



STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

DE 10-188
2012 CORE Electric Energy Efficiency Programs
and
Natural Gas Energy Efficiency Programs
Home Performance with Energy Star Program

DIRECT TESTIMONY
OF
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AND
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Date: March 23, 2012

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1 **Introduction and Purpose of Testimony**

2 **Q. Please state your names, current positions and business address.**

3 A. Our names are James J. Cunningham, Jr. and Al-Azad Iqbal and we are employed
4 by the New Hampshire Public Utilities Commission (Commission) as Utility
5 Analysts. Our business address is 21 S. Fruit Street, Suite 10, Concord New
6 Hampshire, 03301.

7 **Q. Please summarize your educational and professional background.**

8 A. Our educational and professional backgrounds are summarized in Appendix A.

9 **Q. What is the purpose of your testimony?**

10 A. The purpose of our testimony is as follows:

- 11 • explain the important policy issue of fairness that arises from the
12 PSNH/UES proposal to implement a full-scale Home Performance with
13 Energy Star (HPwES) program;¹
 - 14 • provide several options that we believe resolve the issue of fairness;
 - 15 • recommend continuation of a limited PI for the performance incentive (PI)
16 for the HPwES program while reconvening the PI working group to
17 consider possible changes for PI for fuel neutral programs;²;
 - 18 • provide a summary of our conclusions and recommendations.
- 19
20

¹ The “fairness issue” that we address pertains to all utilities. Although PSNH and UES are the only electric utilities proposing to implement a full scale fuel-neutral HPwES program at this time, it is our understanding that all utilities plan to offer this fuel-neutral program in future years.

² Fuel neutral programs include the Home Energy Assistance program, Energy Star Homes Program and HPwES program.

1 **Important Policy Issue of Fairness**

3 **Q. Please define the fairness issue.**

4 A. The fairness issue addresses the question of whether it is fair that electric and
5 natural gas heating ratepayers (“Group 1”) who pay energy efficiency (EE)
6 charges on 100 percent of their household energy usage and receive the same
7 benefits/programs as the oil, liquid propane, kerosene and wood heating
8 ratepayers (“Group 2”) who pay EE charges on only 25 percent of their household
9 energy use.³ The basis of the percentages is more fully described below.

10 Also, the issue of fairness is raised in this instant docket by the proposal to open
11 up the exclusive predecessor program to all ratepayers. The predecessor CORE
12 program, the Home Energy Solutions (HES) program, was an exclusive CORE
13 program that was offered only to just Group 1 *electric heating (emphasis added)*
14 ratepayers; and, PSNH and UES are now proposing to open up this program to all
15 ratepayers in both Groups. By opening this program to all ratepayers, the
16 question of fairness arises – i.e. whether it is fair for Group 1 ratepayers who pay
17 energy efficiency charges on 100 percent of their usage while Group 2 ratepayers
18 pay energy efficiency charges on only 25 percent of their usage.

19 **Q. Please explain what you mean by “Group 1” ratepayers and “Group 2”**
20 **ratepayers.**
21

22 A. Group 1 ratepayers are electric and natural gas ratepayers that pay energy
23 efficiency charges for 100 percent of their usage – i.e. usage pertaining to heating,

³ Electric energy efficiency programs are funded by the System Benefit Charge (SBC) surcharge; and, natural gas energy efficiency programs are funded by the Local Distribution Adjustment Clause (LDAC).

1 hot water, cooling, lighting and appliances. Group 2 ratepayers are electric
2 ratepayers that pay energy efficiency charges on only approximately 25 percent of
3 their usage – i.e. usage pertaining to hot water, lighting and appliances.⁴ Group 2
4 ratepayers do *not pay (emphasis added)* energy efficiency charges on heating
5 fuels (i.e. oil, liquid propane, kerosene and wood).

6 To further explain Group 1 and Group 2 ratepayers, we provide Table 1 below.
7 This table summarizes the estimated usage pertaining to each group. It shows the
8 household energy usage for Group 1 and Group 2 ratepayers and the
9 corresponding percentage that each group pays for energy efficiency programs.

10 Table 1
11 Annual Household Energy Usage Subject to EE Charge
12 Group 1 and Group 2 Heating Ratepayers

13
14 Group 1 (Electric/Natural Gas Heating Ratepayers):

15	Est. Annual Heating kWh Equivalents	21,155
16	Est. Annual Non-Heating kWh	<u>7,200</u>
17	Total kWh	28,355
18		
19	Portion Subject to SBC/LDAC	28,355
20		
21	Percent Subject to SBC/LDAC	<u>100%</u>

22
23
24 Group 2 (Oil/Liquid Propane/Kerosene/Wood Heating ratepayers):

25	Annual Heating kWh Equivalents	21,155
26	Annual Non-Heating kWh	<u>7,200</u>
27	Total kWh	28,355
28		
29	Portion subject to SBC/LDAC	7,200
30		
31	Percent Subject to SBC/LDAC	<u>25%</u>

32
33

⁴ Group 2 could contain an undeterminable level of usage pertaining to electricity for heating; and, we are assuming for purposes of our analysis that it is included in our estimate to natural gas; but, we could not identify the usage and assume for purposes of our analysis that it is zero.

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The estimate of 21,155 kWh equivalents is based on the simplifying assumption that heating use for the households in each group is 722 therms per year. We multiply 722 therms⁵ by the kWh conversion factor of 29.3 kWh per therm and calculate 21,155 kWh equivalents. The estimate of 7,200 kWh is based on an estimate of the typical household usage of electricity of 600 kWh per month for lighting and appliances, or 7,200 kWh per year.

Table 1 shows that Group 1 electric and natural gas heating ratepayers utilize an estimated 28,355 kWh of household energy annually; and pay energy efficiency charges on 100 percent of their usage. Group 2 ratepayers that heat by oil, liquid propane, kerosene, and wood fuels are estimated to use the same level of household energy annually for lighting and electric appliances and pay energy efficiency charges on only their electric usage, or 25 percent of their usage.

Q. Has the issue of fairness been addressed by any reports or studies?

A. Yes. In September 2011, the Vermont Energy Investment Corporation (VEIC) issued a report, “Independent Study of Energy Policy Issues,” in which it addressed the issue of fairness. This report was conducted at the direction of Senate Bill 323 that was passed during the 2010 legislative session. The VEIC Report indicated that there is a challenge in funding for energy efficiency services for unregulated fuels, noting that the use of System Benefit Charge (SBC) funds is not always welcomed because it raises the question of whether it is *equitable*

⁵ Source: Annual Reports, Table 41, year ended December 31, 2010.

1 *(emphasis added)* to collect funds from electric and natural gas ratepayers to fund
2 programs that serve oil, propane, and wood fuel customers.⁶

3 **Q. Has the Commission ever addressed similar fairness issues in the past?**

4 A. Yes. In 2002, when the Commission re-started the natural gas energy efficiency
5 programs, it could have chosen to fund the programs out of the electric system
6 benefit charge monies which would have raised a fairness issue with respect to
7 electric ratepayers; instead, the Commission avoided the inherent unfairness and
8 chose to require natural gas ratepayers to fund their own programs by establishing
9 a surcharge to fund their programs through the Local Distribution Adjustment
10 Charge (LDAC).⁷ Under the LDAC, natural gas ratepayers pay for their own
11 energy efficiency programs which include measures similar to the HPwES
12 program.

13 Also, in the context of energy efficiency programs, the Commission has addressed
14 the fairness issue at several levels: at the sector level, the utility level, and the
15 industry level. At the sector level, the Commission has specified principles that
16 equitably fund and allocate budgets for energy efficiency between Residential and
17 C&I sectors based generally on the sales of each sector.⁸ At the utility level, the
18 Commission has implemented a non-bypassable system benefits charge consistent
19 with RSA 374-F:3 VI that equitably funds energy efficiency programs across all

⁶ Source: VEIC Report, at page 3-13. Due to the length of the report, it has not been included as an attachment, however, the full report can be accessed at:
http://www.puc.nh.gov/Sustainable%20Energy/Reports/New%20Hampshire%20Independent%20Study%20of%20Energy%20Policy%20Issues%20Final%20Report_9-30-2011.pdf

⁷ Source: *Energy Efficiency Programs for Gas Utilities*, Order No. 24,109, 87 NH PUC 900 (2002).

⁸ Source: *Public Service Company of New Hampshire*, Order No. 23,172, 84 NH PUC 185, 187 (1999).

1 electric utilities based on the Restructuring Statute.⁹ At the industry level, the
2 Commission has provided a separate funding mechanism for EE programs for
3 New Hampshire's natural gas companies via the Local Distribution Adjustment
4 Charge (LDAC) surcharge.¹⁰ That is, the Commission did not require electric
5 ratepayer SBC monies to be used to fund natural gas EE programs.

6 **Q. Can you provide any references to Commission orders pertaining to the fuel**
7 **neutral HPwES pilot program?**

8
9 A. Yes. Commission Order No. 24,930 in Docket DE 08-120 dated January 5, 2009
10 addressed the question of whether the SBC revenues could be used for a fuel-
11 neutral pilot weatherization program stating:

12
13 *"We are not precluded as a matter of law from authorizing the use of SBC*
14 *revenues for energy efficiency programs such as the proposed fuel blind pilot"*
15

16 Commission Order No. 24,930 provides guidance on what electric measures could
17 be present in the fuel-neutral program, known as HPwES, that relates to the
18 provision of electric service. The order lists a number of measures that are
19 *ancillary (emphasis added)* electric savings measures:

20 *"There is no question that electric efficiency measures ancillary to the HES*
21 *weatherization services, such as Energy Star appliance rebate, Energy Star*
22 *lighting programs, relate to the provision of electric service. Furthermore,*
23 *weatherization of any home which uses electric-powered air conditioning or fans*
24 *for cooling provides system benefits by reducing electricity usage during the peak*
25 *summer electric loads that are associated with electric home cooling measures.*
26 *In addition, most non-electric heating systems, such as fuel oil, propane and wood*
27 *fired boilers and furnaces, also use electricity to power pumps or fans to circulate*
28 *water and air. Although energy efficiency measures such as improved insulation*
29 *and air sealing may primarily save non-electric fuels in non-electrically heated*

⁹ Source: *Electric Utility Restructuring – Energy Efficiency Programs*, Order No. 23,574, 85 NH PUC 696 (2000).

¹⁰ Source: *Energy Efficiency Programs for Gas Utilities*, Order No. 24,109, 87 NH PUC 900 (2002).

1 *buildings, there can often be significant electric savings from such measures as*
2 *well.*”(emphasis added)
3

4 As noted above, ancillary measures that relate to the provision of electricity
5 include Energy Star appliance rebate, Energy Star lighting programs, electric-
6 powered air conditioning or fans for cooling, and power pumps and fans to
7 circulate water and air in most non-electric heating systems, such as fuel oil,
8 propane and wood fired boilers and furnaces.

9 **Q. Given the list of ancillary measures identified by the Commission, did you**
10 **find that the proposed the HPwES program includes the same measures?**
11

12 A. No. The ancillary measures and related savings that are referred to by the
13 Commission pertain to electric savings attributable to Group 2 ratepayers – i.e.
14 electric ratepayers that heat by oil, liquid propane, kerosene or wood. The
15 ancillary savings proposed by PSNH and UES incorporate electric savings
16 associated only with the installation of six CFL bulbs.¹¹ This level of electric
17 savings is so minor that we believe it falls below the Commission’s expectation of
18 ancillary savings for the HPwES program.
19 Specifically, PSNH proposes lifetime electric savings of 523,561 kWh for electric
20 savings in Group 2 homes heated by oil, liquid propane, kerosene and wood, or
21 only 0.7 percent of total equivalent lifetime kWh savings from all HPwES
22 measures of 79,256,545 kWh.¹² UES proposes lifetime electric savings of

¹¹ Source: 2012 Update Filing, Docket DE 10-188, September 30, 2011, Revised December 15, 2011, page 63 for PSNH (i.e. lifetime savings of 523,561 kWh; and page 72 for UES (i.e. lifetime savings of 141,643 kWh + 24,996 kWh) .

¹² Source: 2012 Update Filing at page 63, with non-electric MMBtu savings converted to kWh savings using a factor of 293 kWh per MMBtu: lifetime electric kWh savings related to electric measures in Group 2 is displayed on page 63 as 523,561kWh; grand total equivalent kWh savings for all energy efficiency

1 166,639 kWh or 2.0 percent of total equivalent lifetime kWh savings from all
2 HPwES measures of 8,317,288 kWh.¹³ Further, we note that the companies
3 advised in discovery that other ancillary savings are not reported, tracked nor
4 included in the proposed electric savings, supporting our conclusion that ancillary
5 savings are minor.¹⁴

6 **Q. Does the Restructuring Statute provide any guidance on energy efficiency**
7 **programs that can be implemented?**

8
9 A. Yes. The Restructuring Statute provides that EE programs pertain to the

10 provision of electricity (emphasis added). RSA 374-F:3 VI states:

11 *“A nonbypassable and competitively neutral system benefits charge applied to the*
12 *use of the distribution system may be used to fund public benefits related to the*
13 *provision of electricity.”* (emphasis added)

14
15 The Commission, in Order No. 24,930 interpreted the “provision of electricity” in
16 the statute as meaning ancillary electric savings from appliances, lighting, electric
17 powered air conditioning, fans for air cooling, and electricity related to power
18 pumps and fans.

19 **Q. Does the Restructuring Statute provide any other guidance that can be**
20 **applied to fuel-neutral programs?**

21
22 A. Yes. The Restructuring Statue provides guidance pertaining to the “fairness
23 issue” as follows:

measures in Group 1 and Group2 from page 63 is 79,256,545, based on the summation of all lifetime kWh and MMBtu savings listed on this page, with MMBtu values converted to kWh.

¹³ Source: 2012 Update Filing at page 72, with non-electric MMBtu savings converted to kWh savings using a factor of 293 kWh per MMBtu: lifetime electric kWh savings related to electric measures in Group 2 is displayed on page 72 as 141,643 + 24,996 for a total of 166,639; grand total equivalent kWh savings for all energy efficiency measures in Group 1 and Group 2 to from page 72 is 8,317,288 based on a summary of the proposed entries on page 72, with MMBtu converted to kWh.

¹⁴ Source: Staff-002 (attached).

1 *“Restructuring of the electric utility industry should be implemented in a manner*
2 *that benefits all consumers equitably and does not benefit one customer class to*
3 *the detriment of another. Costs should not be shifted unfairly among customers”*
4 *(emphasis added). RSA 374-F:3 VI*
5

6 **Q. Are the HPwES programs proposed by PSNH and UES properly aligned**
7 **with this Restructuring Statute?**

8
9 A. No. Although the statute indicates that costs should not be shifted unfairly among
10 electric customers, the proposed full-scale HPwES programs shift costs unfairly
11 from Group 2 ratepayers (i.e. oil, liquid propane, kerosene and wood heating
12 ratepayers) to Group 1 ratepayers (i.e. electric and natural gas heating
13 ratepayers).¹⁵ The typical Group 2 ratepayers are paying energy efficiency
14 charges on 25 percent of their usage while getting the same benefits as Group 1
15 ratepayers who are paying energy efficiency charges on 100 percent of their
16 usage.

17 **Q. Did you quantify the impact of this cost shifting?**

18 A. Yes. We examined cost shifting between Group 1 and Group 2 ratepayers in the
19 context of equitable sharing of benefits between the two groups for the budget
20 year 2012. We used PSNH data to illustrate the calculation of cost shifting.
21 Based on our review, we estimated that the amount of cost shifting from Group 2
22 to Group 1 ratepayers for 2012 is \$879,853.

23 **Q. Please continue by explaining how you calculated the amount of cost shifting.**

24 A. We reviewed the following components:

- 25
26 • Usage subject to the energy efficiency charges
27 • Benefits proposed by PSNH for 2012

¹⁵ See Table 2 in this testimony for amount of cost shifting – i.e. \$879,853.

- Proposed 2012 budget for PSNH for the HPwES programs

Table 2 below indicates that Group 1 ratepayers are paying 58 percent of the energy efficiency charges for the HPwES program while receiving only 5 percent of the proposed lifetime benefits; while Group 2 ratepayers are paying 42 percent of the energy efficiency charges for the HPwES program while receiving 95 percent of the proposed lifetime benefits.

Table 2
2012 HPwES Program
Estimated Impact of Cost Shifting
PSNH¹⁶

<u>Description</u>	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
<u>Percentages:</u>			
% Usage Subject to EE Charge	58%	42%	100%
% Proposed Benefits	<u>5%</u>	<u>95%</u>	<u>100%</u>
EE Chg. Greater/(Less) than Sav.	<u>53%</u>	<u>(53%)</u>	<u>0%</u>
<u>HPwES Budget Dollars:</u>			
Based on EE Charge %	\$ 962,858	\$ 697,242	\$1,660,100
Based on Saving %	<u>\$ 83,005</u>	<u>\$1,577,095</u>	<u>\$1,660,100</u>
Est. Cost Shifting	<u>\$ 879,853</u>	<u>\$ (879,853)</u>	<u>\$ 0</u>

Estimated usage subject to energy efficiency charges is based on 1) Census Bureau and DOE statistics for fuel consumption in NH homes for 2010, 2) estimated heating usage based on 2010 Natural Gas Reports on file with the Commission, with MMBtu converted to kWh, and 3) estimated non-electric heating usage based on 600 kWh per month. See Schedule 1, attached.

¹⁶ See attached Schedule 1 for supporting data and calculations.

1 Proposed Group 1 benefits include electric and natural gas benefits, as filed by
2 PSNH in the original 2012 Update filing, page 63, with MMBtu converted to
3 kWh.
4 Table 2 indicates that, relative to savings, the amount of cost shifting from Group
5 2 to Group 1 ratepayers is \$879,853.
6 Under the proposed HPwES program, Group 1 ratepayers are paying energy
7 efficiency charges of \$962,858; but, relative to savings, these ratepayers should be
8 paying only \$83,005.
9 Using the same methodology, Group 2 ratepayers will pay energy efficiency
10 charges of \$697,242; but, relative to savings, Group 2 ratepayers should be paying
11 \$1,577,095.

12 **Q. With respect to the New Hampshire Climate Change Action Plan (“PLAN”),**
13 **the testimony of Messrs. Gelineau/Palma appears to focus on maximizing**
14 **energy efficiency in buildings. Please comment.**

15
16 A. The testimony of Messrs. Gelineau and Palma, at page 20, notes that the New
17 Hampshire Climate Change Policy Task Force indicated that the State can realize
18 substantial reductions in its energy consumption for heating buildings and power
19 utilized by buildings by maximizing the thermal and electrical efficiency of all
20 future buildings and extensively retrofitting existing residential (emphasis added),
21 commercial and industrial and municipal buildings.

1 The PLAN indicates that there are three primary sources of Greenhouse Gas
2 Emissions: Transportation, Electricity Generation, and Buildings.¹⁷
3 The fuel blind HPwES program proposed by PSNH and UES focuses on the
4 “Buildings” component, specifically retrofitting existing residential buildings.
5 Although PSNH and UES focus on the Buildings component, the companies
6 could have focused on another equally important part of the PLAN – i.e., the
7 Electricity Generation component. We note that the Electricity Generation
8 component refers to the implementation of energy efficiency programs that reduce
9 electricity usage.
10 According to the PLAN, the second largest contributing factor to greenhouse gas
11 emissions, after the Transportation component, is the Electricity Generation
12 component.¹⁸ However, the electric-related benefits associated with the proposed
13 HPwES program are only 1.5 percent of the total benefits of the program.
14 Specifically, the HPwES program will generate total benefits of \$5,808,441, with
15 electric benefits of only \$88,229, or 1.5 percent of the total benefits.¹⁹ We believe
16 that the focus on the building component via the proposed HPwES program will
17 not advance the goals of the PLAN with respect to reducing electricity usage (and
18 in turn, greenhouse gas) as effectively as other residential programs that the

¹⁷ Source: NH Climate Change Action Plan, http://des.nh.gov/organization/divisions/air/tsb/tps/climate/action_plan/documents/nhcap_final.pdf, Chapter 2, page 15.

¹⁸ Reference NH Climate Change Action Plan, Chapter 1, pages 15-16. After transportation, the second largest contributing factor is the annual load growth in the electricity sector equal to an annual increase of nearly 1.5 percent of 2008 levels with energy generation rising from 12.6 million MWh in 2012 to 14 million MWh in 2025.

¹⁹ Source: 2012 Update Filing, page 25: total proposed benefits of the HPwES Program are \$5,808,441, and non-electric benefits are \$5,720,212. Therefore, electric benefits are \$88,229, or 1.5 percent of total benefits.

1 Commission has previously approved. For instance, the benefits of reducing
2 electricity consumption associated with PSNH's Energy Star® Appliance
3 program is expected to be 63 percent of total benefits; and, the benefits of
4 reducing electricity consumption associated with the Energy Star® Lighting
5 program is 100 percent of the total benefits.²⁰

6 Had the focus of PSNH and UES been on the benefits associated with reducing
7 electricity consumption, their proposal would have been more aligned with the
8 Commission-approved System Benefit Charge (SBC) which the Commission
9 expected would provide “double benefits” – i.e. the benefits of reducing
10 electricity for ratepayers who participate in SBC funded energy efficiency
11 programs and the benefits to all ratepayers of meeting resource needs at lower
12 costs.²¹

13 Later in our testimony, we note that the GDS Report²² provides opportunities for
14 programs that focus on electric savings; and, we note that PSNH also identified
15 potential opportunities for electric energy efficiency savings in its LCIRP filing.²³

16 **Q. Why do you believe it is appropriate to address the issue of fairness at this**
17 **time?**

18
19 A. In its Order No. 25,315, the Commission extended the HPwES pilot, unchanged
20 through 2012, and provided that Staff and the parties develop a procedural
21 schedule so that the parties and Staff may address a number of issues, including

²⁰ Source: 2012 Update Filing, page 25.

²¹ Reference: The Figure 2.1 ; and the “double savings” referred to in Commission Order No. 20,186, *Granite State Electric Company*, Order No. 20,186, 76 NH PUC 501 (1991).

²² GDS Report, See:

<http://www.puc.nh.gov/Electric/GDS%20Report/NH%20Additional%20EE%20Opportunities%20Study%202-19-09%20-%20Final.pdf>

²³ Reference: Docket No. DE 10 -261, LCIRP Filing, page 60.

1 the issue of fairness. It is important to address the issue of fairness at this time
2 because PSNH and UES are proposing to transition the HPwES program from a
3 pilot program to a full-scale program.²⁴

4 Q. **Isn't it true that the Commission approved fuel neutral-programs under**
5 **CORE programs in the past? How is this different for HPwES?**

6
7 A. Yes, the Commission did approve fuel-neutral CORE programs to achieve certain
8 policy goals. For example, to serve the low income group, the Commission made
9 an exception by making it a fuel-neutral program; but, the Commission also
10 created an exception in its funding mechanism by allocating "C&I revenue" for
11 this "residential" program.²⁵

12 The EnergyStar® Home program was introduced to encourage building the new
13 housing stock with energy efficiency measures. In a new construction program,
14 heating system selection might be made after knowing the energy efficiency
15 opportunities; so, it is reasonable to keep the EnergyStar® program open to all
16 fuel, thus leaving the heating option to the builders or customers to decide. Also,
17 we note that there are higher electric savings in the Energy Star program than in
18 the HPwES program.

19 With respect to the HPwES program, the situation is different. The proposed
20 HPwES program is changing a targeted program for Group 1 ratepayers by

²⁴ Prior to the Commission Order No. 24,930, a number of issues were addressed including briefs addressing the use of system benefit charge revenues for fuel neutral programs and the definition of ancillary savings in the context of the statute's provision of electric service.

²⁵ Reference: *Electric Utility Restructuring*, Order No. 23,574, 85 NH PUC 687, 697 (2000); *Concord Electric Company*, Order No. 23,982, 87 NH PUC 378, 386 (2002)

1 opening it up for everyone to participate. This is the exact opposite of what the
2 Commission approved for the other two fuel neutral programs.²⁶
3 Also, the proposed fuel-neutral HPwES program will change the make-up of the
4 CORE residential EE programs in two ways – i.e. the portion of the residential
5 budgets that are dedicated to full-scale fuel neutral programs is significantly
6 increasing and the electric savings within these fuel neutral programs is
7 significantly shrinking. For instance, the PSNH budget for the full-scale fuel-
8 neutral programs will be 70 percent of the total residential budget in 2012.²⁷ By
9 comparison, in year 2008, the last year before the start of the HPwES pilot
10 program, the percentage of fuel neutral full-scale programs was 43 percent of
11 PSNH’s residential budget.²⁸ Second, the proposed lifetime electric savings for
12 PSNH’s HPwES program for 2012 is almost entirely non-electric savings – i.e.
13 98.5 percent of total HPwES savings is non-electric savings.²⁹
14 Finally, with respect to the difference between the Energy Star® Homes program
15 and the HPwES program, we note that the average lifetime kWh saving per home
16 for the PSNH EnergyStar® Homes program for the most recent year of 2011 was

²⁶ Ibid.

²⁷ Source: 2012 Update Filing, page 24: Home Energy Assistance program (\$2.2 million) + HPwES (\$1.6 million) + Energy Star Homes (\$1.0 million) for a total for fuel neutral programs of \$4.9 million; as compared to the total Residential Program budget of \$7.1; or 70 percent.

²⁸ Source: Actual 2008 CORE Budget from NH PUC Website: Energy Star Homes Budget \$0.9 million + Home Energy Assistance Program Budget of \$1.8 million for a total of \$2.7 million for fuel blind programs. Total residential budget for PSNH was \$6.3 million; thus, fuel neutral percentage of PSNH residential programs was 43 percent.

²⁹ Source: 2012 Update Filing, page 25.

1 60,677,³⁰ while the average lifetime kWh savings per home for PSNH's proposed
2 2012 HPwES program is 1,431 kWh per home.³¹

3 **Options That Address the Fairness Issue**

4

5 **Q. What potential options does your testimony provide that resolve the fairness**
6 **issue raised by the proposed full-scale HPwES program?**

7

8 **A. Our testimony offers three options as follows:**

- 9 • Option 1: Continue to serve PSNH and UES ratepayers with Home
10 Energy Solutions (HES) program and other electric-related
11 measures/programs that focus on electric savings, consistent with all other
12 utilities.
- 13 • Option 2: Fund the fuel neutral programs for Group 2 ratepayers out of
14 funds other than SBC, such as the Regional Greenhouse Gas Initiative
15 (RGGI) funds
- 16 • Option 3: Utilize funds collected from a separate surcharge on other fuels
17 enacted by the Legislature, see for example Vermont, as noted in VEIC
18 report at page 3-13.

³⁰ Source: Fourth Quarter CORE Report, page 2 of 47: lifetime kWh savings of 38,651,697 kWh divided by 637 homes = 60,677 lifetime kWh saving per home.

³¹ Source: 2012 Update Filing, page 24: lifetime kWh savings of 1,428,600 divided by 1,036 homes = 1,431 kWh savings.

1 **Q. Please explain your suggestion pertaining to Option 1 (i.e. focus on electric**
2 **savings).**

3
4 A. Our first suggestion (Option 1) is to continue with the exclusive HES program
5 and other electric savings measures/programs to electric heating customers. We
6 believe there are ample remaining opportunities.

7 The annual electric kWh savings for the 2012 HPwES program for PSNH and
8 UES are 225,999 kWh and the annual electric kWh savings for 2012 HPwES
9 program for UES are 85,008 kWh.³² However, the GDS report indicates that,
10 state-wide, annual space heating and water heating potentially obtainable savings
11 are 132,633,140.³³ The projected annual kWh savings for the HPwES program
12 for the four electric utilities in 2012 are only a fraction of the state-wide
13 potentially obtainable savings, i.e. only 985,000 kWh.³⁴

14 Also, PSNH's least cost Integrated Resource Plan (IRP) shows that annualized
15 obtainable potential savings from heating and hot water are 2,390,000 kWh;
16 however, PSNH's planned savings for 2012 are only 225,999 kWh.³⁵ PSNH
17 concludes that "This comparison indicates that in all measure categories the
18 current level of CORE Program savings is substantially less than the Obtainable
19 Potential savings and therefore that the remaining potential is significant."³⁶

³² Source: Data Response Staff-005, attached

³³ GDS Report, page 8 and page 11. Total Residential Sector Potentially Obtainable estimated annual savings by 2018 = 698,069,156 (page 8) x 19% heating and hot water percentage (page 11) = 132,633,140. See:

<http://www.puc.nh.gov/Electric/GDS%20Report/NH%20Additional%20EE%20Opportunities%20Study%202-19-09%20-%20Final.pdf>

³⁴ Source: 2012 Update Core Filing, pages 14, 20, 24 and 29.

³⁵ Source: Data Response Staff-005 (attached).

³⁶ Source: PSNH IRP Filing in Docket No. DE 10-261, pages 60-61.

1 Based on the above, we believe there are ample opportunities remaining to save
2 electricity.

3 **Q. Please continue with your explanation of Option 1.**

4 A. In this option, the utilities would serve the electric/natural gas customers, or target
5 electric/natural gas savings, as they did under the predecessor HES program in
6 previous years. Thus exclusivity of this program will be retained and the question
7 of fairness would not be an issue, and there would not be any cost or benefit
8 shifting from one customer group to another.

9 **Q. If the HPwES program does not provide the level of savings that the**
10 **Commission expected from the program, what do you recommend?**

11
12 A. As noted above, the proposed HPwES program does not provide the ancillary
13 savings that the Commission expected. The Companies did not produce any
14 calculations for those savings for the proposed program. Therefore, we
15 recommend that PSNH and UES focus on programs with potential electric
16 savings.

17 **Q. Although there appears to be ample opportunity to save electricity, why do**
18 **you believe that the proposed HPwES program focuses on non-electric**
19 **savings (i.e. oil, liquid propane, kerosene, and wood fuels)?**

20
21 A. We believe the companies made the conscious choice to focus on non-electric
22 savings. This decision was made, in part, to support the New Hampshire Climate
23 Change Action Plan. However, as we noted above, the companies could have
24 advanced the goal of the Climate Change Action Plan by focusing on the electric
25 generation segment, with a focus on reducing electric usage; rather than on the
26 building segment, with a focus on reducing non-electric benefits.

27

1 **Q. Does the HPwES program maintain the “double savings” that the**
2 **Commission has consistently held important over the years?**

3
4 A. No. Double savings refers to EE programs that provide two benefits: first, the
5 benefit to all ratepayers of meeting resource needs at lower cost; second, the
6 benefit to the customers who participate in the programs and, therefore, have
7 lower bills.³⁷

8 The proposed HPwES program for PSNH provides benefits of only 1.5 percent
9 related to electricity, with the remaining 98.5 percent related to non-electric
10 benefits.³⁸ The predecessor program, the Home Energy Solutions (HES)
11 program, provided average lifetime kWh savings of 29,490,162 kWh per year for
12 the 5-year period prior to the introduction of the HPwES pilot (i.e. 2004-2008).
13 By comparison, in 2012, the plan for lifetime kWh savings for the HPwES
14 program provides only 1,482,600 kWh, or 5 percent of the level of the average
15 lifetime kWh savings achieved in the predecessor HES program.

16 Further, with the addition of a full-scale HPwES program in 2012, fuel neutral
17 programs in 2012 account for 70 percent of all residential programs, up from 43
18 percent of residential programs in 2011; and the vast majority of savings from
19 these fuel neutral programs pertain to non-electric savings.

20 Based on the above, we conclude that the proposed 2012 HPwES program for
21 PSNH and UES results in a reduction to the Commission expectation of double
22 savings.

23

³⁷ *Granite State Electric Company*, Order No. 20,186, 76 NH PUC 501 (1991).

³⁸ Source: Filing for 2012, page 25.

1 **Q. Please explain Option 2 (i.e. utilize other funds such as RGGI funds for**
2 **Group 2 ratepayers)**

3
4 A. It should be mentioned here that RGGI is funded by the electric ratepayers and
5 these costs are internalized in their energy cost. The goal of the fund is to reduce
6 greenhouse gas emissions, which by its character is fuel blind. Given that electric
7 ratepayers are already paying for a fund for fuel blind program, it is reasonable to
8 assume that the limited funds collected through the system benefits charge for
9 energy efficiency should be used for their intended goal of conservation of
10 electricity which has system-wide benefits. In Commission Order No. 24,930 in
11 Docket DE 08-120, dated January 5, 2009, the Commission indicated that the NH
12 Rule Puc 2604.01, the interim rules for administration of the RGGI Fund, are now
13 adopted by the Commission (p. 23). These rules provide three paths to the
14 selection of energy efficiency programs to be funded from the RGGI Fund. In
15 2010, RGGI was used to fund Re-CORE programs which are an extension of
16 CORE programs with fuel blind components. Utilities received funding through
17 the approved process.

18 During the pilot program approval process, PSNH stated

19 *"...operating a fuel blind program will give the utilities experience in running*
20 *such a program as funding from future sources such as the RGGI Fund and*
21 *Renewable Energy Fund, which will not be restricted to electric energy*
22 *benefits."*³⁹

23 In Order No. 24,930, the Commission agreed and stated:

³⁹ Source: 2009 Core Energy Efficiency Programs, Order No. 24,930, 94 NH PUC 8 (2009)

1 *“...the Utilities could benefit from the experience of running a fuel blind pilot*
2 *program to prepare for the prospect of using RGGI funds to support more energy*
3 *efficiency measures”*⁴⁰

4 **Q. Please explain Option 3 (i.e., your suggestion that the Legislature enact a**
5 **separate surcharge to fund HPwES programs for Group 2 ratepayers).**

6
7 **A.** With respect to a separate surcharge, this surcharge would be similar to the LDAC
8 surcharge that funds the natural gas HPwES program. The HPwES program for
9 natural gas ratepayers is an exclusive program and provides weatherization
10 services for natural gas ratepayers; thus the use of the natural gas surcharge
11 avoids the fairness issue.

12 A similar surcharge could be enacted by the Legislature to fund the HPwES
13 programs for Group 2 ratepayers. According to the VEIC Study, Vermont has
14 enacted such a surcharge on heating fuels. Vermont has had this system in place
15 since 1990. A charge of 0.5% is collected from the distributors of oil and propane
16 (for fuels not powering vehicles). The charge is collected at the distribution
17 level.⁴¹

18 **Q. Do you have any other comments?**

19 In addition to the issues discussed above, we recommend that the Commission
20 consider the following suggestions for any fuel blind program:

- 21 1. Least Cost Options: The utility cost to achieve electric savings in
22 residential fuel blind energy efficiency programs is significantly higher
23 than the utility cost to achieve electric savings in other residential

⁴⁰ Source: 2009 Core Energy Efficiency Programs, Order No. 24,930, 94 NH PUC 8 (2009)

⁴¹ Source: VEIC Report at page 3-13.

1 energy efficiency programs.⁴² Given this scenario, the question arises
2 as to cost effectiveness from a ratepayer's perspective – i.e. whether it
3 is more cost effective to utilize relatively more costly fuel blind energy
4 efficiency programs to reduce electric energy usage; or, whether it is
5 more cost effective perhaps to utilize other options. The Commission
6 has addressed a similar question in the context of least cost integrated
7 resource planning.⁴³ We suggest that some analysis could be
8 performed to determine whether or not fuel blind programs are the
9 least cost option.

10 2. Cost impact analysis: We suggest a cost impact analysis be
11 performed. A cost impact analysis will show how saving non-electric
12 energy is impacting electric ratepayers, and will provide a better
13 understanding of cost and benefit shifting. Our testimony provides a
14 simplified analysis that calculates how the cost of achieving non-
15 electric savings is shifted to other ratepayers.⁴⁴

16 Determination of Program Design: We suggest consideration be given
17 to program design issues – i.e. such as rebate levels that achieve the
18 goal of market transformation and better reflect market conditions.
19 For example, converting an electric only program to a fuel neutral

⁴² Source: 2012 Update Filing, September 30, 2011 (Revised 12/15/2011), page 24. PSNH, Fuel blind HPwES Utility Cost per kWh is \$1.12/kWh (Utility Cost of \$1,660,100 divided by Lifetime kWh Savings of 1,482,600 kWh). By comparison, Energy Star Appliance Utility Cost per kWh is \$0.038/kWh (Utility Cost of \$779,300 divided by Lifetime kWh Savings of 20,632,000 kWh).

⁴³ See Public Service Co. of New Hampshire, 73 NH PUC 117, 126 (1988): “...the primary objective of an integrated least cost resource plan for PNSH remains the same: namely, to develop and implement an integrated resource plan that satisfies customer energy service needs at the lowest overall cost...”

⁴⁴ Reference this testimony, Table 2.

1 program requires an extensive analysis of the two markets – i.e. such
2 as appropriate rebate levels. For instance, the current HPwES
3 program rebates could be reduced to Group 2 ratepayers. In discovery
4 in this proceeding, PSNH and UES indicated that there are few
5 opportunities remaining to implement weatherization programs for
6 Group 1 ratepayers (electric heating ratepayers) – i.e. most of these
7 opportunities are so-called “high hanging fruits”.⁴⁵ Group 2
8 ratepayers, approximately 10 times larger than the electric heat
9 customer base,⁴⁶ were not served by similar programs in the past – i.e.
10 most of these opportunities are so-called “low hanging fruits”. It
11 should also be noted that oil, propane, kerosene and wood heat
12 customers were not served by similar programs in the past, so all the
13 low hanging fruits are there to be served for a larger customer base.
14 Thus, it is obvious that the same level of rebates as provided for “high
15 hanging fruits” would not be required to incent participation in EE
16 programs for “low hanging fruits”.
17 The VEIC report also made similar recommendation regarding
18 HPwES programs (4-12, and 4-17).
19 Therefore, an understanding of the market conditions and customer
20 base are important for any program; and a program is not directly

⁴⁵ Source: Data Response Staff-002.

⁴⁶ <http://quickfacts.census.gov/qfd/states/33000.html>

transferrable from one segment of the market to another, which is currently the case of proposed HPwES program.

Performance Incentives (PI)

Q. Please describe the issue pertaining to PI.

A. PSNH and UES are proposing to change the PI from the “limited cost” formula to a “full cost” formula.⁴⁷ The limited cost formula is based on the cost to achieve electric-only savings (emphasis added). The “full cost” PI formula is based on the cost of achieving both electric and non-electric savings. The Commission has currently authorized the limited cost model for the 2012 HPwES pilot program. PSNH and UES are proposing a full cost model for the proposed HPwES program.

Q. What do you recommend for PI for the HPwES program?

A. We recommend a limited PI for the full scale HPwES program until the PI can be fully analyzed. As we noted earlier, fuel neutral programs have grown significantly, now representing 70 percent of PSNH’s 2012 residential budget. Further, we note that most of the savings from these fuel neutral programs are non-electric savings. Therefore, we believe we might be reaching a decision point wherein the current PI formula is no longer appropriate to use for Residential fuel-neutral programs. As the current formula relies on electric savings, questions can be raised regarding whether non-electric savings should also be considered

⁴⁷ Reference: DE 10-188 Update Filing, page 2; and Testimony of Messrs. Gelineau/Palma, February 15, 2012, page 4, line 24-25.

1 for PI and whether electric savings and non-electric savings should be
2 incentivized at the same level given that electric ratepayers are paying for the
3 entire program. The VEIC review of PI for similar programs in the region shows
4 that current incentive level is comparatively higher.⁴⁸

5 Further, we note that the VEIC Report suggests that certain modifications to the
6 PI formula might be appropriate. Overall, the VEIC Report suggests eleven
7 recommendations to modify performance incentives.⁴⁹

8 Based on the above, we believe that the performance incentive working group
9 should re-convene to fully analyze the PI formula for the residential fuel neutral
10 programs⁵⁰ to determine if it merits the same level of PI from the perspective of
11 an electric energy efficiency program. The updated PI formula could then be
12 incorporated into the HPwES program and other fuel neutral programs for 2014.

13 **Q. Since residential fuel neutral programs are yielding mostly non-electric**
14 **savings, as noted above, is it possible that a utility could earn maximum PI**
15 **with little electric savings?**

16
17 A. Yes. PI is calculated based on a savings component (4%) and a cost effectiveness
18 component (4%) multiplied by actual spending, with a cap of 12%.

19 Theoretically, a utility could earn maximum PI based entirely on the savings
20 component. For instance, if a utility planned 2% electric savings (and 98% non-
21 electric savings as is the case with the HPwES proposal) and actually achieved
22 6% electricity savings, then the PI formula would calculate a PI savings
23 component of 12%, or 3 times higher than the planned PI (i.e. 4% PI x 3). If the

⁴⁸ Source: VEIC Report, page 9-13.

⁴⁹ Source: VEIC Report at page 9-19.

⁵⁰ The fuel neutral residential fuel neutral programs include the Home Energy Assistance (HEA) program, the Energy Star New Homes program and the Home Performance with Energy Star (HPwES) program.

1 utility achieved this electricity savings at or below budget, the utility would earn
2 the full PI of 12%, but only 6 percent of its achieved savings would be related to
3 the provision of electricity. The Company might not achieve the total energy
4 savings goal; yet, the Company would achieve the full PI of 12% with only a
5 fraction of savings related to electricity savings.

6 **Q. Would your recommended limited-cost model for PI apply to all electric and**
7 **gas utilities other than PSNH and UES?**

8
9 A. Yes, since all Companies are eventually planning to offer the HPwES fuel-neutral
10 program, our recommended limited-cost model applies to all electric and natural
11 utilities.

12 **Q. Is your recommendation of a limited-cost PI model consistent with any prior**
13 **action taken by the Commission?**

14
15 A. Yes. In the pilot fuel-neutral HPwES program, the Commission required PSNH
16 and UES to calculate performance incentives using a formula that was based only
17 on the cost to achieve electric savings.

18 We believe there is essentially no difference between the pilot program and the
19 full-scale program – i.e. both are fuel-neutral. Therefore, we recommend
20 continuation of the same formula approved by the Commission for the fuel-
21 neutral pilot HPwES program.

22

23

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1 **Summary of Conclusions and Recommendations**

2
3 **Q. Please summarize your testimony with respect to the fairness issue.**

4 **A.** The proposal by PSNH and UES to implement a full-scale HPwES program
5 presents an opportunity for the Commission to review the issue of fairness – i.e.,
6 is it fair that electric and natural gas heating ratepayers (“Group 1”) who pay
7 energy efficiency charges on 100 percent of their household energy usage and
8 receive the same benefits/programs as the oil, liquid propane, kerosene and wood
9 heating ratepayers (“Group 2”) who pay energy efficiency charges on only 25
10 percent of their household energy use.⁵¹ The fairness issue arises in the context of
11 limited energy efficiency funds from the System Benefits Charge. The
12 Commission will have to make choices as to how to spend these limited funds.
13 As noted in our testimony, the Commission has made these choices in the past
14 when it decided how to allocate SBC EE funds at the sector level, utility level and
15 industry level. As we noted earlier, when re-starting the natural gas EE programs,
16 the Commission could have chosen to fund the programs out of the electric
17 system benefit charge monies which would have been unfair for electric
18 ratepayers; instead, the Commission avoided the inherent unfairness and chose to
19 require natural gas ratepayers to fund their own programs with a special Local
20 Distribution Adjustment Clause surcharge paid only by natural gas customers.

⁵¹ The fairness issue that we address pertains to all utilities. Although PSNH and UES are the only electric utilities proposing to implement a full scale fuel-neutral HPwES program at this time, it is our understanding that all other utilities plan to offer the fuel-neutral program in future years.

1 The same choice faces the Commission in the PSNH/UES proposal to implement
2 a full-scale HPwES program.

3 Our testimony concludes that the proposed HPwES program is inconsistent with
4 the Electric Restructuring Statute (RSA 374-F:3 VI) and Commission Order No.
5 24,930. We believe that the proposed HPwES program does not provide electric
6 savings sufficient to meet the Commission's interpretation of the electric
7 Restructuring Statute with respect to the provision of electricity. We believe that
8 the proposed HPwES program does not benefit all ratepayers equitably; benefits
9 one customer class to the detriment of another, and; unfairly shifts costs among
10 customers.

11 Also, PSNH/UES testimony points out that the proposed HPwES program
12 supports the New Hampshire Climate Change Action Plan (PLSN) with respect to
13 the building component (i.e., a focus on non-electric savings); rather than the
14 electric generation component (i.e., a focus on electric savings). Again, the
15 Commission is faced with a choice – i.e., will it utilize system benefit charge
16 monies to fund the PLAN with a focus on non-electric energy savings from oil,
17 liquid propane, kerosene, and wood fuels; or, will the Commission choose to
18 utilize system benefit charge energy efficiency monies to fund the PLAN with a
19 focus on the provision of electricity as noted in the Restructuring Statute. Either
20 choice merits Commission consideration, given that both address a similar “public
21 interest”.

22 **Q. Does that complete your testimony?**

23 **A.** Yes, it does, thank you.