Appendix A

Educational and Professional Background

James J. Cunningham, Jr.

I am employed by the New Hampshire Public Utilities Commission (Commission) as a Utility Analyst. My business address is 21 S. Fruit Street, Suite 10, Concord New Hampshire, 03301.

I am a graduate of Bentley University, Waltham, Massachusetts, and I hold a Bachelor of Science-Accounting Degree. Prior to joining the Commission I was employed by the General Electric Company (GE). While at GE, I graduated from the Corporate Financial Management Training Program and held assignments in General Accounting, Government Accounting & Contracts and Financial Analysis.

In 1988, I joined the staff of the NHPUC. I have provided expert testimony pertaining to depreciation studies, actuarial studies for pension and retirement benefits, energy efficiency programs and other topics pertaining to NH electric, natural gas, water, and steam utilities. In 1995, I completed the NARUC Annual Regulatory Studies Program at Michigan State University, sponsored by the National Association of Regulatory Utility Commissioners. In 1998, I completed the Depreciation Studies Program, sponsored by the Society of Depreciation Professionals, Washington, D.C. I am a member of the Society of Depreciation Professionals (SDP). In 2008, I was promoted to my current position of Utility Analyst.

Appendix B

References to Staff Data Requests

References to Staff Data Requests:

Staff 1-008

Staff 1-009

Staff 2-002

Staff 2-007

Staff 2-010-SP01

Public Service Company of New Hampshire
Docket No. DE 14-216

Date Request Received: 09/26/2014 **Date of Response: 10/09/2014**
Request No. STAFF 1-008 **Page 1 of 1**
Request from: New Hampshire Public Utilities Commission Staff

Witness: Thomas R. Belair

Request:
Reference Filing, Table IV.3, page 23. The Customer Engagement Platform (CEP) is focused only on PSNH. Given that the instant filing pertains to statewide Core energy efficiency programs, please explain why the proposed CEP is focused on only PSNH?

Response:
The 2015/2016 NH Statewide CORE Energy Efficiency Plan includes CORE Programs offered by all of the New Hampshire electric and natural gas utilities as described in Section IV.D and Utility-Specific Programs and Initiatives as described in Section IV.E. In some instances, a new program or measure is first implemented by one utility before it is offered by other utilities. This approach allows for innovation by each individual utility and a sharing of information, lessons learned and best practices before a program or service is fully implemented at a utility or offered statewide. A balance between overall program consistency and innovation by each utility is an important aspect of a vibrant energy efficiency program framework.

Northeast Utilities (NU) is currently in the process of implementing a CEP in Massachusetts and Connecticut and is prepared to begin implementation in New Hampshire in 2015 if approved by the Commission. PSNH will share information about the CEP as it becomes available over time with the other New Hampshire utilities and stakeholders. Each utility will then decide if the CEP is appropriate to implement in its service area based on the benefits achieved in the NU programs implemented in Massachusetts, Connecticut and New Hampshire and the cost to implement the program.

(Joint Utility Response)

Public Service Company of New Hampshire
Docket No. DE 14-216

Date Request Received: 09/26/2014 **Date of Response: 10/09/2014**
Request No. STAFF 1-009 **Page 1 of 1**
Request from: **New Hampshire Public Utilities Commission Staff**

Witness: **Thomas R. Belair**

Request:
Reference Filing, page 66-68, Attachment N. The spending for the Customer Engagement Platform (CEP) is approximately $550 thousand in 2015 and $264 thousand in 2016 (p. 68).

A) Are there any additional corollary expenses associated with CEP? If yes, what are the amounts?
B) Please explain why Attachment N (page 3 of 3) shows no savings related to the CEP.
C) Does PSNH plan to show savings in the future pertaining to CEP?
D) CEP has been implemented in Massachusetts and Connecticut. What savings have been achieved in these two states?
E) How will PSNH track the savings associated with CEP?

Response:
A) The 2015 and 2016 budget associated with PSNH's Customer Engagement Platform (CEP) represents the estimated total project cost recovered through PSNH's energy efficiency budget, including software and implementation costs in 2015 and software costs in 2016, as shown in the Plan on page 68. To account for the non-energy efficiency benefits associated with the CEP, twenty percent of Northeast Utilities (NU) overall total software and implementation costs have been allocated to NU's non-energy efficiency programs and services, not recovered through the energy efficiency programs. PSNH's non-energy efficiency CEP program costs are estimated to be approximately $138k in 2015 and $66K in 2016.

B) The CEP will serve as a portal to effectively reach customers and provide targeted, customized recommendations and actionable steps to reduce costs and save energy based on their profile. Based on the customer's situation and profile, the CEP will return targeted, customized recommendations to reduce costs and save energy. Savings realized due to the uplift from other energy efficiency programs will be claimed by the respective program, not the CEP.

C) Currently, there are no immediate plans to show savings directly pertaining to the CEP. As discussed in B above, savings from program uplifts will be claimed by the other programs.

D) The CEP has not yet been implemented in Massachusetts and Connecticut. Implementation is targeted to occur in early 2015.

E) Please see the response to C above.

(PSNH Response)

Public Service Company of New Hampshire
Docket No. DE 14-216

Date Request Received: 10/14/2014 **Date of Response: 10/24/2014**
Request No. STAFF 2-002 **Page 1 of 5**
Request from: New Hampshire Public Utilities Commission Staff

Witness: Thomas R. Belair

Request:
The filing at page 9 proposes a third-party financing option for the electric companies, an idea that was put forward at the brainstorming session in May 2014. Also, the filing notes that the Commission is contemplating the adoption of an EERS and the filing indicates that one of the four key areas that need to be incorporated in an effective EERS is a low cost financing mechanism that supports customer investments in energy efficiency and leverages the capital of local financial institutions (filing at page 10). With respect to the utilities' proposal for third-party financing, please provide additional clarification:

a) Pilot vs. Full Implementation: Are the electric companies proposing a pilot program to test third-party financing? The filing at page 33 indicates that the electric companies are proposing to implement a financing option.

b) Program Applicability: Although the gas companies' third-party pilot financing program is available for both HPwES and ES Products (p. 49, p. 73), it appears that the electric companies' third-party financing program is for only HPwES (p. 216); and, no mention is made of the third-party financing for the ES Products program (p. 217). Please clarify.

c) Financing Cap: The electric companies' proposed cap on third-party financing is $25,000 (Staff 1-006), while the cap for the third-party financing option for the gas companies is only $10,000 (Filing, p. 49, 73). Wouldn't it be preferable to keep the same $10,000 cap for simplicity during this initial phase?

d) Fixed Customer Interest Rate: The electric companies' third-party financing program proposes no fixed customer interest rate (Staff 1-006). By comparison, it appears that the gas companies' negotiated a fixed customer interest rate as part of its third-party financing option (filing, p. 49). Wouldn't it be preferable to retain the fixed interest rate design for simplicity during this initial phase?

e) Participation: The filing provides information about Liberty gas and Unitil gas. That is, Liberty proposes 55 pilot participants (filing, p.50); and, Unitil gas proposes 17 pilot participants (filing, p. 74).What is the planned participation for each electric company for 2015 - 2016 and what is the estimated percentage of HPwES and ES Products customers who are budgeted to take advantage of the proposed third-party financing option?

f) Loan Buy-Down Amount: What is the proposed loan buy-down costs for each electric company for 2015 - 2016? Liberty gas proposes pilot loan buy-down costs of $27,996 (filing, p. 50); and, Unitil gas proposes $9,082 (filing, p. 74).

g) Customer Surveys Liberty gas and Unitil gas plan to perform a customer survey to help inform future financing proposals and programs (filing, p. 50 and p. 74). Will the electric companies perform a customer survey of their proposed third-party financing option?
h) Loan Limits & Loan Term: What are the proposed loan limits and loan terms for each electric company? Liberty and Unitil gas propose a loan limit of $10,000 and a loan term of 5 years (filing, p. 49 and p.73).

i) Applicability: It appears that the gas utilities are piloting the third party financing option for their residential HPwES and ES Products programs only (filing, p. 49 and p. 73). However, the filing indicates that all C&I customers will be included as well (filing, p. 217). Please clarify if third-party financing is planned to be offered to all customers of both gas and electric companies.

j) Energy Efficiency Resource Standard (EERS): As noted above, the filing notes that the Commission is contemplating the adoption of an EERS and the filing indicates that one of the four key areas that needs to be incorporated in an effective EERS is low cost financing mechanisms that support customer investment in energy efficiency and leverage the capital of local financial institutions (filing at page 10). Please explain how the proposed third-party financing mechanism and other existing and planned financing mechanisms (i.e., Smart Start, On-Bill Financing and C-PACE) could support the Commission's contemplated adoption of an EERS.

k) Reduced Rebates vs. Expanded Financing Options: The proposed financing benefit to customers could be close to $1,200 per customer – i.e., the average buy-down is $1,163 for Liberty gas participants (filing, p. 51). Note, in the past, when customer financing was offered to customers (i.e., the existing Smart Start financing program), the utilities determined that there were no adverse customer reactions to the reduction in rebates. In light of this Smart Start experience and in light of the proposed benefits provided by third-party financing, do the electric and gas utilities believe it might be plausible to consider a reduced rebate component?

Response:

(a) The electric utilities are proposing to implement a third-party lender financing option during 2015 based on the encouraging results of the gas utilities' program. This program is based on a similar and highly successful model in Massachusetts. The electric utilities are committed to the development of a single, statewide, consistent offering through collaboration with the NH Bankers Association and NH Credit Union League. Given the CORE utilities' experience to date as well as the experience of program managers in other states, the electric utilities are not proposing a pilot program to test third-party financing. Like other programs in the portfolio, it is anticipated that the terms of the third-party financing option will evolve over time to reflect market conditions, customer responsiveness, and program evaluations.

(b) The electric utilities are proposing to offer the third-party lender financing option to customers who meet the Home Heating Index qualification of the Home Performance with ENERGY STAR (HPwES) program. Third-party lender financing will be available for weatherization services as well as high efficiency oil, propane, and electric space and water heating systems when such equipment replaces end-of-life equipment and is recommended by one of the program's home energy auditors and weatherization services are completed. Participants in the electric ENERGY

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STAR Products program will not be eligible to participate in the third-party lender financing option unless they are also participating in the HPwES program and the auditor has recommended an electric space heating or water heating appliance offered through the ENERGY STAR Products program. In this case, the customer will be eligible for both the incentive from the ENERGY STAR Products program, and financing through the HPwES program.

(c) The third-party lender financing cap is dependent on negotiations that have not yet occurred with lending institutions. Financing caps may differ by lender. The electric utilities' goal is to establish a high enough cap that enables customers to pursue comprehensive energy efficiency projects. For reference, the current Mass Save HEAT Loan program through third-party lending institutions allows for residential customer loans up to $25,000 with terms up to seven years and the BetterBuildings Collaboration Initiative with PSNH and Unitil allowed for residential customer loans up to $20,000 with terms up to ten years.

(d) It is the intent of the electric utilities to establish a fixed customer interest rate of 2% with all lenders. The electric utilities may increase the customer interest rate if market conditions change and consumer interest rates increase.

(e) Reference attachment 2-002 (e) for the estimated percent of Home Performance with Energy Star program participants with third-party loans by program year and electric utility.

(f) Reference attachment 2-002 (e) for the estimated total buy-down amount by program year and electric utility.

(g) The electric utilities do not currently have plans to conduct a specific survey of the third-party financing option. The electric utilities will likely incorporate an assessment of the third-party financing option in a future HPwES program evaluation.

(h) The electric utilities will seek to establish residential customer loans up to $25,000 with terms up to seven years, as has been successfully offered in Massachusetts.

(i) Third-party lender financing will not be offered under the C&I programs in 2015. The electric and natural gas utilities plan to investigate third-party lender financing options for commercial/industrial customers during 2015.

(j) The proposed third-party lender financing option and other financing options such as Smart Start, On-Bill Financing and C-PACE help make energy efficiency investments more affordable for customers by reducing the up-front costs and lessening the impact on customers' cash flow. This is particularly important as the utilities pursue comprehensive energy efficiency projects with customers, which typically require a more significant customer investment.

(k) The average buy down can be calculated from the table on page 50 of the Plan and is $509 for Liberty Gas. Also, for reference there have now been 20 loans in Liberty Gas's third party financing pilot to date in 2014, and the average interest rate buy down amount has been $566.

Residential customers are typically focused on the initial, up-front cost of an investment. The CORE programs offer customers incentives to reduce their initial investment cost. The use of third party financing is designed to remove the additional barrier faced by some customers who lack sufficient cash to make the after-incentive investment.

Based on the initial results of Liberty Utilities Gas third party financing option, there is evidence that the third party financing option is being used by those customers who most need help accessing up front capital in order to make energy efficiency investments. The utilities have therefore opted not to reduce incentives for those who choose the financing option. For reference, of the 75 Liberty Utilities Gas single family HPwES participants in 2014, only 10, or 13%, have participated in the 2% third party financing option and a much smaller percentage of Liberty Utilities Gas customers participating in the ENERGY STAR Appliance program have utilized the financing option in 2014 when purchasing a heating system.

The current On Bill Financing (OBF) options do not require customers to accept a reduced program incentive. In addition, the successful MassSAVE HEAT Loan Program does not require customers to accept a reduced program incentive.

With respect to the Smart Start program, PSNH concluded that the reduction in the incentive amount (of 10%) has not adversely impacted the level of participation in PSNH's Smart Start program. This is due to the fact that PSNH's program is only available to municipal customers. In order to invest in energy efficiency, municipalities must either include the energy efficiency investment amount in its operating budget and receive town/city approval and/or potentially issue a bond. This is a more complicated and lengthy process. PSNH's Smart Start program provides a much simpler option for the municipalities and helps to eliminate this barrier to investment in energy efficiency. Because of the modest reduction in the incentive amount; coupled with a much simpler, straight-forward process for the municipalities, PSNH has concluded that the reduction in the incentive amount has not adversely impacted participation. This conclusion can not be meaningfully applied to other customer segments, such as the residential or commercial/industrial customer segments.

NHEC's Smart Start program was designed to test the relationship between incentives and on bill financing. NHEC offers Smart Start to all commercial members considering implementing energy efficiency upgrades. Between 2011 and 2013, less than 1% of total participants in the commercial CORE programs chose to participate in Smart Start and receive a reduced incentive. Based on this information, it appears that commercial members do not utilize financing if the incentive is reduced.

(Joint Utility Response)

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Home Performance with ENERGY STAR Program
Loan Buy-Down Amounts and Estimated Third-Party Lending Participation
by Program Year and Electric Utility

Year: 2015	Average Buy-Down Amount	Number of Loans	Total Buy-Down Amount
Liberty Utilities	$478	16	$7,648
NHEC	$488	46	$22,448
PSNH	$400	100	$40,000
Unitil	$551	34	$18,737

Estimated Number of HPwES Participants	Estimated Percent of HPwES Participants with Third Party Loans
49	32.7%
64	71.9%
538	18.6%
60	56.7%

Year: 2016	Average Buy-Down Amount	Number of Loans	Total Buy-Down Amount
Liberty Utilities	$478	10	$4,780
NHEC	$488	46	$22,448
PSNH	$400	100	$40,000
Unitil	$551	34	$18,737

Estimated Number of HPwES Participants	Estimated Percent of HPwES Participants with Third Party Loans
33	30.3%
56	82.1%
431	23.2%
56	60.7%

Public Service Company of New Hampshire
Docket No. DE 14-216

Date Request Received: 10/14/2014 **Date of Response: 10/24/2014**
Request No. STAFF 2-007 **Page 1 of 2**
Request from: New Hampshire Public Utilities Commission Staff

Witness: Thomas R. Belair

Request:
Reference Staff 1-009. This response indicates that currently, there are no immediate plans to show savings directly pertaining to the proposed Customer Engagement Platform (CEP). How does PSNH plan to measure the effectiveness of CEP? Would attribution of incremental savings be an effective method to measure the effectiveness of CEP? Please explain.

Response:
PSNH plans to utilize several metrics during the CEP's initial launch phase to track PSNH's progress meeting its primary objectives. During the initial launch phase of the CEP, currently projected to be the period July 2015 – December 2016, PSNH's primary objectives are to:

- Build customer awareness of the CEP
- Build customer traffic to the CEP
- Increase the breadth of energy efficiency program participation; especially in the micro and small business customer segments,
- Incorporate the project management and customer communications capabilities of the CEP into PSNH's daily energy efficiency program management,
- Conduct several marketing campaigns utilizing the segmentation and reporting tools available within the CEP
- Measure customer satisfaction with the services provided by the CEP

PSNH will utilize and track the following types of metrics to measure the CEP's effectiveness during this phase.

- Number of registered CEP customers by segment
- Number of repeat visits to the CEP by the registered users by segment
- Average length of time spent on the CEP by the registered users by segment
- Number of self-service assessments (audits) completed by segment
- Number of e-commerce transactions completed
- Number of program leads generated through the CEP by customer segment, with a main focus on qualified candidates for the Home Performance with ENERGY STAR program and the Small Business Energy Solutions program
- Incorporation and implementation of on-line application and incentive forms for the CORE programs over time
- On-line surveys measuring customers satisfaction with the services provided by the CEP

- Measure the impact of the marketing campaigns conducted on program participation and energy savings

Program savings is an important attribute and PSNH will measure the impact of specific marketing campaigns conducted on program participation and energy savings. The CEP will bring additional value, such as more efficient and improved program processing, increased customer satisfaction, and improved communication with customers in their preferred channels of choice. As a result, PSNH plans to measure other metrics, as well. Over time, as customers are introduced to the CEP and begin utilizing the tools contained within the CEP, a broader range of customers will be empowered to take actions that save energy, putting PSNH in a position to scale up energy efficiency programs in a cost-effective manner over time.

(PSNH Response)

Public Service Company of New Hampshire
Docket No. DE 14-216

Date Request Received: 10/14/2014 **Date of Response: 10/24/2014**
Date Supplement Request Received: 10/28/2014 **Date of Supplement Response: 11/05/2014**
Request No. STAFF 2-010-SP01 **Page 1 of 3**
Request from: New Hampshire Public Utilities Commission Staff

Witness: Eric Stanley, Thomas Palma

Request:
Reference Filing, page 111, 147. The level of annual MMBtu savings for the gas utilities is lower in 2015and 2016 than the level of annual MMBtu savings approved for the most recent 2014 Core programs.

	Liberty gas	Unitil gas	Total
2014 Planned Annual Savings (MMBtu)	34,836	93,942	128,778
2015 Planned Annual Savings (MMBtu)	34,889	79,611	114,500
2016 Planned Annual Savings (MMBtu)	34,547	82,515	117,062

Please explain why 2015-2016 MMBtu savings are lower than 2014 levels.

Response:
ORIGINAL RESPONSE:
To clarify, the column headers in the question labeled as Liberty Gas and Unitil Gas should be reversed.

Liberty Utilities Response
The reduction in total annual MMBtu savings between the 2014 and 2015 program years is primarily due to a decline in the projected per unit annual MMBtu measure savings for HPwES multifamily units (32.9 in 2014 vs. 15 in 2015), HEA units (32 in 2014 vs. 27.7 in 2015), Large C&I retrofit custom projects (3,041 in 2014 vs. 1,949 in 2015), Large C&I new equipment & construction custom projects (786 in 2014 vs. 648 in 2015), and Small C&I new equipment & construction custom projects (280 in 2014 vs. 252 in 2015). These projected per unit annual MMBtu measure savings declines are outlined in Liberty Utilities Attachment IG tables. These downwardly revised per unit measure savings projections are based on an examination of actual customer projects completed year-to-date in 2014 and forecasted projects in 2015 and 2016.

Unitil Response
The MMBtu savings are comparable between 2014 and 2015/2016 and slight variations are to be expected based on cost increases and modest adjustments to anticipated energy savings projections per project.

SUPPLEMENTAL RESPONSE:
Home Performance with ENERGY STAR® Program (HPwES)
The gas HPwES program represents a significant portion of the residential gas program savings for Liberty Utilities. The company forecasts total number of HPwES units weatherized to decline in 2015

due to a reduction in the number of planned large Multi-Family unit projects. This reduction in planned Multi-Family unit projects is also why the company reduced its HPwES program budget in 2015 compared to prior years.

When comparing 2013 and 2014 planned targets to 2015 plan, the estimated unit quantity and average annual savings per unit has increased for Single Family projects and it has decreased for Multi-Family projects. However, because the Multi-Family unit goal is five times larger than the Single Family goal, a decline in the estimated average savings per Multi-Family unit has a more significant impact on the overall savings target compared to an increase in Single Family units and Single Family savings per unit. When developing the 2015 measure quantities and annual savings per unit type, the company examined in detail its actual activity trends year-to-date in 2014 and pipeline of potential projects it expects to complete in 2015.

HPwES – Single Family (1-4 units)

Unit Quantity			**Annual Savings per Unit** (MMBtu)		
2013 Plan	**2013 Actual**	**2015 Plan**	**2013 Plan**	**2013 Actual**	**2015 Plan**
24	100	60	33.6	18.5	32.9

Unit Quantity

The projected Single Family unit quantity in 2015 increased from 24 in 2013, to 60 in 2015. While the 2013 unit quantity actuals for Single Family were much higher (100) compared to plan (24), the actual annual savings were significantly lower per unit (18.5 vs. 33.6). Based on Single Family activity to date in 2014, the company projects to have deeper savings per unit in 2015 compared to 2013 actuals, which will also result in a higher average rebate per customer of $2,400 in 2015, versus $1,600 in 2013.

Annual Savings per Unit

The projected Single Family annual savings per unit has increased from 2013 Actuals of 18.5, to 2015 Plan of 32.9. This adjustment was made based on the actual savings currently seen in 2014. Customers' actual average co-pay has correspondingly increased from $1,600 in 2013, to $2,400 in 2014. This change also increases the portion of the rebate budget assigned for single family in 2015 compared to 2013.

In 2013, the company transitioned from a single contractor HPwES implementation method, with lower investment per home, to the current state-wide model of multiple HPwES contractors with higher investment per home. This additional investment has generated more savings reflected in our actual savings per home year-to-date in 2014 compared to actuals achieved in 2013. This projected increase is reflected in the savings difference from 2013 Actual of 18.5, compared to 2015 Plan of 32.9. This increase results in investment in additional cost effective measures that generate more savings.

HPwES – Multi-Family (5+ units)

Unit Quantity			**Annual Savings per Unit** (MMBtu)		
2013 Plan	**2013 Actual**	**2015 Plan**	**2013 Plan**	**2013 Actual**	**2015 Plan**
544	571	328	32.9	37.8	15.0

Unit Quantity

All Multi-Family buildings requiring weatherization work are considered for the HPwES program. In general, when comparing 2015 to prior years, there are now fewer buildings to be served with a large number of units.

The projected Multi-Family unit quantity in 2015 of 328 has decreased from the 2013 actuals of 571. The unit decrease in the number of Multi-Family units compared to 2013 is reflective of the lower number of Multi-Family units projected for 2014 (300). For example, in 2013, the company secured one large Multi-Family unit project containing 482 units. This one project upwardly skewed the company's results making it difficult to compare against other years. In 2014, the largest Multi-Family unit project under contract has 102 units. The company's current project pipeline for 2015 anticipates having even smaller unit Multi-Family projects.

Annual Savings per Unit

The projected Multi-Family annual saving per unit decreased from 2013 Plan of 32.9 to 2015 Plan of 15.0. We recognize that this is a significant change, however it is based on the actual savings identified in Multi-Family unit projects in 2014.

C&I Gas Programs

The Large Business program represents the majority of C&I gas program savings for Liberty Utilities. Within the Large Business program, large-scale custom new equipment and construction and custom retrofit projects make up the preponderance of savings. These projects typically have a long planning cycle and do not happen frequently. For example, in 2013, the company's second largest customer completed a project that made up the majority of savings for the year. What the company is seeing for actual projects in 2014 and has in its pipeline year-to-date for 2015 is a larger volume of smaller projects with its Large Business customers. The company anticipates its small business activity to increase in 2015 compared to prior years, and has correspondingly raised its Small Business program goal and budget, however it is anticipating a smaller volume of very-large, one-time Large Business projects, which is why it has reduced its Large Business program savings target.

(Liberty Utilities Supplemental Response)