

BEFORE THE STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION

In the matter of: )  
Granite State Electric Company d/b/a National Grid )  
New Hampshire Electric Cooperative, Inc. )  
Public Service Company of New Hampshire ) DE 09-170  
Unitil Energy Services, Inc. )  
2010 CORE Energy Efficiency Programs )

Direct Prefiled Testimony

of

Stephen R. Eckberg  
Utility Analyst

*Dated:* November 6, 2009

1 **I. Introduction**

2 **Q. Please state your name, business address and position.**

3

4 A. My name is Stephen R. Eckberg. I am employed by the Office of  
5 Consumer Advocate (OCA) as a Utility Analyst. I include as  
6 Attachment SRE-1 to my testimony a statement of my education and  
7 experience.

8

9 **Q. Mr. Eckberg, have you previously testified before the Commission?**

10

11 A. Yes, I have testified on behalf of the OCA in several cases, as  
12 well as in my prior role as administrator for the Electric  
13 Assistance Program.

14

15 **Q. Please briefly describe your experience and specific knowledge or  
16 skills that relate to your testimony in this docket.**

17

18 A. I have a long background in energy efficiency in several  
19 capacities. I was previously employed by Hagler Bailly, Inc., a  
20 consulting firm, where my duties included evaluation of utility-  
21 sponsored demand side management and energy efficiency programs.  
22 I was also previously employed by the NH Governor's Office of  
23 Energy and Community Services (now the Office of Energy and  
24 Planning) as the Program Administrator of the Weatherization  
25 Assistance Program for approximately two and a half years. That  
26 program, funded by the US Department of Energy, provides  
27 weatherization, energy efficiency improvements, and health and

1 safety measures to New Hampshire's low income households in  
2 conjunction with the Community Action Agencies (CAAs). I have  
3 also received specialized training and have been a certified  
4 energy auditor. Subsequently, I was employed as the statewide  
5 administrator of the Electric Assistance Program which provides  
6 bill assistance to income eligible households and is funded by  
7 the same System Benefits Charge that funds the CORE energy  
8 efficiency programs. I also have professional experience in the  
9 construction trades, including the design and construction of  
10 buildings, which provides me with an appreciation for the  
11 intricacies of building science.

12  
13 A more detailed statement of my education and experience is  
14 included as Attachment SRE-1 to my testimony.

15  
16 **II. OCA's Issues in this CORE filing.**

17  
18 **Q. Please describe the purpose of your testimony.**

19  
20 **A.** I will address several issues including:

- 21 1. Home Energy Assistance Program funding
- 22 2. NHEC's Load Management Program
- 23 3. The "Fuel Blind" HES pilot program
- 24 4. CORE Audit Report and findings
- 25 5. Shareholder Incentive (aka "Performance Incentive")
- 26 Metrics

1           6.     A more "Open" program participation structure for the  
2           Residential Energy Efficiency Program.

3           7.     Monitoring and Evaluation ("M&E")  
4

5   **Q.     Please address your first issue regarding funding for the Home**  
6   **Energy Assistance Program.**

7  
8   A.     On pages 25-26 of the joint CORE filing the Utilities provide the  
9     general description of the Home Energy Assistance (HEA) program.  
10    Pages 52-58 of the filing provide additional details about the  
11    collaborative implementation process between this program and the  
12    DOE Weatherization Assistance Program (DOE Wxn) as implemented by  
13    the CAAs, as well as details of planned production levels.

14  
15   **Q.     At what level do the CORE utilities propose to fund the HEA**  
16   **program for 2010?**

17  
18   A.     In response to Staff 1-32 NGrid, NHEC and PSNH stated they are  
19     funding the HEA program at 14% of total available funding for the  
20     programs.   Unitil stated that they calculated the HEA budget at  
21     14.44% of the total direct budget.   See Attachment SRE-2.

22  
23   **Q.     Does the OCA believe this funding level is appropriate?**

24  
25   A.     The OCA does believe that, in light of limited resources, this  
26     funding level is appropriate.   The OCA understands that it is  
27     necessary to balance the needs of low income households with

1 other residential customers as well as those of commercial &  
2 industrial customers. While there is significant need for  
3 weatherization and energy efficiency services in the low income  
4 sector, there are also other needs and cost effective  
5 opportunities in other customer sectors.

6

7 **Q. Do you have any information about the low income weatherization**  
8 **needs in New Hampshire?**

9

10 A. Yes. On behalf of the OCA, I participated in the Low Income  
11 Needs Assessment Team during 2008. This team was a subcommittee  
12 of the ongoing CORE oversight group made up of regular  
13 intervenors in CORE dockets. The group included the OCA,  
14 Commission Staff, NH Legal Assistance on behalf of The Way Home,  
15 the Community Action Agencies, the Office of Energy and Planning,  
16 and the utilities. The Final Report of that group was attached  
17 to the Settlement filed on December 10, 2008 in DE 08-120 as  
18 Appendix B, and is attached to my testimony as Attachment SRE-3.  
19 The Report presented data and a methodology to develop an  
20 estimate of the total number of income eligible HEA households in  
21 the state, so that it could be used to determine need using  
22 different guidelines as they evolve over time. In the text of  
23 the Report, the group defined eligibility as those at or below  
24 185% of Federal Poverty Guidelines (FPG).  
25  
26 Based on that level, the analysis showed that at that point in  
27 time there were 95,542 New Hampshire households eligible for the

1 HEA program. The information used at that time was from the 2007  
2 US Census Bureau's Community Population Survey Annual Social and  
3 Economic Supplement.

4

5 **Q. Did that Report quantify how many households had been served by**  
6 **the HEA program?**

7

8 A. Yes. Based on data from the CORE programs, the CAAs and OEP, we  
9 estimated that between 1998 and 2007 approximately 8,540 New  
10 Hampshire low income households were served by either a state or  
11 federal weatherization program. As a result, we estimated that  
12 approximately 87,000 eligible households remained to be served.

13

14 **Q. Do you think that the 87,000 number is conservative?**

15

16 A. Yes, for several reasons. First, it is based upon the 2007  
17 census data. Second, for purposes of our analysis those  
18 households served by some program in some capacity, the 8,540  
19 figure, were not included in the need figure of 87,000. However,  
20 due to the broad scope of available efficiency opportunities in  
21 most of the low income housing stock in New Hampshire, and the  
22 fact that the average spending in state and federal  
23 weatherization programs per participant is in the range of  
24 \$3,400, I believe that there remain significant cost effective  
25 opportunities to do more low income energy efficiency in the  
26 state. Finally, we are now using the figure of 200% of FPG for

1 eligibility for HEA, which increases the 87,000 number to  
2 approximately 111,000.

3

4 **Q. How well do you believe that the 2010 proposed CORE HEA budget**  
5 **addresses the level of need for low income weatherization in the**  
6 **state?**

7

8 A. The proposed budget, using roughly 14% of available Energy  
9 Efficiency funds, results in an HEA budget of \$2,870,141, and  
10 proposes to serve 1,053 households. See CORE Filing, page 88,  
11 89.<sup>1</sup> The Low Income Needs report mentioned above stated that  
12 between April 1, 1998 and December 31, 2007 8,540 homes have been  
13 weatherized by either the DOE Weatherization Assistance Program  
14 or the CORE HEA. Using the 200% eligibility numbers from 2007 of  
15 111,173 from the Report leaves roughly 102,633 households still  
16 to be served. It is clear that even if we include funding and  
17 weatherization jobs completed through the natural gas low income  
18 programs and the expanded Weatherization funding that has been  
19 made available through ARRA, it will be roughly 25 years before  
20 this number of homes could be weatherized at the current rate.<sup>2</sup>

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<sup>1</sup> It is important to note that the HEA budget is developed by taking projected kWh sales for the coming year, multiplying that by 1.8 mills for the EE portion of the SBC, and then taking the low income budget as a percentage from that total figure. The remaining funds are then split between residential and C&I at roughly a 40%/60% split, consistent with a consensus-based approach first approved by the Commission when the CORE programs were first developed in 2000.

<sup>2</sup> It is also important to reference (and support) the Governor's Climate Change Action Plan (CCAP) goal for residential efficiency as another goal post in this discussion. Several actions related to the CORE programs. For example, Action RCI 1.2 sets a goal of retrofitting 30,000 homes per year in order to reduce their net energy consumption by 60% through energy efficiency and renewable energy, in order to help achieve the CO<sub>2</sub> reduction goals in the CCAP.

1 This is not a rate that can meet the need. It is also important  
2 to realize that \$3,400 per home is a very modest investment.<sup>3</sup>

3

4 **Q. Does the OCA believe that the 14% budget is excessive?**

5

6 A. Absolutely not. The OCA supports the proposed funding level as a  
7 modest but fair compromise in light of budget constraints and the  
8 needs and opportunities in all customer sectors.

9

10 **Q. Does the OCA believe that other mechanisms for developing the low**  
11 **income budget might be appropriate in the future?**

12

13 A. We are certainly open to discussing how to develop an approach  
14 that all parties support for the future. However, we can not  
15 support cutting funding for low income weatherization. We  
16 believe that next year, when the parties have agreed to begin  
17 planning for 2010 and beyond earlier in the year in order to  
18 address larger issues related to the programs, is a more  
19 appropriate time to try to reconfigure the low income funding  
20 formula.

21

22

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<sup>3</sup> The Climate Change Action plan uses a range of roughly \$16,000 to \$33,000 per home in order to reach the CCAP efficiency goals.

1 Q. Please address your second issue - the New Hampshire Electric  
2 Coop's (NHEC) Load Management Program.

3

4 A. NHEC's utility-specific program called the Load Management  
5 Program is described on page 32 of the CORE filing. NHEC states  
6 that it "...has offered this program since 1993. By means of a  
7 radio-controlled switch, NHEC is able to turn off, or control  
8 electric baseboard heat and electric water heaters in the homes  
9 of participating members. NHEC members receive the benefit of  
10 lower bills through the off-peak Heating and Controlled Water  
11 Heating Rates." See CORE filing at page 32. NHEC plans to use  
12 CORE SBC funds, in the amount of \$100,707, to maintain the  
13 existing infrastructure. In fact, NHEC states that "[s]uccess  
14 for this program will be based on the continued maintenance of  
15 the existing load management equipment." See CORE filing at page  
16 32.

17

18 Q. What is the OCA's concern about this program?

19

20 A. The OCA has been concerned about the costs and cost effectiveness  
21 of this program for several years. In last year's CORE Docket,  
22 DE 08-120, in response to discovery, NHEC stated that it had no  
23 records of activations of the system in the prior 3 years, nor  
24 any information about actual load reductions associated with any  
25 activations of the system. See Attachment SRE-4, NHEC response  
26 to OCA 1-16 in DE 08-120. In the current Docket, NHEC states  
27 that it has an automated schedule and that (NHEC) Staff can

1 manually control the system in an effort to reduce transmission  
2 peaks. See Attachment SRE-5, NHEC response to OCA 1-27. The  
3 Company, however, has not provided any evidence that this load  
4 management system is active and useful and presently providing  
5 real benefits to NHEC's member ratepayers. The Company's  
6 statements indicate only that it has some theoretical potential  
7 benefits.

8

9 **Q. What is NHEC's proposed program budget as included in this**  
10 **filing?**

11

12 A. On page 32 of the filing, NHEC shows their proposed budget for  
13 this program to be \$100,707 for 2010. This is approximately 12%  
14 of NHEC's total Residential Programs budget (see page 73 of the  
15 filing). In recent years, NHEC has budgeted \$102,198, \$125,200,  
16 \$105,000, and \$104,700 in years 2006, 2007, 2008, 2009,  
17 respectively.<sup>4</sup> These amounts seem excessive for a program for  
18 which there are no estimated savings in 2010.

19

20 **Q. What is the OCA's recommendation for this program?**

21

22 A. The OCA believes that NHEC has not provided evidence that  
23 supports continued CORE SBC funding of this program. NHEC has  
24 devoted over \$437,000 in the last four years to a program for

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<sup>4</sup> See page 57 of CORE Filing in DE 05-157 for 2006, page 61 of CORE Filing in DE 06-135 for 2007, page 67 of CORE filing in DE 07-106 for 2008 and page 67 of CORE Filing in DE 08-120 for 2009.

1           which it has reported neither energy saving nor peak load  
2           reduction.

3

4           The OCA recommends that the Commission direct NHEC to allocate  
5           its proposed funding for the Load Management Program to other  
6           CORE residential programs. If NHEC wishes to continue the  
7           program, it should identify another funding source.

8

9   **Q.    Please address your third issue regarding the Fuel Blind Pilot**  
10 **Program.**

11

12   **A.**   As described on page 10 of the CORE filing, the utilities propose  
13           to change the name of the Home Energy Solutions (HES) program to  
14           the Home Performance with Energy Star (HPwES) program. The OCA's  
15           understanding is that PSNH and UES are proposing that the Fuel  
16           Blind Pilot Program (FBPP) approved in Order 24,974 dated June 4,  
17           2009 be continued into 2010 as Home Performance with Energy Star  
18           ("HPwES"). Only PSNH and UES are now operating the FBPP funded  
19           through the CORE program, and they propose to continue delivery  
20           of the HPwES as a fuel blind program in 2010. NGrid and NHEC  
21           will continue to serve electrically heated homes. See CORE Filing  
22           at page 22.

23

24

25

26

1 Q. For how long did the Commission authorize PSNH and UES to operate  
2 the FBPP?

3

4 A. Order 24,974 authorized PSNH and UES to operate the 2009 Home  
5 Energy Solutions program on a fuel blind basis only for the 2009  
6 program year. See Order 24,974 at page 7. The Order stated that  
7 an evaluation of the 2009 FBPP will be conducted to evaluate the  
8 performance of the pilot and whether it merits continuation  
9 beyond 2009. As I stated above, in the current filing, PSNH and  
10 UES propose to continue the FBPP into 2010 as HPwES.

11

12 Q. Does the OCA have a position on this request to continue the FBPP  
13 into 2010 during the time when the evaluation of the 2009 Pilot  
14 will be occurring?

15

16 A. Yes. The OCA agrees with PSNH and UES that it would not be  
17 beneficial to the program, the market, program delivery  
18 contractors, or to customers to halt implementation of the  
19 program at the end of 2009 while conducting the evaluation of the  
20 pilot in 2010. Hypothetically, if the evaluation shows the pilot  
21 was successful, cost-effective and should be continued, that  
22 stop-and-start approach would likely have negative impacts on  
23 future implementation. The OCA recommends that the Commission  
24 allow the continuation of the FBPP as a fuel neutral version of  
25 HPwES during 2010. The OCA fully expects that the utilities will  
26 engage the necessary evaluation contractor(s) and other expertise  
27 as needed to conduct a rigorous process and impact evaluation of

1 the FBPP, and that they will include the CORE parties in that  
2 process. We recommend that the Commission use the results of  
3 such an evaluation as the basis of determining whether the  
4 program should continue beyond 2010.

5

6 **Q. Please address your fourth issue regarding CORE Audit report**  
7 **findings.**

8

9 A. First, the OCA just received the audit reports for three  
10 utilities (PSNH, UES and NHEC) on Friday October 30, 2009, so we  
11 are still in the process of reviewing them. Second, there is a  
12 Technical Session scheduled for November 10, 2009 to discuss  
13 issues related to the audits. The OCA anticipates that specific  
14 questions related to the audits and any findings will be  
15 addressed directly during that session. Therefore, we wish to  
16 reserve our right with respect to a position or recommendations  
17 related to the audit findings. In addition, the OCA only  
18 received the National Grid audit report on the day that this  
19 testimony was due, so we have not yet reviewed it.

20

21 **Q. Are there any issues in the audit reports that the OCA has**  
22 **discovered thus far in its review?**

23

24 A. Yes. Details related to PSNH's retention, use, and failure to  
25 report related to SBC funds for energy efficiency projects at its  
26 own facilities pursuant to RSA 125-0:5 are of significant

1 concern. We anticipate exploring this issue further at the  
2 upcoming Technical Session.

3

4 **Q. Do you have any further comments on the financial audits of the**  
5 **CORE programs?**

6

7 A. Yes. The OCA considers these audits to be general financial  
8 audits similar to those that Commission Audit Staff perform  
9 regularly. The OCA does not consider these audits to be a  
10 component of the Monitoring and Evaluation aspect of the CORE  
11 programs funded by the SBC.

12

13 **Q. Why do you mention this aspect of the Audit Reports specifically?**

14

15 A. The OCA understands that these 2009 financial audits of the CORE  
16 programs are the first occurrence of such oversight since the  
17 inception of the CORE programs. While the OCA believes that  
18 these audits are vital to ensure that the programs are  
19 administered properly, we do not believe that they should be  
20 considered as part of the Monitoring and Evaluation plan or  
21 budget for the CORE programs. Thus, any costs incurred by the  
22 CORE utilities directly attributable to these audits should not  
23 be paid for with SBC funds.

24

25

26

1 Q. Why does the OCA believe that costs related to these audits should  
2 not be eligible for recovery through SBC funds?

3

4 A. Responding to audit requests is a continuing obligation of  
5 utilities under RSA 374:18. A utility is required to produce  
6 books and records for examination by the Commission. Any costs in  
7 retaining and producing these records are, therefore, regular  
8 costs of the utility, which are recognized in calculating  
9 permanent rates under RSA 378:28. Allowing expenses associated  
10 with responding to audit requests, such as by production of  
11 records, to be recovered through the SBC, would, in effect, amount  
12 to double recovery of these expenses. Accordingly, the OCA  
13 believes that costs relating to these audits are not eligible for  
14 recovery through SBC funds.

15

16 Q. Please address your fifth issue regarding Shareholder Incentive  
17 metrics.

18

19 A. The OCA believes that the Commission should direct the parties to  
20 work toward developing a new, more progressive, Shareholder  
21 Incentive mechanism. On page 49 of the filing, the CORE  
22 utilities state that "the formula used to calculate this  
23 incentive was initially proposed by the Energy Efficiency Working  
24 Group in its final report..." This report is now a decade old. See  
25 report dated July 6, 1999 filed in Docket No. DR 96-150, Electric  
26 Utility Industry Restructuring. While the OCA does not disagree  
27 with the Commission's finding that "the present incentive

1 mechanism provides a just and reasonable balance between the  
2 interest of shareholders and the interest of customers"<sup>5</sup> the OCA  
3 does believe that the shareholder incentive mechanism needs be  
4 improved to include more focused and targeted metrics of  
5 performance, and to foster and recognize market transformation  
6 effects.

7

8 **Q. Does the OCA have any specific suggestions for changes to the**  
9 **Shareholder Incentive mechanism?**

10

11 A. The current Shareholder Incentive (SHI) calculation is based on  
12 budgets and savings goals in two primary sectors - Residential  
13 and Commercial & Industrial. The SHI takes into account the  
14 actual and planned budgets and energy savings. The OCA feels  
15 that it may be reasonable to include additional factors into the  
16 calculation. For example, utilities are currently bidding demand  
17 savings (kW savings) into ISO-NE's Forward Capacity Market, yet  
18 the SHI calculation does not include any budgeted or actual kW  
19 savings factor. In addition, the OCA is aware of at least one  
20 state whose SHI calculation uses more incentive metrics and  
21 target goals which allows regulators, utilities, and parties to  
22 develop and set more specific energy efficiency program targets.

23

24

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26

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<sup>5</sup> See Order 24,203 at 13, September 5, 2003.

1 Q. What state are you referring to?

2

3 A. Connecticut. Specifically, the SHI calculation I have in mind is  
4 that contained in the 2009 Conservation and Load Management Plan  
5 jointly submitted by Connecticut Light & Power (CL&P) and United  
6 Illuminating (UI). CL&P is an affiliate of Northeast Utilities,  
7 as is PSNH. Due to its size (315 pages), I have not included a  
8 copy with my testimony. However, the OCA has made this document  
9 available on our website.<sup>6</sup>

10

11 Q. What are some of the details of the CT SHI calculation that you  
12 find worthy of consideration?

13

14 A. One of the differences in the CT SHI that I find valuable is that  
15 while the NH CORE programs may include certain individual  
16 programmatic goals, the SHI mechanism does not specifically tie  
17 the incentive to those goals. This is an area where I believe  
18 the NH SHI process could benefit from improvement and updating.  
19 For example, the NH Home Energy Assistance (HEA) program includes  
20 refrigerator replacements where they are cost effective, it  
21 includes collaboration with the DOE Weatherization program, and  
22 it includes goals about how many customers are to be served.  
23 However, the NH SHI does not include any direct metrics that  
24 measure and reward performance based on those goals. The

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<sup>6</sup> See <http://www.oca.nh.gov/electric.htm>. The material in the Connecticut filing regarding the SHI begins on page 293 of the document.

1 Incentive Matrix in the CT proposal does, for all three of these  
2 goals.

3

4 **Q. Could you provide another example that illustrates another**  
5 **difference between the CT and NH SHI calculations?**

6

7 A. Yes. Page 23 of the CORE filing discusses the Energy Star  
8 Lighting Program. Under "Measures of Success & Market  
9 Transformation Strategy" the utilities state "Program success  
10 factors will include attaining the planned participation and  
11 energy savings goals, increased market share, and customer  
12 awareness of the ENERGY STAR brand. Evaluations will help  
13 determine program changes, if needed, over time." As stated  
14 earlier, the NH SHI calculation only takes into account the  
15 planned and actual budgets and energy savings. There are no  
16 metrics about market transformation, even though this is a stated  
17 goal of the CORE programs. For its Residential Efficiency Retail  
18 Products Program, the CT SHI includes the Incentive Metric "Non-  
19 standard product mix" with the specific target goal to "achieve  
20 40% non-standard CFL product mix (dimmbables, reflectors, covered  
21 bulbs, three-way, A-lines, greater than 23 Watt bulbs)." It  
22 appears that such a goal is very specifically targeted at  
23 achieving additional market transformation beyond the subsidy of  
24 conventional or "twisty" CFLs. This is an area that the OCA  
25 believes should be explored.

26

1 Q. What do you suggest the Commission should do regarding this SHI  
2 issue?

3

4 A. The CORE programs could benefit from the development of more  
5 advanced metrics and goals which could focus program  
6 achievements, be used to assess the performance of the programs,  
7 and be included in the calculation of the SHI. Such a process  
8 would likely require special experience in the development of  
9 energy efficiency program metrics, outcome measures, and would  
10 likely need to be validated with recent program year data to  
11 assess the impact of any new SHI formula against the existing  
12 formula to avoid adverse impacts. The OCA recommends that an  
13 expert be retained to work with the parties on this project,  
14 perhaps in conjunction with the broader review of the CORE and  
15 natural gas programs in 2010.

16

17 Q. Please address your sixth issue regarding a more open  
18 participation structure.

19

20 A. The OCA believes that it would be beneficial to the energy  
21 efficiency delivery market if there was generally more of an  
22 "open" approach to participation in ratepayer-funded energy  
23 efficiency programs.

24

25

26

27

1 Q. Could you explain what you mean by that?

2

3 A. Yes. On page 41 of the CORE filing, PSNH describes its C&I RFP  
4 Program for Competitive and Economic Development. The objective  
5 of the program is to promote competitive market development in  
6 the energy efficiency industry by encouraging third parties to  
7 bid for energy efficiency projects on a competitive basis. The  
8 OCA believes that a similar approach could be included in the  
9 Residential sector as well.

10

11 Q. How do you envision such an approach would work?

12

13 A. Generally, a homeowner would be able to contract with a qualified  
14 energy auditor who would: perform an energy audit on the home,  
15 model the home and its energy performance using a qualified  
16 software package; provide the homeowner with an audit report that  
17 presents a list of proposed energy efficiency improvements,  
18 information about the cost-effectiveness of each improvement, and  
19 likely rebates from the utility program and other funding  
20 resources. The homeowner could identify the improvements to  
21 perform, submit the proposed package to the utility for approval  
22 and rebate confirmation, and then proceed with the work. The  
23 work could be performed by any certified, approved contractor.  
24 This model of delivery might mean that the homeowner pays a  
25 portion of the cost for an audit that may be more comprehensive  
26 than the audits that are currently provided directly by the  
27 utility's contractors. This would allow residents and building

1 owners (be they homeowners or landlords) to have a more  
2 comprehensive and longer term plan to achieve significant energy  
3 improvements in a building, rather than only making investments  
4 that qualify for the CORE program funding. This would allow for  
5 planning and budgeting that makes sense for the owner and takes  
6 advantage of rebate programs where available, and potentially  
7 allows the owner to utilize other financing mechanisms as well,  
8 such as bank loans, grants, and tax credits. The main difference  
9 in this approach is that the utility program would be "open" to  
10 having the utility customer present the proposed package of  
11 improvements to the utility for approval of those that are  
12 qualified for the CORE rebate. This is very similar to the PSNH-  
13 specific C&I RFP program described above. The OCA believes that  
14 this could facilitate the leveraging of CORE program funding to  
15 achieve much deeper energy efficiency savings.

16  
17 **Q. Are you aware of any utilities that have such a program?**

18  
19 **A.** Yes. One example is the 2009 Conservation and Load Management  
20 Plan jointly submitted by Connecticut Light & Power (CL&P) and  
21 United Illuminating (UI), which contains a similar proposal.  
22 Page 37 of that filing presents a new modification for 2009.  
23 "The HES program is moving toward a market-based program. This  
24 will open the door for more vendor participation and increase  
25 competition among vendors to provide energy-efficient services.  
26 In addition, HES will be accepting unsolicited comprehensive  
27 projects and will analyze those for appropriate incentives. This

1 offering will mirror other Fund program designs offered to C&I  
2 customers and may include financing for customers. This feature  
3 is currently being developed and reviewed by the Companies.”  
4

5 **Q. Do you have a recommendation regarding this proposal?**

6

7 A. I don't believe it is reasonable within the current procedural  
8 schedule to consider such a significant change to the 2010 CORE  
9 Residential programs at this date. However, I do recommend the  
10 Commission direct the parties to collect the information needed  
11 to evaluate the inclusion of such a program component in the  
12 filing in 2010 for CORE Energy Efficiency programs in future  
13 years.  
14

15 **Q. Please address your seventh issue regarding Monitoring and**  
16 **Evaluation.**

17

18 A. Pages 45-47 of the filing discuss CORE Monitoring and Evaluation  
19 (M&E) responsibilities, plans, and activities. The OCA is  
20 concerned about the overall management and oversight of M&E. For  
21 example, an initial letter filing was made on February 2, 2009 by  
22 Staff suggesting several specific and several possible M&E  
23 activities for 2009. A final 2009 M&E plan was proposed by the  
24 utilities on September 18, 2009, and "approved" via Staff email  
25 on September 29, 2009. This request and "approval" process  
26 occurred nine months into the 2009 program year. The OCA does  
27 not believe a timeline like this is reflective of the importance

1 and seriousness of an effective Monitoring and Evaluation  
2 program. M&E is a critical component of program management and  
3 administration, the results of which can serve both to verify  
4 savings claims from existing programs and as an important input  
5 into future program design. It also accounts for 5% of the  
6 budget of the overall CORE budget - roughly \$1 million a year.  
7 Further, the CORE utilities have obligations with ISO-NE  
8 regarding Monitoring and Verification of demand resources that  
9 have been bid into the Forward Capacity Markets.

10

11 Therefore, we request that the Commission direct the parties and  
12 staff to engage an M&E consultant to develop a general framework  
13 for M&E for the CORE programs, as well as a schedule for when  
14 different types of studies should be conducted based upon good  
15 industry practices. Such a program plan for M&E should be in  
16 place as early as practicable in 2010, with flexibility as  
17 appropriate to allow the utilities to continue to take advantage  
18 of participating in multi-state and regional M&E activities.

19

20 **Q: Do you have any other general comments about the overall filing?**

21

22 **A:** Yes. Generally the programs are the same as last year's. As  
23 with recent years, this docket started too late in the year for a  
24 deep review of each program.

25

26 However, as I have discussed above, the parties have committed to  
27 beginning the CORE docket much earlier next year so that we can

1 undertake a more comprehensive review of how the programs might  
2 be improved for future years, as well as how the electric and  
3 natural gas efficiency program could be more closely aligned from  
4 a customer perspective. The OCA believes that after seven years  
5 of program implementation, along with all of the major changes in  
6 energy efficiency programs, policies, and funding in recent  
7 years, we should invest the time in 2010 to ensure that our  
8 ratepayer-funded efficiency programs are getting the most "bang  
9 for the buck" for New Hampshire customers. We also hope that the  
10 work of the Energy Efficiency and Sustainable Energy Board ("EESE  
11 Board")<sup>7</sup> which is charge with developing priorities for the  
12 state's energy efficiency programs, along with the implementation  
13 of the Climate Change Action Plan, can be coordinated with our  
14 efforts to strengthen and deepen customer access to efficiency  
15 programs that make the most efficient use of ratepayer funds.

16  
17 **Q. Does that complete your testimony?**

18  
19 **A.** Yes, although I wish to reiterate my statement above that we have  
20 not yet had sufficient time to review the Staff audits of the  
21 CORE programs.  
22

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<sup>7</sup> Energy Efficiency and Sustainable Energy Board established by RSA 125-O:5-a.

**Qualifications of Stephen R. Eckberg**

My name is Stephen R. Eckberg. I am employed as a Utility Analyst with the Office of Consumer Advocate (OCA), where I have worked since 2007. My business address is 21 S. Fruit Street, Suite 18, Concord, New Hampshire 03301.

I earned a B.S. in Meteorology from the State University of New York at Oswego in 1978, and an M.S. in Statistics from the University of Southern Maine in 1994.

After receiving my M.S., I was employed as an analyst in the Boston office of Hagler Bailly, Inc, a consulting firm working with regulated utilities to perform evaluations of energy efficiency and demand-side management programs.

From 2000 through 2003, I was employed at the NH Governor's Office of Energy and Community Services (now the Office of Energy and Planning) as the Director of the Weatherization Assistance Program. More recently, I was employed at Belknap-Merrimack Community Action Agency as the Statewide Program Administrator of the NH Electric Assistance Program (EAP). In that capacity, I presented testimony before this Commission in dockets related to the design, implementation and management of the EAP. I have also testified before Committees of the New Hampshire Legislature on issues related to energy efficiency and low income electric assistance.

In my work for the OCA, I have filed testimony in the following Dockets:

- DG 08-048, Unitil Corporation and Northern Utilities, Inc. Joint Petition for Approval of Stock Acquisition, jointly with Kenneth E. Traum, Assistant Consumer Advocate.
- DW 08-052, Pittsfield Aqueduct Company, Petition for Rate Increase.
- DW 08-065, Hampstead Area Water Company, Petition for Rate Increase
- DW 08-070, Lakes Region Water Company Petition for Financing and Step Increases.
- DW 08-073, Pennichuck Water Works, Inc. Petition for Rate Increase.
- DW 08-098, Aquarion Water Company of New Hampshire, Petition for Rate Increase, jointly with Kenneth E. Traum, Assistance Consumer Advocate.

I am a member of the American Statistical Association. I have attended regulatory training at New Mexico State University's Center for Public Utilities, and I participate in committees of the National Association of State Utility Consumer Advocates (NASUCA) on behalf of the OCA.

**Public Service Company of New  
Hampshire  
Docket No. DE 09-170**

**Data Request STAFF-01**

**Dated: 10/19/2009  
Q-STAFF-032  
Page 1 of 1**

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

**Question:**

Filing at page 88. Please provide a schedule for each company that shows the calculation of the proposed Low Income budget amounts (i.e. \$190,939, \$171,354, \$2,136,334 and \$371,514).

**Response:**

In 2010, National Grid projected having \$1,363,850 available in SBC and FCM funds for the CORE NH programs. Fourteen percent of that available amount was allocated to the Home Energy Assistance program totaling \$190,939.

For 2010, NHEC projected \$1,223,961 in SBC and FCM funds that would be available for the Core Programs. The percentage allocated to the Home Energy Assistance Program was 14% of the available funds, which calculates to \$171,354.

PSNH calculated the Home Energy Assistance Budget as follows: Total budget of \$15,259,526 x 14% = \$2,136,334.

Unutilized to file response separately.

(Joint Utility Response)

**2010 CORE Energy Efficiency Program**  
**Docket No. DE 09-170**

**Data Request STAFF-01**  
**Dated: 10/19/2009**  
**Q-STAFF -032**  
**Page 1 of 1**

**Witness: Deborah A. Jarvis**  
**Request from: New Hampshire Public Utilities Commission Staff**

**Question:**

Filing at page 88. Please provide a schedule for each company that shows the calculation of the proposed Low Income budget amounts (i.e. \$190,939, \$171,354, \$2,136,334 and \$371,514).

**Unitil Response:**

Unitil calculated the Home Energy Assistance Budget as follows: Total direct budget of  
 $\$2,572,194 * 14.4434\% = \$371,514$ .

Action Item from March 14, 2008 Quarterly NHPUC meeting

- Define the scope of the low income housing “problem”
  1. How many low income households have been served?
  2. How many low income households still need to be served?
  3. How much funding will be needed to serve all remaining low income households?
  4. How long will it take to serve all remaining low income households?

Low Income Assessment Team comprised of;  
Alan Linder (NH Legal Assistance)  
Andy Gray (Office of Energy and Planning)  
Dana Nute (Belknap-Merrimack CAP)  
Dan Feltes (NH Legal Assistance)  
Frank Melanson (Public Service of New Hampshire)  
Jonathan Osgood (Public Utilities Commission)  
Steve Eckberg (N.H. Office of Consumer Advocate)

*For the purpose of this document, we are defining a “low income household” as a household with a gross income of 185% or less than the Federal Poverty Guidelines as defined in Appendix 2.*

**1. How many low income households have been served?**

The number of New Hampshire low income households served by either the US Department of Energy Weatherization program (Wxn) or the NHCORE Home Energy Assistance program (HEA) between April 1, 1998 and December 31, 2007 is 8,540.

The WXN program has been funding home energy improvements since established by the US Congress in 1976 under Title IV of the Energy Conservation and Production Act. Unfortunately, accurate records of the numbers of households served in those first 20 years are not easily accessible nor may they be of much relevance because the standard of weatherization works has changed dramatically producing significantly greater savings in homes. The April 1, 1998 date was selected as the “starting point” because that is the limit of the available historical data in the Wxn database. Additionally, Wxn Program rules generally prohibit “re-weatherization” of any home served by the program after 1993. The total was derived by combining participation data from the Wxn program from the time period of April 1, 1998 to December 31, 2007 with the statewide HEA participation from the time period of July 31, 2002 to December 31, 2007. The total number of participating households is broken down by county in Appendix 1, but the total number of low income households that participated exclusively in the Wxn program was 2,805,

exclusively in the HEA program was 3,485 and those who received some level of services from both programs was 2,250.

**2. How many qualifying households still need to be served?**

The current income to poverty ratio eligibility level used for both HEA and Wxn is 185% of Federal Poverty guidelines. Using this FPG level to define the population to serve, the number of low income households potentially still needing service is estimated to be at 87,002.

The total number of New Hampshire low income households that have not been served by a residential energy efficiency program was determined by using New Hampshire specific data from the US Census Bureau for 2006 shown in Appendix 2 and subtracting the total number of households already served by either HEA or Wxn shown in Appendix 1.

The data used was from 2006 household estimates published in the 2007 Current Population Survey (CPS) Social and Economic Supplement by the US Census Bureau. Some CPS questions, such as income, refer to the previous year, while others, such as age, refer to the time of the survey. This was the most current population data available. It is important to note that this Census Bureau data represents a fixed point in time and is not necessarily representative of the actual number of households that are currently or will be at or below the current income eligibility thresholds for HEA and Wxn as economic changes continue to occur. It was the consensus of this low income assessment team that the actual number of low income households in New Hampshire will continue to grow in future years, but there is no accurate method to estimate that growth rate.

**Factors affecting the size of the estimated population to serve**

While the Census Bureau data above provide a good estimate of the “total” estimated population that might be served, there are a number of “hard-to-quantify” factors that we know may reduce this population estimate, as we consider those who are eligible vs. those who will participate. Experience indicates that various factors and social phenomenon exist such as:

1. Some households consisting of elderly householders may resist participating in programs that they view as “government assistance”
2. Some households may not wish to have energy auditors and installers in their home.
3. Some households may be ineligible due to other program criteria (do not pay their own energy bills, etc)
4. Some households may be resistant to performing EE measures in the order of most-cost-effective-first and insist on having other measures installed – making the job impossible to perform according to program criteria.
5. Some households may not need weatherization or have any measures that fit the program guidelines left to be installed.

These and other “hard-to-quantify” factors may reduce the current “total” estimated servable population of 87,002.

**3. How much funding will be needed to serve all remaining low income households?**

Total funding to serve all remaining low income households under the current HEA and Wxn program rules is estimated to be \$300,000,000. This total funding level is based upon the average combined funding for all 2007 low income households that participated in either HEA or Wxn of approximately \$3,413 and the estimated 87,002 households not yet served by either HEA or Wxn.

It is important to note that this estimated amount is developed based on current market pricing, as well as the current HEA/Wxn program rules and constraints, and therefore it may differ from the actual cost that may be required to effectively weatherize these remaining homes. Similarly, it is also important to note that the average of \$3,413 per household is not based upon an estimate of the actual energy efficiency opportunities in an average low income home, but instead simply uses the average funding used on households that participated in the HEA/Wxn programs in 2007. There may be additional opportunities to provide further weatherization and energy efficiency measures to homes under different cost effective decision making criteria, or with new sources of funding. It was the consensus of this low income assessment team that the actual funding required will continue to grow in future years due to various factors; however there is no accurate method to determine the potential rate of increase.

**4. How long will it take to serve all remaining low income households?**

The New Hampshire Community Action Agencies have committed to increasing production by approximately 250% over a three year period after an initial ramp up cost of approximately \$500,000. At this maximum production level, it will still take just over 36 years to serve all potential remaining low income households assuming that the number of households does not increase in that time period.

NH Households already served by the NHCORE HEA program or the DOE Wxn program from 1998-2007

County	Households	Non CORE Funding	CORE Funding	All Funding
Belknap	552	\$401,107.84	\$537,099.33	\$938,207.18
Carroll	512	\$542,669.49	\$878,567.64	\$1,421,237.13
Cheshire	619	\$499,283.44	\$738,471.24	\$1,237,754.68
Coos	608	\$914,470.90	\$900,926.00	\$1,815,396.89
Grafton	633	\$555,333.03	\$627,897.85	\$1,183,230.88
Hillsborough	1770	\$1,962,265.81	\$2,092,192.51	\$4,054,458.32
Merrimack	1268	\$1,572,337.51	\$1,122,264.61	\$2,694,602.12
Rockingham	1400	\$869,750.60	\$1,730,858.99	\$2,600,609.59
Strafford	895	\$698,236.43	\$947,959.72	\$1,646,196.16
Sullivan	283	\$223,748.05	\$337,378.20	\$561,126.25
<b>Statewide</b>	<b>8540</b>	<b>\$ 8,239,203.10</b>	<b>\$ 9,913,616.10</b>	<b>\$ 18,152,819.20</b>

*Note: # households and funding data based on Wxn participation from 1998-2003 and HEA/Wxn combined from 2003-2007*

## Poverty Data on New Hampshire Households

Range or Bin Number	Inc-to-Pov Ratio 2006 (FPG level)	# Households	FPG Level of Interest	Total # Households
1	< 100%	30,412	185%	95,542
2	100% - 125%	17,182		
3	125% - 150%	22,052		
4	150% - 175%	15,475		
5	175% - 200%	26,052		
6	200% - 250%	38,468		
7	250% - 300%	41,548		
8	> 300%	325,654		

**Description of method used to estimate number of households at a particular level of poverty:**

The following methodology was used to estimate the total number of New Hampshire households currently at or below a given Federal Poverty Guideline:

- 1) identify the range or bin number that the FPG level of interest falls into (185% FPG falls in Bin # 5) and call this the "top Bin"
- 2) add up the number of households in all Bins lower than this "top Bin" (Bin#1 {30412} + Bin #2 {17182} + Bin #3 {22052} + Bin#4 {15475} = 85121)
- 3) calculate the relevant proportion of the "top Bin" ( $10/25 \times 26052 = 10421$ )
- 4) add the subtotal from step 2 to the number from step 3 to get the total estimate of households at a particular level of poverty (  $85121 + 10421 = 95542$  )

**Note: # households in FPG levels is from US Census Bureau 2007 Community Population Survey Annual Social and Economic Supplement available at [www.census.gov](http://www.census.gov)**

New Hampshire Electric Cooperative, Inc.  
Docket No. DE 08-120

Staff Data Requests Set 1  
Dated: 11/07/2008  
Page 1 of 1

Witness: Carol Woods  
Request from: OCA

**Question 16**

[to NHEC] Regarding NHEC's Load Management Program as described on page 27 of the CORE filing. How many times in each of the last 3 complete calendar years (2005-2007) has NHEC activated all or part of the radio-controlled demand reduction network? Please provide dates and estimate of demand reduction that occurred during implementation.

**Response:**

Because it is an automated system, NHEC does not keep records of each activation of the system nor the load reduction associated with those activations. NHEC uses the Load Management (LM) system to attempt to reduce the load coincident with the ISO-NE system peak and to reduce the ratcheted demand charges at specific winter peaking delivery points from PSNH.

The number of MW's that can be interrupted is estimated to be 13.1 MW's during the winter.

Information Request OCA 1-27

Request: Please address NHEC's response to data request OCA 1-16 from DE 08-120 dated 11/07/2008 [copy attached] where the Company indicates "NHEC does not keep records of each activation of the [Load Management] system nor the load reduction associated with those activations. NHEC uses the LM system to attempt to reduce the load coincident with the ISO-NE system peak and to reduce the ratcheted demand charges at specific winter peaking delivery points from PSNH." If there are no records of the system's activation, how does NHEC know whether this program is effective? Also, if this program is intended to reduce coincident winter peak demand charges, how is it that such significant kWh savings are reported (see prior question)?

Response: NHEC has an automated schedule which includes a daily control on ETS heat and storage water heaters. In addition, NHEC staff manually controls the system in an effort to reduce transmission peaks. NHEC has recently updated the system software (not paid for by SBC) and expects that once training is complete Staff will be able to obtain information about the amount of load being controlled through the software's reporting capability. NHEC does not have any planned savings as part of the 2010 program.

Prepared by or under the supervision of: Carol Woods