 10, and 14. See Attachment D, page 4 of 5.
- 2, 6, 7, 11, 15, and 16. Report to the New Hampshire Public Utilities Commission on Ratepayer-Funded Energy Efficiency Issues in New Hampshire, Docket No. DR 96-150, page 21.
- 3, 12. See Attachment D, page 5 of 5.
- 4. 65% of line 3.
- 8. 8% of line 5.
- 9. 12% of line 5.
- 13. 65% of line 12.
- 17. 8% of line 14.
- 18. 12% of line 14.
- 19. Line 8 plus line 17.

# National Grid Planned Benefit/Cost Ratio by Sector

## Target Benefit-Cost Ratio by Sector National Grid - 2009

	<u>Planned</u>
Commercial & Industrial:	
1. Benefits (Value) From Eligible Programs	\$4,799,012
2. Implementation Expenses	\$1,008,396
3. Customer Contribution	\$654,350
4. Evaluation Expense	\$55,480
5. Total Costs Excluding Shareholder Incentive	\$1,718,226
6. Benefit/Cost Ratio - C&I Sector	2.79
7. Implementation Plus Evaluation Expense - C&I Sector	\$1,063,876
Residential:	
8. Benefits (Value) From Eligible Programs	\$1,881,250
9. Implementation Expenses	\$758,509
10. Customer Contribution	\$78,420
11. Evaluation Expense	\$37,925
12. Total Costs Excluding Shareholder Incentive	\$874,854
13. Benefit/Cost Ratio - Residential Sector	2.15
14. Implementation Plus Evaluation Expense - Residential Sector	\$796,434

Line No. Notes:

- 1 - 4 and 8-11. See Attachment D, page 1 of 5.
- 5. Sum of lines 2-4.
- 6. Line 1 divided by line 5. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23.574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio. However, the shareholder incentive is supposed to be included as a DSM cost in determining the benefit/cost ratio. For the purpose of calculating the shareholder incentive, the Company has recalculated the planned benefit/cost ratio excluding the shareholder incentive and will compare the actual benefit/cost ratio excluding the shareholder incentive to the planned benefit/cost ratio excluding shareholder incentives when determining the earned incentive.
- 7. Sum of lines 2 and 4. These are the C&I sector funds on which the Company may calculate its earned shareholder incentive.
- 12. Sum of lines 9 - 11.
- 13. Line 8 divided by line 12. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23.574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio. However, the shareholder incentive is supposed to be included as a DSM cost in determining the benefit/cost ratio. For the purpose of calculating the shareholder incentive, the Company has recalculated the planned benefit/cost ratio excluding the shareholder incentive and will compare the actual benefit/cost ratio excluding the shareholder incentive to the planned benefit/cost ratio excluding shareholder incentives when determining the earned shareholder incentive.
- 14. Sum of lines 9 and 11. These are the Residential sector funds on which the Company may calculate its earned shareholder incentive.

National Grid Planned Lifetime kWh Savings by Sector

**Target Lifetime Energy Savings by Program**  
**National Grid - 2009**

<b><u>Program</u></b>	<b><u>Lifetime Savings</u></b> <b><u>(MWh)</u></b>
Commercial & Industrial:	
1. New Construction (Lost Opportunity)	19,342
2. Large Business Energy Solutions	16,443
3. Small Business Energy Solutions	8,797
<b>4. Total Commercial &amp; Industrial Included for Incentive Calculation</b>	<b>44,582</b>
Residential:	
5. Energy Star Homes	439
6. Home Energy Solutions	908
7. Energy Star Products	1,035
8. Home Energy Assistance	1,374
9. Energy Star Lighting	3,442
<b>10. Total Residential Included for Incentive Calculation</b>	<b>7,198</b>

**Line No. Notes:**

- 1-3 and 5-9. See Attachment D, page 2 of 5.
- 4. Sum of lines 1-3.
- 10. Sum of lines 5-10.

**ATTACHMENT E: NHEC PROGRAM COST-EFFECTIVENESS**

NHEC Program Cost-Effectiveness

NEW HAMPSHIRE ELECTRIC COOPERATIVE, INC.  
 NHPUC Docket No. DE 08-120  
 Attachment E  
 Page 1 of 4

**Program Cost-Effectiveness - 2009 PLAN**

Present Value							
	Total Resource	Utility Costs		Member	Lifetime MWh	Number of	
	Benefit/Cost Ratio	Benefit (\$000)	(\$000)	Costs (\$000)	Savings	Members Sewed	
<b>Residential Programs</b>							
ENERGY STAR Homes	1.17	\$ 161.9	\$ 113.1	\$ 25.5	124.0	23	
Home Energy Solutions	1.24	\$ 191.1	\$ 139.1	\$ 14.5	1,416.0	35	
ENERGY STAR Lighting *1	2.68	\$ 330.0	\$ 90.7	\$ 32.6	4,519.0	13,838	
ENERGY STAR Appliances	1.47	\$ 264.4	\$ 93.7	\$ 86.0	1,384.0	956	
High Efficiency Heat Pump	1.55	\$ 283.7	\$ 87.3	\$ 95.4	5,077.0	15	
Load Management	0.00	\$ -	\$ 104.7	\$ -			
Subtotal Residential	1.39	\$ 1,231.0	\$ 628.6	\$ 254.0	12,520.0	14,867	
Home Energy Assistance	1.28	\$ 206.2	\$ 160.8	\$ -	571.0	46	
Subtotal Residential HEA	1.28	\$ 206.2	\$ 160.8	\$ -	571.0	46	
<b>Commercial/Industrial Programs</b>							
New Construction ■ Major Renovator	2.07	\$ 535.0	\$ 133.7	\$ 124.6	5,414.0	14	
Large C&I Retrofit	3.08	\$ 1,274.8	\$ 131.3	\$ 282.3	15,109.0	18	
Small C&I Retrofit	1.37	\$ 188.3	\$ 92.7	\$ 45.0	2,335.0	15	
Other (Education)	0.00	\$ -	\$ 29.1	\$ -			
Other	0.00	\$ -	\$ -	\$ -			
Smart Start		\$ -	\$ 15.3	\$ -			
Subtotal C&I	2.34	1,998.1	401.9	451.9	22,858.0	47	
<b>Total</b>		<b>\$ 3,435.3</b>	<b>\$ 1,191.3</b>	<b>\$ 705.8</b>	<b>35,949.0</b>	<b>14,960</b>	

Note 1: Plan includes 3,459 members purchasing a total of 13,838 lighting products.

NHEC Shareholder Incentive Calculation

NEW HAMPSHIRE ELECTRIC COOPERATIVE, INC.  
 NHPUC Docket No. DE 08-120  
 Attachment E  
 Page 2 of 4

**Member Incentive Calculation  
 2009**

	<u>Planned</u>	<u>Actual</u>
<b>Commercial/Industrial Incentive</b>		
1. Benefit/Cost Ratio	2.18	0.00
2. Threshold Benefit / Cost Ratio <sup>1</sup>	1.00	
3. Lifetime kWh Savings	22,858,000	0
4. Threshold Lifetime kWh Savings (65%) <sup>2</sup>	14,857,700	
5. Budget	\$ 464,624	\$
6. Benefit / Cost Percentage of Budget	4.00%	
7. Lifetime kWh Percentage of Budget	4.00%	
<b>8. C/I Member Incentive</b>	\$37,170	
<b>9. Cap (12%)</b>	\$55,755	
<b>Residential Incentive</b>		
10. Benefit / Cost Ratio	1.47	0.00
11. Threshold Benefit / Cost Ratio <sup>1</sup>	1.00	
12. Lifetime kWh Savings	13,091,000	0
13. Threshold Lifetime kWh Savings (65%) <sup>2</sup>	8,509,150	
14. Budget	\$ 726,722	
15. Benefit / Cost Percentage of Budget	4.00%	
16. Lifetime kWh Percentage of Budget	4.00%	
<b>17. Residential Incentive</b>	\$58,138	
<b>18. Cap (12%)</b>	\$87,207	
<b>19. TOTAL INCENTIVE EARNED</b>		

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.

NHEC Planned Benefit/Cost Ratio by Sector

NEW HAMPSHIRE ELECTRIC COOPERATIVE, INC.

NHPUC Docket No. DE 08-120

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**Planned Versus Actual Benefit / Cost Ratio by Sector  
2009**

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 1,998,091	\$
2. Implementation Expenses	\$ 464,624	\$
3. Member Contribution	\$ 451,858	\$
4. Total Costs Excluding Member Incentive	\$ 916,482	\$
5. <b>Benefit/Cost Ratio - C&amp;I Sector</b>	2.18	<b>0.00</b>
Residential:		
6. Benefits (Value) From Eligible Programs	\$ 1,437,210	\$
7. Implementation Expenses	\$ 726,722	\$
8. Member Contribution	\$ 253,972	\$
9. Total Costs Excluding Member Incentive	\$ 980,694	\$
10. <b>Benefit/Cost Ratio - Residential Sector</b>	1.47	<b>0.00</b>

NHEC Planned kWh Savings by Sector

NEW HAMPSHIRE ELECTRIC COOPERATIVE, INC.

NHPUC Docket No. DE 08-120

Attachment E

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**Actual Lifetime Energy Savings by Sector and Program  
2009**

	<b>Lifetime kWh Savings</b>	
	<b><u>Planned</u></b>	<b><u>Actual</u></b>
<b>Commercial &amp; Industrial:</b>		
New Construction/ Major Renovation	5,414,000	0
Large C&I Retrofit	15,109,000	0
Small C&I Retrofit	2,335,000	0
Other (Education)	0	0
Other	0	0
Other	0	0
<b>Total Commercial &amp; Industrial Included for Incentive Calculation</b>	<b>22,858,000</b>	<b>0</b>
<b>Residential:</b>		
Home Energy Assistance Program	571,000	0
Home Energy Solutions Program	1,416,000	0
ENERGY STAR Homes Program	124,000	0
ENERGY STAR Appliance Program	1,384,000	0
ENERGY STAR Lighting Program	4,519,000	0
Load Management Program	0	0
High Efficiency Heat Pump	<u>5,077,000</u>	<u>0</u>
<b>Total Residential Included for Incentive Calculation</b>	<b>13,091,000</b>	<b>0</b>

**ATTACHMENT F: PSNH PROGRAM COST-EFFECTIVENESS**

PSNH Program Cost-Effectiveness

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE  
 NHPUC Docket No. DE 08-120  
 Attachment F  
 Page 1 of 4

**Program Cost-Effectiveness- 2009 PLAN**

	Total Resource <b>Benefit/Cost</b> Ratio	Present Value			Lifetime <b>MWh</b> Savings	Number of Customers Served
		Benefit (\$000)	Utility Costs (\$000)	Customer Costs (\$000)		
<b>Residential Programs</b>						
ENERGY STAR Homes	1.70	\$ 2,067.6	\$ 823.6	\$ 389.9	<b>3,987.6</b>	347
Home Energy Solutions	0.90	\$ 1,767.2	\$ 1,560.5	\$ 402.5	<b>3,870.1</b>	650
ENERGY STAR Lighting **1	3.75	\$ 5,313.1	\$ 997.0	\$ 420.9	67,325.9	224,009
ENERGY STAR Appliances	1.97	\$ 2,384.8	\$ 606.8	\$ 606.0	15,243.7	9,965
Home Energy Assistance	0.64	\$ 1,310.8	\$ 1,935.3	\$ 128.5	7,201.7	514
EnergyStar Homes (Geothermal)	1.48	\$ 947.9	\$ 346.8	\$ 294.7	16,723.2	40
Electro-ThermalStorage Units (LI)		\$ -	\$ -	\$ -		
Subtotal Residential	<b>1.62</b>	<b>\$ 13,791.3</b>	<b>\$ 6,269.9</b>	<b>\$ 2,242.6</b>	<b>114,352.2</b>	<b>235,525</b>
<b>Commercial/Industrial Programs</b>						
New Construction ■ Major Renovator	2.88	\$ 7,311.2	\$ 1,902.9	\$ 638.8	67,241.6	106
Large C&I Retrofit	2.33	\$ 11,567.7	\$ 2,242.7	\$ 2,715.0	114,598.8	120
Small C&I Retrofit	1.90	\$ 7,174.3	\$ 2,174.7	\$ 1,593.8	75,020.7	404
C&I RFP Pilot	1.97	\$ 1,626.0	\$ 475.7	\$ 348.7	13,287.9	3
Other (Education)	0.00	\$ -	\$ 157.7	\$ -		
Smart Start		\$ -	\$ 50.0	\$ -		
Subtotal C&I	<b>2.25</b>	<b>27,679.1</b>	<b>7,003.8</b>	<b>5,296.3</b>	<b>270,149.0</b>	<b>633</b>
Total		<b>\$ 41,470.3</b>	<b>\$ 13,273.7</b>	<b>\$ 7,538.9</b>	<b>384,501.2</b>	<b>236,158</b>

Note 1: Plan included 56,002 customers purchasing a total of 224,009 lighting products (4 per customer)

PSNH Shareholder Incentive Calculation

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

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Page 2 of 4

**Shareholder Incentive Calculation  
2009**

	<u>Planned</u>	<u>Actual</u>
<b>Commercial/Industrial Incentive</b>		
1. Benefit/Cost Ratio	2.25	0.00
2. Threshold Benefit / Cost Ratio <sup>1</sup>	1.00	
3. Lifetime kWh Savings	270,149,013	0
4. Threshold Lifetime kWh Savings (65%) <sup>2</sup>	175,596,859	
5. Budget	\$7,003,803	\$0
6. Benefit / Cost Percentage of Budget	4.00%	
7. Lifetime kWh Percentage of Budget	4.00%	
8. <b>C/I Shareholder Incentive</b>	\$560,304	
9. <b>Cap (12%)</b>	\$840,456	
<b>Residential Incentive</b>		
10. Benefit / Cost Ratio	1.62	0.00
11. Threshold Benefit / Cost Ratio <sup>1</sup>	1.00	
12. Lifetime kWh Savings	114,352,155	0
13. Threshold Lifetime kWh Savings (65%) <sup>2</sup>	74,328,901	
14. Budget	\$6,269,924	
15. Benefit / Cost Percentage of Budget	4.00%	
16. Lifetime kWh Percentage of Budget	4.00%	
17. <b>Residential Incentive</b>	\$501,594	
18. <b>Cap (12%)</b>	\$752,391	
19. <b>TOTAL INCENTIVE EARNED</b>		

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.

2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.

PSNH Planned Benefit/Cost Ratio by Sector

**Planned Versus Actual Benefit / Cost Ratio by Sector  
 2009**

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 27,679,086	\$
2. Implementation Expenses	\$ 7,003,803	\$
3. Customer Contribution	\$ 5,296,314	\$
4. Total Costs Excluding Shareholder Incentive	\$ 12,300,116	\$
5. <b>Benefit/Cost Ratio - C&amp;I Sector</b>	2.25	0.00
Residential:		
6. Benefits (Value) From Eligible Programs	\$ 13,791,252	\$
7. Implementation Expenses	\$ 6,269,924	\$
8. Customer Contribution	\$ 2,242,570	\$
9. Total Costs Excluding Shareholder Incentive	\$ 8,512,495	\$
10. <b>Benefit/Cost Ratio - Residential Sector</b>	1.62	0.00

PSNH Planned kWh Savings by Sector

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

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**Actual Lifetime Energy Savings by Sector and Program  
2009**

	Lifetime kWh Savings	
	<u>Planned</u>	<u>Actual</u>
<b>Commercial &amp; Industrial:</b>		
New Equipment & Construction	67,241,635	0
Large C&I Retrofit	114,598,762	0
Small Business Energy Solutions	75,020,685	0
Education	0	0
Utility Specific (Energy Rewards RFP Program)	13,287,932	0
Other	0	0
<b>Total Commercial &amp; Industrial Included for Incentive Calculation</b>	<b>270,149,013</b>	<b>0</b>
<b>Residential:</b>		
Home Energy Assistance Program	7,201,690	0
Home Energy Solutions Program	3,870,107	0
ENERGY STAR Homes Program	3,987,604	0
ENERGY STAR Appliance Program	15,243,734	0
ENERGY STAR Lighting Program	67,325,855	0
Electro-Thermal Storage Units	0	0
Utility Specific: ENERGY STAR Homes - Geothermal)	16,723,166	0
<b>Total Residential Included for Incentive Calculation</b>	<b>114,352,155</b>	<b>0</b>

**ATTACHMENT G: UES PROGRAM COST-EFFECTIVENESS**

**UES Program Cost-Effectiveness**

Unitil Energy System, Inc.  
 N.H.P.U.C. Docket No. DE 08-120  
 Attachment G  
 Page 1 of 4

**Unitil Energy System, Inc.  
 Lifetime Energy Savings by Sector and Program - 2009**

	Total Resource Benefit/Cost Ratio	Net Present Value			Lifetime MWh Savings	Number of Cust. Sewed
		Benefit (\$000)	Utility Costs <sup>(1)</sup> (\$000)	Customer Costs (\$000)		
<b>Res Non-Low Income Programs</b>						
ENERGY STAR Homes	1.4	253.0	162.6	17.59	395	41
Home Energy Solutions Program	1.9	547.0	254.0	31.06	966	85
ENERGY STAR Lighting Program <sup>(2)</sup>	4.4	1,323.0	184.3	116.97	15,674	50,644 <sup>(2)</sup>
ENERGY STAR Appliances <sup>(2)</sup>	1.3	310.0	108.2	134.09	1,883	1,089 <sup>(2)</sup>
Res. EE Website ■ Energy Suite		n/a	24.0	n/a	n/a	n/a
A05b Res / K-12 Education		n/a	5.0	n/a	n/a	n/a
A06a ISO-Related Expenses Res Non-LI	-	n/a	2.9	n/a	n/a	n/a
Subtotal Residential	2.3	\$ 2,433.0	\$ 741.10	299.71	18,918	
<b>Residential Low Income Program</b>						
Home Energy Assistance Program	1.2	372.5	303.2		10,597 <sup>(2)</sup>	76
B06a ISO-Related Expenses Res LI		n/a	0.6	n/a	n/a	n/a
Subtotal Residential LI	1.2	\$ 372.5	\$ 303.81		10,597	76
<b>Commercial/Industrial Programs</b>						
New Constr. ■ Major Renovation	3.7	714.6	162.5	30.06	5,635	7
Large C&I Retrofit	2.5	1,799.8	352.8	367.11	19,059	17
Small C&I Retrofit	2.7	1,630.7	377.0	218.37	16,551	50
C&I EE Website / Energy Suite		n/a	14.5	n/a	n/a	n/a
C&I Education		n/a	10.0	n/a	n/a	n/a
C06a ISO-Related Expenses C&I		n/a	23.0	n/a	n/a	n/a
Subtotal C&I	2.7	\$ 4,145.1	\$ 939.84	615.53	41,245	
<b>Total</b>	<b>2.4</b>	<b>\$ 6,950.6</b>	<b>\$ 1,984.7</b>	<b>915.25</b>	<b>70,760</b>	

(1) Utility Costs include direct program costs plus projected Shareholder Incentive.  
 (2) Target number of products purchased.  
 (3) The Home Energy Assistance (HEA) program is offered as a fuel-blind program. Estimated lifetime non-electric savings have been converted into kWh as follows to establish UES' HEA program savings goal:  
 [Lifetime MMBtu + 0.0034131 \* 1,000 = Lifetime MWh.

UES Shareholder Incentive Calculation

Unitil Energy System, Inc.  
 N.H.P.U.C. Docket No. DE 08-120  
 Attachment G  
 Page 2 of 4

**Unitil Energy System, Inc.  
 Lifetime Energy Savings by Sector and Program - 2009**

	<u>Planned</u>	
<b>Commercial/Industrial Incentive</b>		
1. Benefit/Cost Ratio	<b>2.67</b>	
2. Threshold Benefit / Cost Ratio	1.00	(1)
3. Lifetime kWh Savings	<b>41,245,061</b>	
4. Threshold Lifetime kWh Savings (65%)	26,809,290	(2)
5. Program Budgets	\$ 870,224	
6. Benefit ■ Cost Percentage of Budget	4.00%	
7. Lifetime kWh Percentage of Budget	4.00%	
<b>8. C/I Shareholder Incentive</b>	<b>\$69,618</b>	
<b>9. Cap (12%)</b>	<b>\$104,427</b>	
<b>Residential Incentive (including low-income)</b>		
10. Benefit 1 Cost Ratio	<b>2.09</b>	
11. Threshold Benefit ■ Cost Ratio	1.00	(1)
12. Lifetime kWh Savings	<b>29,515,158</b>	(2)
13. Threshold Lifetime kWh Savings (65%)	19,184,853	(2)
14. Program Budget	\$ 967,506	
15. Benefit 1 Cost Percentage of Budget	4.00%	
16. Lifetime kWh Percentage of Budget	4.00%	
<b>17. Residential Incentive</b>	<b>\$77,399</b>	
<b>18. Cap (12%)</b>	<b>\$116,101</b>	
<b>19. TOTAL INCENTIVE</b>	<b>\$ 147,018</b>	

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.
3. Includes non-electric savings associated with fuel-blind services.  
 See Attachment G, Page 4 of 4.

UES Planned Benefit/Cost Ratio by Sector

Unitil Energy System, Inc.  
N.H.P.U.C. Docket No. DE 08-120  
Attachment G  
Page 3 of 4

**Unitil Energy System, Inc.  
Lifetime Energy Savings by Sector and Program - 2009**

	<b><u>Planned</u></b>
<b>Commercial &amp; Industrial:</b>	
1. Benefits (Value) From Eligible Programs	\$ 4,145,092
2. Program Budgets - Excludes SHI	\$ 870,224
3. Customer Contribution	<u>\$ 615,533</u>
4. Total Costs Excluding Shareholder Incentive	\$ 1,485,757
5. Benefit/Cost Ratio - C&I Sector	<b>2.67</b>
<b>Residential:</b>	
6. Benefits (Value) From Eligible Programs	\$ 2,805,503
7. Program Budgets - Excludes SHI	\$ 967,506
8. Customer Contribution	<u>\$ 299,714</u>
9. Total Costs Excluding Shareholder Incentive	\$ 1,267,220
10. Benefit/Cost Ratio - Residential Sector	<b>2.09</b>

**Unitil Energy System, Inc.  
 Lifetime Energy Savings by Sector and Program - 2009**

	<u>Lifetime kWh Savings</u>
<b>Commercial &amp; Industrial:</b>	
Large C&I New Equipment & Construction	5,635,348
Large C&I Retrofit	19,058,974
Small Business Energy Solutions	16,550,739
Utility Specific Programs - C&I Web 1 Energy Suite	<u>n/a</u>
<b>Total Commercial &amp; Industrial Included for Incentive Calculation</b>	<b>41,245,061</b>
<b>Residential:</b>	
Home Energy Assistance Program <sup>(1)</sup>	10,597,445
Home Energy Solutions Program	966,400
ENERGY STAR Homes Program	394,756
ENERGY STAR Appliance Program	1,882,681
ENERGY STAR Lighting Program	15,673,876
Utility Specific Programs - Res. EE Web 1 Energy Suite	<u>n/a</u>
<b>Total Residential Included for Incentive Calculation</b>	<b>29,515,158</b>
<p>(3) The Home Energy Assistance (HEA) program is offered as a fuel-blind program. Estimated lifetime non-electric savings have been converted into kWh as follows to establish UES' HEA program savings goal:                      [Lifetime MMBtu ÷ 3,4131 * 1,000 = Lifetime MWh.</p>	

**ATTACHMENT H: STATEWIDE BUDGETS AND GOALS**  
**Proposed Budgets by Activity**

NEW HAMPSHIRE CORE ENERGY EFFICIENCY PROGRAMS  
 NHPUC Docket No. DE 08-120  
 Attachment H  
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**NH CORE Energy Efficiency Program - 2009 Budget Details**

(see Note 1)

	<u>Internal Adm</u>	<u>External Adm</u>	<u>Cust Rbts/Services</u>	<u>Internal Impl.</u>	<u>Marketing</u>	<u>Evaluation</u>	<u>Total</u>
<b>ENERGY STAR Homes</b>	\$ 41,884	\$ 18,032	\$ 1,033,045	\$ 166,312	\$ 33,199	\$ 69,875	\$ 1,362,346
National Grid	5,436	17,000	231,903	6,950	1,300	13,128	275,717
NHEC	6,217	909	48,804	44,502	5,174	7,446	113,052
PSNH	17,963	-	680,474	80,400	5,000	39,740	823,577
Unitil	12,268	123	71,864	34,460	21,725	9,561	150,000
<b>Home Energy Solutions</b>	\$ 54,198	\$ 52,277	\$ 1,506,980	\$ 268,125	\$ 33,738	\$ 104,072	\$ 2,019,389
National Grid	1,641	10,000	64,995	2,738	2,100	4,074	85,548
NHEC	6,217	909	53,941	65,422	5,174	7,446	139,109
PSNH	34,035	40,000	1,237,131	164,000	10,000	75,296	1,560,462
Unitil	12,305	1,368	150,913	35,965	16,464	17,256	234,270
<b>Energy Star Appliances</b>	\$ 28,095	\$ 14,341	\$ 627,931	\$ 102,402	\$ 67,400	\$ 49,030	\$ 889,198
National Grid	1,440	12,537	52,900	3,717	13,800	4,220	88,614
NHEC	6,217	909	41,098	24,894	13,174	7,446	93,738
PSNH	13,236	-	485,328	54,000	25,000	29,282	606,846
Unitil	7,202	895	48,605	19,791	15,426	8,082	100,000
<b>Home Energy Assistance</b>	\$ 78,776	\$ 56,076	\$ 2,011,312	\$ 297,433	\$ 57,762	\$ 140,383	\$ 2,641,742
National Grid	4,994	14,000	211,659	20,117	1,520	12,614	264,904
NHEC	6,217	909	96,583	44,503	5,174	7,446	160,832
PSNH	47,164	40,000	1,537,804	176,000	30,000	104,341	1,935,309
Unitil	20,401	1,167	165,266	56,813	21,068	15,982	280,697
<b>ENERGY STAR Lighting</b>	\$ 38,151	\$ 41,001	\$ 981,634	\$ 139,670	\$ 69,416	\$ 69,479	\$ 1,339,352
National Grid	1,407	29,000	34,850	4,006	8,500	3,889	81,652
NHEC	6,217	909	41,098	24,894	10,174	7,446	90,738
PSNH	21,745	-	833,956	85,750	7,405	48,106	996,962
Unitil	8,783	11,092	71,730	25,020	43,337	10,038	170,000
<b>Other Residential Programs</b>	\$ 20,528	\$ 4,718	\$ 370,071	\$ 148,263	\$ 10,974	\$ 16,732	\$ 571,285
National Grid	-	-	-	-	-	-	-
NHEC	12,434	1,818	71,922	100,629	5,174	-	191,977
PSNH	7,563	-	272,049	44,625	5,800	16,732	346,769
Unitil (Res. Website, ISO Expenses)	531	2,900	26,100	3,009	-	-	32,539
<b>Total Residential Programs</b>	\$ 261,632	\$ 186,444	\$ 6,530,973	\$ 1,122,204	\$ 272,489	\$ 449,571	\$ 8,823,312
<b>New Equipment &amp; Construction</b>	\$ 67,842	\$ 67,209	\$ 1,972,956	\$ 315,800	\$ 27,942	\$ 135,579	\$ 2,587,328
National Grid	7,346	66,300	267,820	32,709	7,500	19,085	400,760
NHEC	6,217	909	86,843	27,076	5,174	7,446	133,665
PSNH	44,322	-	1,528,128	229,400	3,000	98,053	1,902,903
Unitil	9,957	-	90,165	26,615	12,268	10,995	150,000
<b>Large C&amp;I Retrofit</b>	\$ 86,744	\$ 64,909	\$ 2,230,231	\$ 461,281	\$ 32,228	\$ 163,241	\$ 3,038,634
National Grid	6,145	64,000	217,820	31,533	4,000	16,175	339,674
NHEC	6,217	909	84,431	27,076	5,174	7,446	131,253
PSNH	52,237	-	1,730,307	341,600	3,000	115,563	2,242,707
Unitil	22,144	-	197,673	61,071	20,054	24,057	325,000
<b>Small Business Energy Solutions</b>	\$ 84,756	\$ 34,839	\$ 2,131,877	\$ 475,198	\$ 55,837	\$ 156,106	\$ 2,938,614
National Grid	4,545	11,700	277,411	7,366	2,200	20,220	323,443
NHEC	6,217	909	45,834	27,076	5,174	7,446	92,656
PSNH	50,654	20,000	1,590,261	373,770	28,000	112,061	2,174,746
Unitil	23,340	2,230	218,371	66,986	20,463	16,379	347,769
<b>Other C&amp;I Programs</b>	\$ 20,742	\$ 3,359	\$ 602,688	\$ 120,925	\$ 3,000	\$ 24,513	\$ 775,227
National Grid	-	-	-	-	-	-	-
NHEC	6,217	909	24,123	13,077	-	-	44,326
PSNH (Education, RFP, Smart Start)	11,082	-	556,515	88,336	3,000	24,513	683,446
Unitil (Education, C&I Web, ISO Expenses)	3,443	2,450	22,050	19,512	-	-	47,455
<b>Total Non-Residential Programs</b>	\$ 260,084	\$ 170,316	\$ 6,937,752	\$ 1,373,204	\$ 119,007	\$ 479,439	\$ 9,339,802
<b>TOTAL (Both Sectors)</b>	\$ 521,715	\$ 356,761	\$ 13,468,726	\$ 2,495,407	\$ 391,496	\$ 929,010	\$ 18,163,114

Note 1: Evaluation amounts are based on 5% of total budgets. Actual program expenses will vary from numbers shown.

Proposed Budgets with Participation and Lifetime kWh Savings Goals

New Hampshire CORE Energy Efficiency Goals - 2009

PROGRAMS	National Grid		NHEC		PSNH		UNITIL		TOTALS	
<b>Energy Star Homes</b>										
Number of Homes / Lifetime kWh Savings	101	438,600	23	124,000	347	3,987,604	41	394,756	512	4,944,960
B/C Ratio / Planned Budget	3.48	\$275,717	1.17	\$113,052	1.70	\$823,577	1.40	\$150,000		\$1,362,346
<b>Home Energy Solutions</b>										
Number of Units / Lifetime kWh Savings	98	907,654	35	1,416,000	650	3,870,107	85	966,400	868	7,160,161
B/C Ratio / Planned Budget	0.91	\$85,548	1.24	\$139,109	0.90	\$1,560,462	1.90	\$234,270		\$2,019,389
<b>Energy Star Appliances</b>										
Number of Rebates / Lifetime kWh Savings	710	1,035,370	956	1,384,000	9,965	15,243,734	1,089	1,882,681	12,720	19,545,785
B/C Ratio / Planned Budget	1.30	\$88,614	1.47	\$93,738	1.97	\$606,846	1.30	\$100,000		\$889,198
<b>Home Energy Assistance (see Note 1)</b>										
Number of Units / Lifetime kWh Savings	55	1,373,943	46	571,000	514	7,201,690	76	10,597,445	691	19,744,078
B/C Ratio / Planned Budget	1.47	\$264,904	1.28	\$160,832	0.64	\$1,935,309	1.20	\$280,697		\$2,641,742
<b>Energy Star Lighting</b>										
Number of Rebates / Lifetime kWh Savings	11,710	3,442,104	13,838	4,519,000	224,009	67,325,855	50,644	15,673,876	300,201	90,960,835
B/C Ratio / Planned Budget	2.47	\$81,652	2.68	\$90,738	3.75	\$996,962	4.40	\$170,000		\$1,339,352
<b>C&amp;I New Equipment &amp; Construction</b>										
Number of Participants / Lifetime kWh Savings	24	19,342,474	14	5,414,000	106	67,241,635	7	5,635,348	151	97,633,457
B/C Ratio / Planned Budget	4.13	\$400,760	2.07	\$133,665	2.88	\$1,902,903	3.70	\$150,000		\$2,587,328
<b>Large C&amp;I Retrofit</b>										
Number of Participants / Lifetime kWh Savings	13	16,442,574	18	15,109,000	120	114,598,762	17	19,058,974	168	165,209,310
B/C Ratio / Planned Budget	2.17	\$339,674	3.08	\$131,253	2.33	\$2,242,707	2.50	\$325,000		\$3,038,634
<b>Small Business Energy Solutions</b>										
Number of Participants / Lifetime kWh Savings	59	8,796,866	15	2,335,000	404	75,020,685	50	16,550,739	528	102,703,290
B/C Ratio / Planned Budget	2.20	\$323,443	1.37	\$92,656	1.90	\$2,174,746	2.70	\$347,769		\$2,938,614
<b>Educational Programs (see Note 2)</b>										
B/C Ratio / Planned Budget		\$8,608		\$29,063		\$127,720		\$15,000		\$171,783
<b>Company Specific Programs</b>										
Number of Participants / Lifetime kWh Savings			15	5,077,000	43	30,011,098				35,088,098
B/C Ratio / Planned Budget		\$0	1.55	\$191,977		\$852,495		\$64,994		\$1,109,466
<b>Smart Start Program</b>										
Number of Participants / Planned Budget		\$0		\$15,263		\$50,000		\$0		\$65,263
<b>Utility Incentive</b>										
B/C Ratio / Planned Budget		\$148,825		\$95,308		\$1,061,898		\$147,018		\$1,453,049
<b>TOTAL PLANNED BUDGET</b>		<b>\$2,009,136</b>		<b>\$1,286,654</b>		<b>\$14,335,625</b>		<b>\$1,984,748</b>		<b>\$19,616,163</b>

**NOTES:**

(1) Unitil's HEA savings target equals 410,513 lifetime kWh + (34,768 lifetime MMBtu + 0.003413) = 10,597,445 lifetime kWh

(2) National Grid's Educational Program budget is included within other program budgets and therefore is not included in the total to avoid double counting.

Proposed Budget & Goals

NEW HAMPSHIRE CORE ENERGY EFFICIENCY PROGRAMS  
 NHPUC Docket No. DE 08-120  
 Attachment H  
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**NH CORE Energy Efficiency Program Goals**  
 (January 1 - December 31, 2009)

<b>NH CORE ENERGY EFFICIENCY PROGRAMS</b>	<b>EXPENSES (\$)</b>	<b>SAVINGS (Lifetime kWh)</b>	<b>NUMBER OF CUSTOMERS</b>
<b>RESIDENTIAL (nhsaves@home)</b>			
ENERGY STAR Homes	\$1,362,346	4,944,960	512
Home Energy Solutions	\$2,019,389	7,160,161	868
Home Energy Assistance	\$2,641,742	19,744,078	691
ENERGY STAR Lighting <sup>1</sup>	\$1,339,352	90,960,835	300,201
ENERGY STAR Appliances	<u>\$889,198</u>	<u>19,545,785</u>	<u>12,720</u>
<b>TOTAL RESIDENTIAL</b>	<b>\$8,252,027</b>	<b>142,355,819</b>	<b>314,992</b>
<b>COMMERCIAL &amp; INDUSTRIAL (nhsaves@work)</b>			
Educational Programs	\$171,783		
Small Business Energy Solutions	\$2,938,614	102,703,290	528
Large Business Energy Solutions	\$3,038,634	165,209,310	168
New Equipment & Construction	<u>\$2,587,328</u>	<u>97,633,757</u>	<u>151</u>
<b>TOTAL COMMERCIAL &amp; INDUSTRIAL</b>	<b>\$8,736,358</b>	<b>365,546,357</b>	<b>847</b>
<b>TOTAL</b>	<b>\$16,988,385</b>	<b>507,902,176</b>	<b>315,839</b>

<sup>1</sup> "Number of customers" is actually number of lighting products purchased.

