Public Service of New Hampshire

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The Northeast Utilities System

November 15, 2010

Debra A. Howland
Executive Director and Secretary
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: 2011 – 2012 CORE Energy Efficiency Programs
Docket No. DE 10-188

Dear Secretary Howland:

Enclosed please find seven copies of the Rebuttal Testimony of Angela Li, Carol Woods, Thomas R. Belair, and Thomas Palma on behalf of the Electric Utilities.

Copies of this testimony was supplied to all parties by electronic mail.

Gerald M Eaton
Senior Counsel

Enclosures

THE STATE OF NEW HAMPSHIRE
BEFORE THE PUBLIC UTILITIES COMMISSION

REBUTTAL TESTIMONY OF ANGELA LI, CAROL WOODS, THOMAS R. BELAIR and THOMAS PALMA

2011-2012 NH CORE ENERGY EFFICIENCY PROGRAMS

Docket No. DE 10-188

Q. Please state your names, positions and business addresses.

A. My name is Angela Li. My business address is 40 Sylvan Road, Waltham, Massachusetts. I am a Senior Analyst within the Policy and Evaluation group in Energy Efficiency Products, which includes responsibility for National Grid's energy efficiency programs.

My name is Carol Woods. My business address is 579 Tenney Mountain Highway, Plymouth, New Hampshire. I am the Energy Solutions Manager for the New Hampshire Electric Cooperative ("NHEC").

My name is Thomas R. Belair. My business address is PSNH Energy Park, 780 North Commercial Street, Manchester, New Hampshire. I am the Energy Efficiency Services supervisor for Public Service Company of New Hampshire ("PSNH").

My name is Thomas Palma. My business address is 325 West Ave., Portsmouth, New Hampshire. I am the Manager of Distributed Energy Resources, Planning and Design, for Unitil Service Corp. and perform work for its affiliate Unitil Energy Services ("UES").

Q. Have you previously testified before the Commission?

A Yes, we have each testified before the Commission.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of our testimony is to respond to the following issues raised in testimony by Staff, OCA, OEP and Mr. Hill:

1. Changes to the Home Performance with Energy Star Program;
2. Continuation of the fuel neutral Home Performance with Energy Star Program for PSNH and UES;
3. The utilities' position regarding the development of the 2011 plan;
4. A proposal to modify the performance incentive calculation to be based on actual expenditures;
5. Comments on hiring weatherization contractors;
6. Comments on issuing RFPs;
7. Comments on additional reports as part of the Performance Incentive Calculation; and
8. Combined heat and power ("CHP") C&I pilot measure – UES.

1. Changes to the Home Performance with Energy Star Program;

Q. How is the Home Performance with Energy Star Program being implemented in New Hampshire?

A. The New Hampshire electric and gas utilities have recommended implementing the Home Performance with Energy Star (HPwES) Program in their 2011 and 2012 plans.

All electric utilities will serve remaining electric heat customers, while gas utilities will serve their gas heat customers. In 2011 and 2012, PSNH and UES are proposing to continue serving customers on a fuel neutral basis. As part of this HPwES program, federal program guidelines are followed, including quarterly ENERGY STAR reporting. The utilities are doing this jointly to ensure statewide consistency with this program. The program measures and process are a continuation of the program currently being implemented and which has been certified by EPA as compatible with national standards.

Q. In Staff's testimony (page 27) and OEP's testimony (page 5), they recommend several changes to rebate levels and program design. What is the utilities' response to these changes?

A. Absent a full evaluation, the utilities recommend that no significant changes be made that might negatively impact a program that is already very successful and has been certified by EPA. However, the two issues the utilities would like to comment on are unbundling of measures, and the rebate levels.

Staff recommended that we unbundle weatherization from other measures. It is our position that bundling of services makes the most sense for the HPwES program. For example, health and safety measures must be incorporated with weatherization measures. This supports the "do-no-harm" principal which is a hallmark of home performance contracting, according to the Home Performance with Energy Star sponsor guide. It is also an important component of the Building Performance Institute's certification process. Both the previous HES Program and the newer HPwES incorporated health and safety measures as part of the programs.

The assessment for potential health and safety risks is an important element of the delivery of the HPwES program. Although a number of health and safety risks may be

identified during the assessment process and brought to the attention of the homeowner, only risks that are related to moisture, ventilation and combustion safety are incorporated in the project work scopes and receive limited incentives. These risks must be addressed as part of the energy efficiency improvements being implemented. They include:

1. Providing minimum ventilation rates to ensure acceptable indoor air quality as determined by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) standard 62.2-2007 and BPI Technical Standards. This requirement is included whenever air sealing is included in the workscope.
2. Ensuring that all interior moisture generating devices are properly terminated to the exterior of the home.
3. Ensuring the existence of at least one carbon monoxide detector when combustion appliances are present.
4. Using vapor barriers on dirt basement floors and crawlspaces when insulating these areas.

First and foremost, the program seeks to "do no harm" when delivering energy efficiency improvements to program participants. These limited measures are critical to ensuring the utilities uphold this commitment. As a result, the utilities recommend that health and safety measures continue to be bundled as part of the delivery of weatherization measures in this program to ensure the integrity of our work and the safety of our customers.

With respect to the rebate levels, both Commission Staff and the Office of Energy & Planning recommended changes in the rebate levels. Staff recommended having the weatherization incentives tied to energy savings as a percentage of overall household energy use. OEP recommended either reducing the rebate to 50% up to $4,000 or

creating tiered rebates to be based off of project energy savings. Changing the rebate to be a percentage of savings adds complexity to this program from both an administrative perspective and more importantly from a customer perspective. The utilities believe this change should be reviewed and considered as part of the upcoming process and impact evaluation and not instituted in 2011. However, changing the rebate level from 75% to 50% is a much simpler change to implement and to explain to customers. As stated in OEP's testimony, this change would also allow the utilities to serve more customers and thereby keep the program open longer.

Q: Please summarize your position regarding any recommended changes regarding the HPwES program.

Based on Staff and OEP's testimony and subsequent discussions, the utilities recommend that the rebate level be adjusted from 75% to 50%, and that the utilities continue to bundle these limited but important health and safety measures with the weatherization measures.

2. Continuation of the fuel neutral Home Performance with Energy Star Program for PSNH and UES:

Q. In Staff's testimony (pages 27-28), OCA's testimony (pages 11-12) and OEP's testimony (pages 5-8), they comment on and make recommendations about the continuation of the fuel neutral HPwES Program. Please explain whether anything has been done to evaluate the fuel neutral Home Performance with Energy Star program?

A. First of all, during 2010 an interim evaluation was performed to review the program and make sure we were collecting the data required for a full process and impact evaluation. Working with the Staff and Settling Parties, the Electric Utilities hired an evaluation firm, KEMA, to provide an early assessment of the New Hampshire Home Performance with Energy Star Program (HPwES) as operated by PSNH and UES. KEMA met with program administrators to understand the program and tracking systems in place, reviewed a participant survey and provided refinement recommendations, reviewed program tracking data and performed an assessment of its adequacy in meeting impact evaluation needs down stream, interviewed contractors of the program including a QA/QC vendor, and finally drafted and presented a memo of findings and recommendations.

Q. What have the utilities learned regarding the timing of an impact evaluation?

A. As part of its findings, KEMA noted that an evaluation performed in 2010 would need to utilize approaches more consistent with a 1) "meta study" or an 2) "on-site analysis with re-engineering work", while a study performed at the end of 2010 or early 2011 could be done with a 3) "billing analysis" approach. With the understanding that there are 3 types

of evaluation approaches that can be undertaken, the utilities took another look at the third approach – a billing analysis. In reviewing the number of homes weatherized prior to the 2009-2010 heating season, we counted 17 homes that were completely weatherized by October 1, 2009 (PSNH: 8, UES: 9). We thought this total of completed weatherization jobs would not be a sufficient sample size for a billing analysis comparing before and after fuel usage. We then looked at how many homes were complete by October 1, 2010 and counted 467 homes that were completely weatherized (PSNH: 400, UES: 67) prior to the 2010-2011 heating season. Based on this information, PSNH and UES believe that an evaluation that includes the larger sample of weatherized homes provides the most thorough options for a comprehensive evaluation.

Q. Based on this preliminary evaluation and the additional analysis, what do the utilities recommend?

A. In order to complete a thoughtful impact evaluation, the utilities believe that initiating an evaluation in the first quarter of 2011 will provide evaluators with more options, including a larger number of weatherized homes going through a full heating season, to evaluate the results of this program. The utilities recommend that work be done in December 2010 and January 2011 to complete an RFP that can be sent out in the first quarter of 2011 so that an evaluation contractor can be hired to do preliminary work in preparation for this evaluation (such as customer surveys, review of auditing software, review of measure savings, in depth interview of contractors, etc.). We expect that if a billing analysis is done on fossil fuels, the evaluator can gather useful information on stored fuels (oil, LP, kerosene, wood) as of April 1, 2011.

Q. Do the utilities have any other recommendations for the HPwES pilot program?

A. Yes. At this time, UES and PSNH propose continuing with this pilot program. At stated earlier, NHEC and National Grid will continue installing electric measures and serving remaining electric heat customers. Northern Utilities and National Grid – NH will continue serving their gas customers. For 2011, PSNH proposed serving 495 fuel neutral homes and UES proposed serving 65 fuel neutral homes. If the recommendation to reduce the rebate level from 75% to 50% is accepted, PSNH and UES recommend that they be allowed to increase the number of customers served to reflect this rebate change. Further, if these program changes are made, it is hoped that the conversion rate from audit to full weatherization (i.e. the number of audits that result in measures being installed) does not go down substantially. We are cautiously optimistic that the availability of RGGI on-bill financing will help move customers from audit to implementation, but the CORE utilities will closely monitor the conversion rate and the reasons why customers do not implement recommendations.

3. The utilities' position regarding the development of the 2011 plan.

Q. In Staff's testimony (pages 7- 11), they assert that actual achieved levels of savings should be reflected in budgeted savings estimates. What is the utilities' response to Staff's position?

A. The utilities did incorporate prior year actual results in their planning process for the 2011-2012 programs, but that was not the only data point taken into consideration. As part of the discovery process, the utilities provided specific examples comparing 2009 results with the 2011 plan, and included a list of the planning assumptions that were actually taken into consideration for the 2011 goals. Please see the attached data responses which reflect many of the planning assumptions used by the utilities.

In addition to actual prior year results, the utilities looked at:

1. increases in the cost per kilowatt hour saved trend over time (see page 3 of the 2011-2012 CORE Energy Efficiency filing showing the "Lifetime kWh Cost (Cents)" going from 1.70 in 2003 to 2.32 in 2009.);
2. increases in measure costs (specifically increases in labor and/or material costs);
3. addition of newer, higher cost energy efficiency measures (e.g., LED lights cost more than CFLs or other replacement fixtures);
4. reductions in measure life (e.g., for 2011 plan, clothes washer measure life reduced from 14 to 11 years, CFL measure life reduced from 8 to 5 years);
5. changes in energy code that affect energy savings in the new construction programs and make some measures more expensive;
6. changes to federal program guidelines which make certain measures more expensive or reduce savings (for example, adoption of the new version of the Energy Star Homes program will increase the cost to certify homes while reducing energy savings due to a higher baseline); and
7. changes in measure mix (for example, in the residential programs, the utilities are weatherizing fewer electrically heated homes while weatherizing more fuel neutral homes, which results in less kWh savings per home. For C&I programs, performing fewer lighting measures and more cooling and process measures results in lower annual savings).

Q. Are there any other differences between 2009 actual results and 2011 plan?

A. Yes. In addition to the factors that go into planning, actual budget changes between planned and actual need to be taken into consideration. For example, if one of the budget categories was going to be underspent in 2009, (e.g., evaluation), the utilities attempted to spend these funds on additional customer projects. Doing this increases the energy savings in that year for that program.

Q. Please summarize your response to Staff's recommendations, which rely solely on 2009 actual data to determine lifetime kWh savings goals.

A. The utilities do take into consideration actual results from prior years, but there are many other data points and factors that also have to be taken into consideration when developing a plan for a future year. The current 2011-2012 plan reflects all of these factors, along with changes in the program budgets and budget activities. The utilities believe that the projected savings in the 2011-2012 are the most appropriate benchmark because they are based on all the factors described above, which incorporate the use of the most recent data available instead of relying solely on data from one year. The utilities recommend that the Lifetime kWh Savings goals remain as filed.

4. A proposal to modify the performance incentive calculation to include actual expenditures.

Q. In Staff's testimony (pages 28-31), they make recommendations regarding the performance incentive calculation. What is the utilities' response to these recommendations?

A. During 2010, the parties met on several occasions to examine the Performance Incentive. One proposal that arose from this effort was to use "Actual Expenditures" rather than "Budget" in the performance incentive calculation for the actual results. Although no formal agreement for recommendations came out of that group, there was a general understanding that utilities would file their proposal for the performance incentive for the 2011 – 2012 program years using actual versus budgeted amounts. The utilities believe that moving to the Actual approach will solve a real problem in that there will no longer be the chance for the performance incentive to be earned twice on certain funds such as any carryover amount. This approach will result in a more consistent approach to the performance incentive calculation by all the electric utilities and be consistent with the way the natural gas utilities calculate their incentive. In summary, the utilities hope to resolve this issue in the context of settlement discussions and present a consensus resolution to this matter.

5. Comments on hiring weatherization contractors.

Q. In Mr. Hill's testimony (page 5), he makes recommendations regarding the utilities hiring of contractors. What is the utilities' response to this recommendation?

A. Mr. Hill's testimony recommended that any qualified contractor should be allowed to participate in the program. The utilities response is that any qualified contractor may be allowed to participate in response to an RFP but that does not guarantee that every contractor will be hired to perform program services. Given the current economic conditions, the CORE utilities would prefer to hire well-qualified New Hampshire contractors whenever possible and strive to do so. For the Home Performance with Energy Star ("HPwES") program, each additional contractor increases the amount of oversight which must be performed by the utilities and increases administrative costs. The utilities have made an effort to utilize as many qualified contractors as possible. For instance, some utilities hired additional contractors to participate in an effort to have service providers located geographically around the state. Others satisfied their requirements with their existing contractors. If the HPwES program becomes fully open for fuel neutral weatherization, the utilities will issue a competitive bid process to select contractors.

In addition, the utilities do provide opportunities for contractors not participating in the HPwES Program For example, non-electric heat customers in NHEC and National Grid's service territory do not qualify for the HPwES Program. Similarly, PSNH and UES, customers failing to meet the minimum requirements of the home heating index cannot participate in the fuel neutral program. The utilities routinely refer these customers to the www.repa-nh.org web site in order to connect them with interested auditors and weatherization contractors.

With respect to letting the market set prices for services and solutions, the utilities have been working with weatherization service providers for years to implement

weatherization programs that balance pricing in a way that is fair to the contractors while also being fair to participating customers, and which meet the CORE program goals. Pricing for the energy efficiency measures implemented in the HPwES program (and for HEA measures) is consistent statewide. Both contractors and customers have been receptive to this. In contrast, we have been told by some customers that they have requested energy audits outside of this program only to have a salesperson aggressively attempt to upsell windows – a measure that is typically not cost-effective. Customers participating in the HPwES program have come to trust the auditors hired by the utilities in this program, and appreciate the thorough audits, fair price and thoughtful recommendations being presented.

Q. Please summarize your testimony regarding utilities hiring contractors.

In summary the utilities want to hire as many qualified New Hampshire contractors as possible; however, that interest must be tempered with the economic realities of the program. Program oversight and quality assurance costs are directly related to the number of contractors and with limited budgets, the utilities must balance the number of contractors and the administrative costs of the program. The utilities believe the current program strikes the appropriate balance.

6. Comments on issuing of RFPs.

Q. In OCA's testimony (page 29), they make a recommendation regarding the utilities issuance of RFPs. What is the utilities' response to this recommendation?

A. OCA recommended that all RFPs related to the CORE programs be issued through public RFPs. The utilities are supportive of an open process, but do not believe that a public

RFP is the best approach for all contracted work. In cases where an RFP is appropriate, the utilities propose to identify potential contractors via a show of interest through various means such as on their websites or by contacting prospective contractors. The utilities believe public solicitations of interest will allow them to pre-qualify bidders who can perform the services (e.g. state-wide or regionally) and have a good track record of performance. The utilities' bid process is formalized and detailed. Prequalifying bidders would allow all potential participants to demonstrate their capabilities but would not swamp the bidding and review processes and not increase the costs associated with issuing RFPs publicly.

Also, it should be noted that some RFPs are initiated regionally such as NEEP's State Program Working Group evaluations and CEE's Energy Star Awareness survey. The utilities do not control the dissemination of these regional RFPs. For some projects, the utilities believe it is more appropriate to sole source smaller projects if such action can be justified and authorized by their Purchasing Departments.

Q. Please summarize your testimony regarding issuance of RFPs.

The utilities are supportive of an open process, but believe that a Show of Interest is the preferred approach to publicly solicit bidders. Furthermore, there are circumstances where the utilities need the flexibility to issue contracts with out a public RFP process. Examples include regional RFPs and smaller contracts which cannot justify the administrative overheads associated with a public RFP process.

7. Comments on additional reports as part of the Performance Incentive Calculation.

Q. Please summarize Staff's Testimony on the additional report.

A. Commission Staff recommends that energy efficiency filings and actual reports on savings contain a schedule showing the development of lifetime kWh savings. Staff recommended a side-by-side comparison that shows the build-up of budget and actual savings on a consistent measure-by-measure basis including: number of participants, annual savings per participant, realization rate, measure life and extended lifetime kWh savings.

Q. Please present the utilities' position regarding these additional reports.

A. Although the utilities understand Staff's request for this additional information the utilities are concerned about the increased administrative cost caused by additional reporting requirements. The utilities are willing to work with Staff to develop reporting requirements that are not unduly burdensome and provide Staff with meaningful data with which to measure lifetime kWh savings.

8. Combined heat and power C&I pilot measure – UES

Q. In its testimony, the OEP encourages the Commission to consider including a CHP C&I rebate for UES customers. Why did UES decide not to file for a CHP C&I pilot measure in the CORE filing?

A. UES considered, but did not include a (CHP) pilot C&I measure for the 2011-2012 programs. During the summer of 2010, the Company solicited input regarding developing a CHP program and/or pilot. Prior to the filing for the 2011-12 CORE programs, the Company received input from Staff, the Office of Consumer Advocate, and the Office of Energy and Planning. This feedback was helpful, but also demonstrated that several parties had concerns about such a pilot, namely, there are still other purely energy efficient measures to be implemented in UES' service territory and RSA 374:G covers CHP projects.

The Office of Energy and Planning has since raised this issue in its testimony, in support of establishing a pilot CHP program. CHP creates efficiency savings by significantly decreasing the amount of electric energy required and at the same time decreasing the amount of thermal energy required These systems can also be used for demand response and as backup generators. CHP systems are fueled by natural gas, diesel, wood, wood pellets, etc. depending on the manufacturers' equipment. The Company would like to revisit a proposed pilot C&I measure at a later date.

Q. Does this complete your testimony?

A. Yes, it does.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-34, Home Performance with Energy Star. Please provide a reconciliation of the proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached spreadsheet.

(NHEC Response)

New Hampshire Electric Cooperative, Inc.
Home Performance w/Energy Star

	Quantity			Annual Savings per Unit (kWh)			Measure Life	Realization Rate	Total Lifetime Savings (kWh)		
Measure	2009 Plan	2009 Actual	2011 Plan[1]	2009 Plan	2009 Actual	2011 Plan[1]	2009 & 2011	2009 & 2011	2009 Plan	2009 Actual	2011 Plan[1]
Lighting	31	22	39	228.4	438.0	291.72	8	100.00%	57,401	272,521	91,017
Thermostats	26	7	22	1,105.0	2,064.6	3729.22	10	100.00%	289,286	144,520	808,010
Air Sealing	34	21	30	708.5	1,892.7	2631.43	15	100.00%	359,834	596,191	1,197,169
Insulation	14	19	22	1,318.1	3,879.1	321	25	100.00%	460,093	1,842,550	173,878
Hot Water Measures	26	24	28	442.8	1,120.8	456	7	100.00%	81,134	188,299	89,909
Refrigerators	5	1	0	546.7	797.0	0	7	100.00%	20,036	5,579	0

1. NHEC did not plan by measure category in 2011 as in previous years, but did this calculation for this data request. Because of this, the total lifetime kWh does not match exactly the 2011 planned kWh.

The amount of savings attained in a home is determined by factors such as the size of the home, condition of the home and the mix and amount of measures installed. NHEC used 2010 actual results through the end of June as the basis for 2011 planned savings. These results were used to construct an average expected home.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-35, Home Energy Assistance program. Please provide a reconciliation of the proposed lifetime savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached spreadsheet.

(NHEC Response)

New Hampshire Electric Cooperative, Inc.
Home Energy Assistance

	Quantity			Annual Savings per Unit (kWh)			Measure Life	Realization Rate		Total Lifetime Savings (kWh)		
Measure	2009 Plan	2009 Actual	2011 Plan[1]	2009 Plan	2009 Actual	2011 Plan[1]	2009 & 2011	2009 Plan & Actual	2011 Plan[1]	2009 Plan	2009 Actual	2011 Plan[1]
Lighting	31	48	10	228.0	438.0	449.43	8	91.20%	86.20%	51,568	136,829	32,294
Thermostats	5	10	4	1,105.0	2,064.6	511.5	10	91.20%	86.20%	46,315	56,138	18,386
Air Sealing	34	13	19	709.0	1,892.7	82	25	91.20%	86.20%	549,617	268,333	33,133
Insulation	14	11	15	1,318.0	3,879.1	327.79	25	91.20%	86.20%	420,706	215,504	102,991
Hot Water Measures	28	43	40	443.0	1,120.8	321.13	7	91.20%	86.20%	77,985	77,884	76,694
Refrigerators	5	25	30	547.0	797.0	796.17	19	91.20%	86.20%	47,392	361,011	393,928
Fixtures	14	14	10	251.0	182.0	210.7	17	91.20%	86.20%	54,000	39,000	32,173

1. NHEC did not plan by measure category in 2011 as in previous years, but did this calculation for this data request. Because of this, the total lifetime kWh does not match exactly the 2011 planned kWh.

The amount of savings attained in a home is determined by factors such as the size of the home, condition of the home and the mix and amount of measures installed. In addition, the Home Energy Assistance program is a fuel neutral program. NHEC used 2010 actual results through the end of June as the basis for 2011 planned savings. These results were used to construct an average expected home. The reduction in savings is due to the fact that NHEC is serving a higher number of non-electrically heated homes.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-37, New Equipment & Construction program. Please provide a reconciliation of proposed lifetime savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by measure basis. For purposes of this responses, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached spreadsheet.

(NHEC Response)

New Hampshire Electric Cooperative, Inc
New Equipment & Construction

	Quantity			Annual Savings per Unit (kWh)			Measure Life	In-Service Rate	Total Lifetime Savings (kWh)		
Measure	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 & 2011	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
Air Compressors	3	3		52,677.0	21,528.3		15	100.00%	2,724,909	968,775	0
HVAC	3	2		32,739.0	4,599.0		15	100.00%	1,693,543	137,970	0
Lighting	7	5		9,624.0	13,260.6		15	100.00%	995,673	994,548	0
Motors		1			4,576.0		20	100.00%	0	91,520	0
Chiller		1			8,688.0		15	100.00%	0	130,320	0
Snowmaking		1			193,474.0		15	100.00%	0	2,902,110	0
EMS		1			166,023.0		15	100.00%	0	2,490,345	0
VFD		1			13,190.0		15	100.00%	0	197,850	0
Average Project			5			32,605	15	100.00%	0	0	2,430,703

Projects within the New Equipment and Construction Core Program category have typically been comprised of a blend of new building construction, gut rehabs of existing facilities, new HVAC equipment in existing buildings, and new snowmaking equipment at one or more ski areas within the NHEC territory.

Snowmaking projects typically have produced a significant amount of the savings in the NCI program. For example, in 2009 one snowmaking project comprised 41% of the annual program savings.

Technical advances in the snowmaking industry over the past several years have allowed manufacturers to produce equipment that increasingly exceeds the snow output volumes of previous technologies while using less energy to do so. Historically capitol costs associated with purchasing new snowmaking equipment have been significant but the technical advances have resulted in exceptional kw savings opportunities for our members due largely to reduced compressed air volumes needed to produce the snow.

As energy efficient snowmaking technology has become more commonplace we are seeing the price gap between "base" case and "energy efficient" technologies narrow, and as a result it is more difficult for projects to qualify under the conditions of the NEC Program. There is no snowmaking included in the 2011 plan The average expected project for 2011 is a new building including measures such as lighting, HVAC, VFDs and motors.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-38, Energy Star Homes program. Please provide a reconciliation of the proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached document.

(PSNH Response)

PSNH Energy Star Homes Program

Measure	Quantity			Annual Savings per Unit (kWh)			Measure Life			In-Service Rate	Total Lifetime Savings (kWh)		
	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
Oil Heated Homes	52.1	5.0	18.9	40.0	2,837.0	519.8	25	25	25	100.00%	52,123	354,624	245,562
Natural Gas Heated Homes	121.6	194.0	207.9	40.0	1,289.5	481.5	25	25	25	100.00%	121,620	6,254,270	2,501,896
Liquid Propane Heated Homes	173.7	84.0	132.3	40.0	1,289.5	506.0	25	25	25	100.00%	173,743	2,708,035	1,673,190
Electric Baseboard Heated Home	0.0	93.0	18.9		1,289.5	3,077.0	25	25	25	100.00%	0	2,998,181	1,453,498
ASHP Heated Home			0.0			1,600.0				100.00%	0	0	0
ES Thermostats			283.4							100.00%	0	0	0
ES Room AC	0.0		0.0	37.0		16.2			9	100.00%	0	0	0
ES Clothes Washer	52.1	60.0	56.7	118.7	118.7	223.0	14	14	11	100.00%	86,596	99,683	139,067
ES Dishwasher	121.6	139.0	226.8	43.1	43.1	33.0	12	12	10	100.00%	62,902	71,891	74,828
ES Refrigerator	139.0	159.0	302.3	84.9	84.9	107.0	13	13	12	100.00%	153,336	175,406	388,192
ES Light Fixture	1,042	1,190	1,134	105.9	105.9	105.9	20	20	20	100.00%	2,207,034	2,519,404	2,400,265
ES CFL Lights	3,475	3,967	3,779	50.6	50.6	50.6	8	8	5	80.30%	1,130,187	1,290,255	768,257

Planning Assumptions

1. Per prior Q-Staff-038 Response:

a. The lower electric kWh savings are in large part due to a change in the planned measure life for lighting and appliances. Those measure life changes contributing to this reduction are:

> CFL reduced from 8 to 5 years.

> Refrigerator reduced form 13 to 12 years.

> Clothes Washer reduced from 14 to 11 years.

> Dishwasher reduced form 12 to 10 years.

b. Also, in the 2009 program year, PSNH had a larger number of electrically heated homes participate in the Energy Star Homes program. Since 24% of the homes were electrically heated, this increased the amount of kWh savings realized in 2009. This quantity of electrically heated homes in 2009 was higher than normal, and the 2011 plan includes 5% electrically heated homes.

c. Going into 2011, there is a major milestone that will be encountered. Energy Star Homes Version 3.0 will begin to phase out the existing Energy Star Homes program and all of the rules and requirements will be changing. These changes are implemented by the EPA to ensure the program undergoes continuous improvement. The reality of introducing Version 3.0 is that builders will have a more difficult time meeting the new EPA version 3.0 requirements. Additionally more testing and consulting work will be required by the nationally recognized HERs raters that perform Energy Star Homes certifications. Therefore it is also expected that contractor service fees will increase.

d. In summary, lower measure lives and a smaller number of planned electrically heated homes have resulted in a lower kWh savings estimate. Increases in administration associated with the changes to the Energy Star Homes program are expected to increase the cost of each home rated in this program.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-39, Home Performance with Energy Star. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached document.

(PSNH Response)

PSNH Home Performance w/Energy Star

	Quantity			Annual Savings per Unit (kWh)			Measure Life			Realization Rate	Total Lifetime Savings (kWh)			Total Annual MMBTU Savings			Total Lifetime MMBTU Savings		
Measure	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan
Weatherization - Lighting Only (6 CFLs)	536.9	0		268.1	268		17.0	17.0	10.0	96.67%	2,365,293	0	0	0.00			0	0	0
Weatherization - EH, MF+SF Avg, Elec	578.2	1,553		268.1	1,785		8.0	16.0	15.0	96.67%	1,198,717	42,802,640	0	0.00			0	0	0
Weatherization - EH, MF+SF Avg, Wxn	578.2	1,553		769.9	0		19.0	10.4	25.0	96.67%	8,177,209	0	0	4.10	0.57		43,544	8,539	0
Baseload - EH, MF+SF, Wxn										96.67%	0	0	0				0	0	0
Baseload SF (Audit Installed Measures)			50.8			366.1			9.7	96.67%	0	0	174,728				0	0	0
Baseload MF (Audit Installed Measures)			398.7			366.1			9.7	96.67%	0	0	1,371,542				0	0	0
Pilot Wxn - Lighting Savings @ Fossil		89	495.2		1,334	465.3		14.0	7.4	96.67%	0	1,604,647	1,651,750				0	0	0
Fuel Neutral Pilot (Oil)-SF	77.2	62	257.5	105.7		0.0	19.0	20.0	20.2	96.67%	149,935	0	0	17.03	38.26	29.50	24,148	45,868	148,036
Fuel Neutral Pilot (LP) - SF	12.3	16	99.0	105.7		0.0	19.0	20.1	20.4	96.67%	23,889	0	0	17.03	22.40	15.37	3,847	6,930	30,018
Fuel Neutral Pilot (Gas) - SF	10.5	3	14.9	105.7		0.0	19.0	4.0	20.2	96.67%	20,393	0	0	17.03	20.26	22.62	3,284	235	6,562
Fuel Neutral Pilot (Wood) - SF		21	89.1			0.0		22.6	20.6	96.67%	0	0	0		25.74	14.10	0	12,018	25,075
Fuel Neutral Pilot (Kerosene) - SF			9.9			0.0			16.9	96.67%	0	0	0			8.89	0	0	1,439
Pilot Wxn - Electric Heat Savings			24.8			3,133.9			16.0	96.67%	0	0	1,198,623			0.00	0	0	0
Pilot - Fossil - Audits & CFLs	200.0	0		268.1			8.0			96.67%	414,614	0	0				0	0	0
Pilot - Heating System Replacements	20.0	0					20.0	20.0	7.0	96.67%	0	0	0	11.36	11.36		4,391	0	0

Planning Assumptions

1. From prior Staff Response (Q-STAFF-039): In 2009, we continued serving electrically heated homes and/or electric measures at fossil heated homes. A large part of the 2009 electric savings came from 1,553 multi-family units where energy efficient lighting fixtures and CFLs were installed. For 2011 and 2012, the plan is to install some lighting measures at each of the 945 home homes (much less than in 2009 -- more single family, but fewer units overall), with additional energy savings resulting from weatherization of 495 fossil heated homes. This lower number of units will result in lower electric savings, while the increase in fossil heated homes will result in additional fossil savings.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-40, Residential Energy Star Appliance program. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached document.

(PSNH Response)

PSNH Energy Star Appliance Program

Measure	Quantity			Annual Savings per Unit (kWh)		Measure Life		In-Service Rate	Total Lifetime Savings (kWh)		
	2009 Plan	2009 Actual	2011 Plan	2009 Plan & Actual	2011 Plan	2009 Plan & Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
Energy Star Clothes Washer	4,039.9	8,403.0	4,259.5	223.01	223.00	14	11	100.00%	12,612,885	26,234,754	10,448,490
Energy Star Room A/C	5,925.3	1,278.0	2,920.8	37.00	16.16	12	9	100.00%	2,630,849	567,432	424,704
Smartstrip Power Strip		676.0	973.6	175.00	75.04	5	5	100.00%	0	591,500	365,291
Energy Star Dishwasher			0.0		60.00		10	100.00%	0	0	0
* Energy Star Refrigerator			3,042.5		107.00		12	100.00%	0	0	3,906,529
* Energy Star Room Air Cleaners & Purifiers			121.7		268.00		9	100.00%	0	0	293,538
* 2nd Refrigerator/Freezer Pickup			851.9		413.00		8	100.00%	0	0	2,814,562
									0	0	0
									0	0	0
									0	0	0

Planning Assumptions

1. There are a number of changes to this program for 2011, including:
   - measure lives for clothes washers and room air conditioner has been lowered by more than 20%.
   - rebate level for clother washers reduced frm $50 to $30 is expected to result in a lower number of rebates processed.
   - room air conditioner annual energy savings was reduced per a recent evalution.
   - Smart Power Strips annual energy savings were reduced as well.

2. See "*"as 3 new appliance rebates were added for 2011.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-41, Energy Star Lighting program. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached document.

(PSNH Response)

PSNH Energy Star Lighting Program

	Quantity			Annual Savings per Unit (kWh)		Measure Life		In-Service Rate	Total Lifetime Savings (kWh)		
Measure	2009 Plan	2009 Actual	2011 Plan	2009 Plan & Actual	2011 Plan	2009 Plan & Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
Catalog Sales: CFLs	23,118	6,578	2,235	51.61	51.61	8	5	80.30%	7,663,785	2,180,683	463,013
Catalog Sales: Interior Fixtures	2,150	1,057	208	107.10	107.10	8	8	96.40%	1,776,248	873,056	171,701
Catalog Sales: Exterior Fixtures	1,075	162	104	107.10	107.10	15	5	100.00%	1,727,419	260,260	55,660
Catalog Sales: Torchieres	538	90	26	214.57	119.98	8	8	93.50%	862,860	144,446	23,319
Catalog Sales: LEDs			26		47.16	20	20	95.00%	0	0	23,283
Retail Sales: CFLs	187,195	219,694	58,392	50.63	50.63	6	5	80.30%	45,666,055	53,594,094	11,870,494
Retail Sales: CFL Multipacks			84,017		50.63	6	5	80.30%	0	0	17,079,848
Retail Sales: Interior Fixture	7,961	5,126	2,521	105.86	105.86	8	8	96.40%	6,499,377	4,184,720	2,057,669
Retail Sales: Exterior Fixture	1,971	309	840	105.86	105.86	15	5	100.00%	3,130,111	490,649	444,690
Retail Sales: Torchieres	0	37	840	172.93	104.37	8	8	93.50%	0	47,859	655,921
Retail Sales: LEDs			420		47.16	20	20	95.00%	0	0	376,396

Planning Assumptions

1. Rebate Budget from 2009 Plan to 2011 Plan was reduced by approximately $200,000.
2. Measure life was reduced to 5 years on CFLs.
3. Exterior Fixture measure life reduced from 15 to 5 years.
4. A few catalog changes for 2011:
   - more focus on specialty bulbs (dimmable, 3-way, floodlight).
   - more emphasis on mass market education of ALL energy efficient products.
   - new hand-made fixtures from a New Hampshire manufacturer - Norteastern Lantern, Exeter, NH.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-42. Large C&I Retrofit. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 vs. proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached document.

(PSNH Response)

PSNH Large C&I Retrofit Program

	Quantity			Annual Savings per Unit (kWh)			Measure Life			In-Service Rate	Total Lifetime Savings (kWh)		
Measure	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
Lighting	70.3	119.0	70.7	95,000	76,749	93,000	12.8	12.9	12.5	94.00%	80,045,580	110,950,940	77,309,658
Process	42.5	64.0	51.4	57,000	85,005	50,000	13.0	12.3	12.5	94.00%	29,594,731	63,040,224	30,184,105
Cooling	7.2	14.0	14.3	60,000	80,934	70,000	12.3	13.0	13.0	94.00%	4,958,451	13,893,856	12,267,976
Heating		2.0			117,976	106,178		13.0	13.0	94.00%	0	2,883,321	0

Planning Assumptions

1. From prior Staff Response (Q-STAFF-042): The lower planned lifetime kWh savings are the result of lower assumed savings associated with cooling and process measures, and an increase in the average lighting rebate which results in fewer projects.

2. The 2009 GDS Technical Potential Study highlighted the following Maximum Achievable/Cost Effective measures by enduse: lighting, refrigeration, HVAC controls, lighting controls, and ventilation. All of these non lighting measures, while cost effective, will be more expensive to implement and yield less savings than the typical lighting measures.

3. In 2009, PSNH reallocated technical assistance funds and applied it to rebates for additional customer projects.

4. The Lifetime kWh Savings per Lighting Project for 2011 Plan is planned to be between 2009 Plan and 2009 Actuals, higher than 2009 Actuals despite the measure life going down.

5. Lower annual energy savings are being seen in Cooling and Process projects and has incorporated for this in the plan.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-43, Small Business Energy Solutions. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 vs. proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached document.

(PSNH Response)

PSNH Small Business Energy Solutions Program

Measure	Quantity			Annual Savings per Unit (kWh)			Measure Life			In-Service Rate	Total Lifetime Savings (kWh)		
	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
Lighting	403.6	745.0	550.8	14,820	11,256	14,000	13.5	13.0	12.5	92.90%	75,020,685	101,219,283	89,551,057

2011 Planning Assumptions

1. Per Response to Staff-043, The lighting program has seen several successful years, and many existing T12's have been replaced. Because of this, the mix of projects has changed noticeably. Vendors are promoting High Performance T8's to customers who replaced T12's with standard T8's 5-7 years ago. In addition, LED's are becoming more popular, and while they do offer significant savings, the cost is still relatively high. As a result of this, the current mix of lighting measures costs more per kWh saved than was the case in prior years. We are also planning for larger projects as we expand this program to the 100-200 kW customers. This expansion is expected to increase the average rebate per project, resulting in less projects. The combination of these two result in slightly lower kWh savings.

2. The 2009 **GDS Technical Potential Study** highlighted the following Maximum Achievable/Cost Effective measures by enduse: lighting, refrigeration, HVAC controls, lighting controls, and ventilation. All of these measures, while cost effective, will be more expensive to implement and yield less savings than the mainstream lighting measures that have dominated our programs in prior years.

3. PSNH has seen the annual kWhs per job going down in recent years. This will be somewhat offset by expanding the program to customers in the in the 100-200 kW range.

4. Lifetime kwh per quantity of project shows that 2011 plan is between 2009 Plan and 2009 Actuals, higher than 2009 actuals despite the fact that the measure life going down slightly.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
PSNH's Company Specific programs. Please provide a side-by-side comparison of expenditures and savings for the proposed 2011 and actual 2009 values. Please include in your response a side-by-side comparison of expenditures on a program-by-program basis. Please include in your response a reconciliation of proposed lifetime kWh savings in 2009, actual achieved lifetime kWh savings in 2009 vs. proposed lifetime kWh savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached.

(PSNH Response)

PSNH Company Specific Programs

A. Energy Star Homes - Geothermal

B. Energy Rewards RFP Program

	Quantity			Annual Savings per Unit (kWh)			Measure Life			In-Service Rate	Total Lifetime Savings (kWh)		
Measure	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 Plan	2009 Actual	2011 Plan	2009 & 2011	2009 Plan	2009 Actual	2011 Plan
GSHP (Heating)	40	54	39	15,592	29,578	22,622	25	25	25	100.00%	15,421,552	39,930,175	22,215,252
GSHP (Cooling)	40	49	39	244	131	167	25	25	25	100.00%	241,333	160,700	163,527
GSHP (Hot Water)	40	47	39	1,072	1,604	1,215	25	25	25	100.00%	1,060,281	1,884,375	1,193,475
GSHP (Lights & Appliances)		51	39		-274	-186	25	25	25	100.00%	0	-349,075	-182,500
ASHP (Heating)			14			10,180	25	25	25	100.00%	0	0	3,623,771
ASHP (Cooling)			14			75	25	25	25	100.00%	0	0	26,675
ASHP (Hot Water)			14			547	25	25	25	100.00%	0	0	194,681
ASHP (Lights & Appliances)			14			-84	25	25	25	100.00%	0	0	-29,769
C&I RFP: Lighting	1	1	2	400,000	142,997	390,000	13	13	13.0	100.00%	3,612,253	1,858,961	12,406,898
C&I RFP: Process	1	3	5	300,000	222,071	210,000	13	13	11.6	100.00%	5,160,363	8,414,152	12,333,468
C&I RFP: Cooling	3	1	2	100,000	238,383	195,000	13	10	10.5	100.00%	4,515,316	2,383,830	4,555,073

Planning Assumptions

A. Energy Star Homes - Geothermal & Air Source Heat Pump

1. GSHP = Ground Source (Geothermal) Heat Pump. ASHP = Air Source Heat Pump
2. 2009 Actual Budget exceeded to accommodate an additional 14 geothermal homes.
3. Home Energy Raters incorporating a new Heat Pump COP calculation for the rated home to more accurately account for pumping power requirements. This will reduce savings by 8%.
4. Bruce Harley to update the User Defined Reference Home for New Hampshire to reflect code changes. Revision will include a change to the efficiency of the reference heating system efficiency, resulting in a 5% reduction in savings.
5. Planning for additional homes to have Air Source Heat Pumps installed in 2011 due to their cold climate heating improvements.

B. C&I RFP Program

1. Upon further review, PSNH may have overstated the goals for 2011 in this program.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-44, Energy Star Homes. Please include in your response a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached report.

(Unitil Response)

UES' Response:

See Table 2-36 below. Note that the measure level information used for this comparison was from the final SHI calculation. Quarterly reports are produced from the Company's tracking system with gross savings rolled up at the program level. When the SHI is calculated, raw data is extracted from the tracking system, reviewed for accuracy, and input into the Company's benefit cost model to produce net savings for the SHI calculation.

Table 2-36

ENERY STAR Homes	2009		2011
	Proposed	Actual	Proposed
Measures	Lifetime kWh		
A02a E-STAR Homes - Heating	-	1,747,550	1,179,261
A02a E-STAR Homes - Cooling	-	36,100	32,184
A02a E-STAR Homes - Water Heating	-	74,265	-
A02a E-STAR Homes - CFLs	201,195	83,312	125,697
A02a E-STAR Homes - Fixtures	-	237,440	-
A02a E-STAR Homes - Dishwashers	14,635	8,514	25,059
A02a E-STAR Homes - Refrigerators	136,762	15,600	25,236
A02a E-STAR Homes - Clotheswashers	42,163	22,484	14,464
A02a E-STAR Homes - Thermostats	-	13,640	0
TOTAL	394,756	2,238,905	1,401,902

As stated in Staff 1-44, all categories of the Energy Star "Homes" Program budget saw increases to account for additional time spent on the program to achieve goals and for evaluation. Additionally, the rebate dollars are $61K higher than 2009 actuals and these cover 15 additional homes. The HERS rater fee in 2011 increased by 20% and homes with furnaces must also have duct blasting which is an additional $175/home. Therefore, the cost/home completed has increased.

At the same time forecast savings decreased as the 2011 estimates do not include some components that were installed in 2009, such as air source heat pumps and geothermal. These measures increased the overall savings/home in 2009. We are not expecting any of these measures to be completed in 2011. Additionally, one project in 2009 installed a significant number of fixtures which increased savings for 2009 but which are not expected in 2011.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-45, Home Performance with Energy Star program. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached report.

(Unitil Response)

UES' Response:
See Table 2-37 below. Note that the measure level information used for this comparison was from the final SHI calculation. Quarterly reports are produced from the Company's tracking system with gross savings rolled up at the program level. When the SHI is calculated, raw data is extracted from the tracking system, reviewed for accuracy, and input into the Company's benefit cost model to produce net savings for the SHI calculation.

Table 2-37

Home Performance w/ ENERGY STAR	2009		2011
Measures	Proposed	Actual	Proposed
	Lifetime kWh		
A03a HES Insulation, Electric	452,258	562,625	382,685
A03a HES Air Sealing, Electric	154,809	106,200	-
A03a HES DHW, Electric	18,601	97,715	-
A03a HES Thermostats, Electric	133,392	100,688	-
A03a HES Lighting	207,339	180,442	112,842
A03a HES Fixtures - Exterior	-	12,708	-
A03a HES Fixtures - Interior		27,640	-
A03a HES Fixtures - Comm T8		815,776	-
TOTAL	966,400	1,903,794	112,842

As stated in the response to Staff 1-45, planned completions in 2009 included 85 audits with a 62% follow-through rate. All planned 85 audits included 6 bulb installs. In 2011, the Company narrowed down the number of audits to be completed down 65 with a 76% follow-through rate. Nearly the same number of homes will have major measures installed, but with 20 less homes receiving only audits but not following through.

The assumed rebate/home in 2011 has been increased by approximately $1,000 more than in 2009 as trends have been towards homes receiving higher rebates than in the past as the HPwES program delivers deeper and more comprehensive services.

Savings assumptions per electric home in 2011 appear to be underestimated and do not include other electric measures that may be installed such as thermostats and DHW measures. These assumptions will be reassessed for purposes of finalizing the 2011 and 2012 plan.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-46, Home Energy Assistance program. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached report.

(Unitil Response)

UES' Response:

See Table 2-38 below. Note that the measure level information used for this comparison was from the final SHI calculation. Quarterly reports are produced from the Company's tracking system with gross savings rolled up at the program level. When the SHI is calculated, raw data is extracted from the tracking system, reviewed for accuracy, and input into the Company's benefit cost model to produce net savings for the SHI calculation.

Table 2-38

Home Energy Assistance	2009		2011
Measures	Proposed	Actual	Proposed
B03a HEA HVAC,Electric	68,345	270,955	249,696
B03a HEA Air Sealing	-	114,119	
B03a HEA Hot Water	-	30,167	
Thermostats	-	114,133	
B03a HEA Refrigerator	172,295	637,064	629,473
B03a HEA Lighting	169,873	51,520	129,297
Fixtures	-	23,256	-
TOTAL	410,513	1,241,214	1,008,466

As stated in the response to Staff 1-46, all categories of the budget saw increases to account for additional time spent on the program to achieve goals. Additionally, the rebate dollars are $26K higher than 2009 actuals to account for the higher incentives being paid for comprehensive services.

Average savings for homes is averaged from three years of data. This program does not see a significant number of electric homes go through the program each year so one year of savings is not representative of savings that would be achieved the next year. In the 2011 plan, 10% of homes weatherized are assumed to be electric with average savings 9% below 2009 actual savings. Additionally, the 2009 savings included several thermostats installed in the electric space heat homes, accounting for 14% of total savings. Thermostats were not included in the 2011 planned savings.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-47. Energy Star Lighting Program. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached report.

(Unitil Response)

UES' Response:

See Table 2-39 below. Note that the measure level information used for this comparison was from the final SHI calculation. Quarterly reports are produced from the Company's tracking system with gross savings rolled up at the program level. When the SHI is calculated, raw data is extracted from the tracking system, reviewed for accuracy, and input into the Company's benefit cost model to produce net savings for the SHI calculation.

Table 2-39

ENERGY STAR Lighting	2009		2011
Measures	Proposed	Actual	Proposed
	Lifetime kWh		
A04a E-STAR Light Retail CFLs	10,673,269	9,929,005	8,516,156
A04a E-STAR Light Catalog CFLs (12%)	1,736,263	-	-
A04a E-STAR Light Interior Fixtures	3,016,918	1,651,111	17,944
A04a E-STAR Light Exterior Fixtures	156,362	3,705	465,357
A04a E-STAR Light Torchieres	91,063	781	-
A04a E-STAR Light LEDs	-	-	19,694
TOTAL	**15,673,876**	**11,584,602**	**9,019,151**

As stated in the response to Staff 1-47, the primary driver for the variation in lifetime savings between 2009 and 2011 is a change to measure life for interior fixtures. The measure life in 2009 for fixtures was 20 years. In 2011 the measure life was changed to 5 years. So while it accounts for a large difference in a comparison of lifetime savings, annual savings comparison between the two years differ by 18%.

Additionally, the quantity of fixtures in the 2011 plan is less than the 2009 plan because the number fixtures rebated has been declining and actual came in 45% below planned levels in 2009.

Witness: Thomas R. Belair
Request from: New Hampshire Public Utilities Commission Staff

Question:
Follow-up to Staff 1-48, Large C&I Retrofit program. Please provide a reconciliation of proposed lifetime kWh savings in 2009, actual achieved savings in 2009 and proposed savings in 2011, showing the side-by-side build-up of actual and proposed lifetime kWh values on a measure-by-measure basis. For purposes of this response, please use the final fourth quarter report covering the period January - December 2009.

Response:
Please see attached report.

(Unitil Response)

UES' Response:

See Table 2-40 below. Note that the measure level information used for this comparison was from the final SHI calculation. Quarterly reports are produced from the Company's tracking system with gross savings rolled up at the program level. When the SHI is calculated, raw data is extracted from the tracking system, reviewed for accuracy, and input into the Company's benefit cost model to produce net savings for the SHI calculation.

Table 2-40

Large C&I Retrofit	2009		2011
Measures	Proposed	Actual	Proposed
C03a Lg C&I Retrofit -Rolled Up	19,058,974	-	
C03a Lg C&I Retrofit -Non-Lighting			7,465,898
C03a Lg C&I Retrofit -Lighting	-	28,376,176	23,642,010
C03a Lg C&I Retrofit -HVAC	-	347,296	
C03a Lg C&I Retrofit -Motors/Drives	-	1,465,873	
C03a Lg C&I Retrofit -Refrigeration	-	2,874,172	
C03a Lg C&I Retrofit -Compressed Air	-	990,404	
C03a Lg C&I Retrofit - Occupancy Sensors	-	64,116	
TOTAL	19,058,974	34,118,037	31,107,908

As stated in the response to Staff 1-48, all categories of the budget saw increases to account for additional time spent on the program to achieve goals.

Savings for this program is forecasted by going back several years and averaging projects by end-use type. Program savings vary from year to year depending on the types of projects completed. In general, lighting averages about 80% of total savings each year with project sizes and costs/kwh varying from year. For 2011 planning, lighting for this program has a higher planned cost/kwh than 2009 which resulted in 17% less planned savings for this end-use. Additionally, because there is variation in the other types of projects completed from year to year (non-lighting), an average of these projects is used to forecast the savings and cost/kwh. In 2011, the planned cost/kwh is increased slightly resulting in slightly lower savings (6%) from 2009.