1	
2	EXHIBIT 1
3 4 5	Educational and Professional Background
5 6	Leszek Stachow
7	I am employed by the New Hampshire Public Utilities Commission (Commission) as
8	Assistant Director of the Electric Division. My business address is 21 S. Fruit Street,
9	Suite 10, Concord, New Hampshire, 03301.
10	I am a graduate of the following institutions of higher learning: University of Keele,
11	Keele, Staffordshire, United Kingdom, from which I received a BA Triple Honors in
12	Economics, Politics and History, and subsequently from the University of Sussex,
13	Brighton, United Kingdom, from which I received a Master's in Political Economy.
14	While pursuing a PhD at the Massachusetts Institute of Technology in Cambridge, Mass,
15	I concurrently served as a faculty member at St. Anselm College, NH and adjunct faculty
16	at the Whitmore School of Business and Economics of the University of New Hampshire,
17	where I taught regulatory economics. In 1987 I joined the Economics department of the
18	New Hampshire Public Utilities Commission where I primarily supported rate cases in
19	the telecommunications and energy sectors.
20	In 1988, I completed the NARUC Annual Regulatory Studies Program at Michigan State
21	University, sponsored by the National Association of Regulatory Utility Commissioners
22	as well as sundry other targeted regulatory courses.
23	In 1992, I was appointed regional manager for Central Europe on behalf of management
24	consulting firm, Booz Allen & Hamilton. In that capacity I advised numerous
25	government agencies in Central and Eastern Europe, the Middle East, Africa, and Latin

1	America on optimizing the functioning of energy, telecommunications, water/waste
2	water, and gas sector regulatory bodies and markets.
3	In 2004, I was employed by Camp Dresser McKee to develop their Central European
4	engineering consulting business. Beyond a primary focus on mergers and acquisitions, I
5	was appointed President and manager of CDM Poland, as well as director of CDM AG in
6	Germany.
7	After retiring from my business activities, I returned to the Commission in 2010, where I
8	initially supported the telecommunications division and latterly the gas and electric
9	divisions.

Docket No. DE 17-136 Testimony of Leszek Stachow Page 21 of 34

Attachment A

Attachment A

Public Service of New Hampshire d/b/a Eversource Energy Docket No. DE 17-136

Date Request Recei	ved: 10/10/2018	Date of Response: 10/24/2018	
Request No. STAFF	2-009	Page 1 of 2	
Request from:	New Hampshire Public Utilities Commission Staff		

Witness: Katherine W. Peters

Request:

Referring to Bates page 26 of the 2019 Update, on table 3.9 one finds the planned 2019 budget of \$529,692.

Please provide more detail on the growth in usage of CEP during 2017 and 2018 to date, and please provide an estimate of the cost per residential and C & I customer.

Response:

The chart below provides CEP activity between September 2017 and September 2018 for all three states. In total, there are 1.2 million customers in Connecticut, 1.4 million customers in Massachusetts and 510,000 customers in New Hampshire.

	Sep- 17	Oct- 17	Nov- 17	Dec- 17	Jan- 18	Feb- 18	Mar- 18	Apr- 18	May- 18	Jun- 18	Jul-18	Aug- 18	Sep- 18
СТ	676	617	2089	1808	2170	1762	1528	1214	2079	1268	1391	1515	1289
MA	576	528	2404	1812	2377	2013	1749	1438	1892	1099	1261	1204	1014
NH	135	175	1347	1161	915	632	583	533	898	459	577	713	540



Eversource achieved a significant increase in users during the months of November and December 2017 in New Hampshire, coinciding with the deployment of an email marketing campaign. Over 5,000 customers clicked through from the email to the Energy Savings Plan landing page with nearly 2,000 new users acquired over the campaign. We identified several areas of opportunity to drive increased engagement with the CEP tool as a result of this and the December/January digital advertising campaign deployed in Massachusetts and Connecticut:

Two key enhancements were made to the landing page to increase the conversion rate of users who visit: 1) The main call to action button leading users to the log in page was relocated to a more prominent position on the page above the fold. 2) Visual elements were added to the page calling out features and functionality of the CEP tool, allowing users to better understand the value of the platform.

Enhanced tracking and tagging are in the process of being implemented on eversource.com and the CEP itself to better understand the marketing channels and tactics that drive customer adoption and engagement with the CEP tool. With this enhanced tracking capability, the Eversource marketing team and its partners will have the data and insights needed to make more informed decisions related to investments in marketing activities and paid media.

Given the importance of 1) improving the user experience and 2) enhancing our ability to measure the performance of specific tactics to make fiscally responsible marketing investment decisions, the decision was made to reduce our investment in marketing activities while these enhancements were implemented.

With many of the user experience and tracking enhancements in place, the Eversource marketing team and their partners initiated an integrated marketing campaign in September 2018. Several key learnings from the 2017 marketing campaign informed our 2018 efforts:

- Paid media channel strategy was optimized based on 2017 performance.
- Paid media placements were optimized in 2018.
- Message testing deployed in 2017 informed the creative for 2018.

A complementary direct response campaign is underway to reach customers for whom we do not have an email address on file. The campaign continues message testing efforts while considering past results and introduces a method test (letter versus mailer).

Additional marketing efforts to date in all three states included articles in the customer bill insert and, where possible, cross promotions on other program materials such as direct response. The October Energy Awareness Month campaign, deployed across the entire service territory, pointed residential customers to the Energy Savings Plan as well. Together, these efforts result in the increase in users shown in the graphs above.

Since inception to date, approximately 14,000 NH customers have logged into CEP, with a cumulative cost \$1,360,288, resulting in a cost per user of \$97. However, as more customers log in to Eversource.com to pay their energy bill and directly access readily available CEP information, this cost per customer will decrease significantly over time.

(Eversource Response)

Page 1 of 7

b.

Reference Bates pages 37-38 (NHSaves website), 64 (HPwES new audit tool), 88-95 (HERs), 96-97 (CEP), 169 (EM&V), and others. These programs (e.g., HPwES, CEP, HERs, etc.), the NHSaves websites, and other aspects of the energy efficiency programs use various computer/technology/software-based platforms/programs.

a.	Please list all of such platforms/programs used for the	HPwES Audit Tool, CEP (Residential), CEP (Business), HERs, EM&V,
	energy efficiency programs.	NHSaves website.

Howes New Audit Tool This software has not been	All Litilities
here we therefore and there are the solution of the second s	An others
chosen yet, therefore exact parameters are not	
available	
 The key data inputs from the customer-side; 	Customers do not input data but need to provide two years of fossil
	fuel usage history. HPwES contractors input data into the audit tool
	related to the building attributes in order to generate energy
ii. The key data inputs from the utility-side;	Customer information such as address, account number and
	contact information. Project review and approval
iii. The objective of each platform;	To capture energy audit information, calculate energy savings,
	provide reports to customers, facilitate project review by the
	utilities, and facilitate contractor billing.
iv. The total annual cost related to each program and	To be determined.
explanation of the costs;	
v. The number of unique customers that use the	See program cost effectiveness for estimates.
program on an annual basis;	
vi. The total annual kWh saved directly related to the	All kWh related to the HPwES program
usage of the platform;	
vii. The summer and winter kW saved directly related	All summer and winter kW related to the HPwES program
to the usage of this platform;	
viii. The annual MMBtu saved directly related to the	All MMBtu related to the HPwES program
usage of this platform;	
ix. If no kWh, kW, or MMBtu savings are directly	
related to the usage of a platform, please provide the	
benefit of each platform.	

Page 2 of 7 b.

CEP (Residential)	Attachm
i. The key data inputs from the customer-side; ii. The key data inputs from the utility-side;	Customers are able to profile their home by providing input into a variety of areas which will better inform their energy usage analysis and also provide the most appropriate energy savings recommendations. Targeted home profile areas include: home information (e.g., type of home, age of home, square footage, own/rent, type of thermostat, etc.); occupant information (# of people in the home); heating information (type of fuel, heating system, insulation, fuel oil usage); water heating information (type of fuel, type of water heater); cooling information (central a/c, etc.); washing and drying information (frequency, type of fuel); kitchen information (stove, oven, frequency of use, type of fuel, freezer, etc.); lighting information (range amount of bulbs) ; electronics information, and other selected information (e.g., pool, dehumidifier). Historical (last three years) and current year billing information which includes both energy consumption in kWh and total utility cost. This is updated on a monthly basis based on each customer's
	billing cycle. Additionally, customer account information (name, site id, service address, billing accounts, etc.) are loaded into the CEP. The utility also transfers information on completed energy efficiency savings measures from its energy efficiency tracking and reporting systems. The CEP contains historical measures completed as well as having the ability to capture the status of customer's current energy efficiency measures in progress. Additionally, information from the utilities CIS system is transferred as well as third party information such as home tax assessment data. This information can be updated by customers when they enter their profile information.
iii. The objective of each platform;	The objective of the CEP is to provide a tool that allows customers to analyze their energy use, profile their home, and find targeted energy savings ideas for their specific home. The CEP allows customers to establish and manage a tailored energy saving plan. The CEP provides information on each energy savings measure and provides methods for the customer to enroll in the programs.
iv. The total annual cost related to each program an explanation of the costs;	d CEP budgeted costs for the residential sector for 2018, 2018 and 2019 are \$237,201, \$246,689 and \$256,557, respectively. The 2019 and 2020 costs include a 4% escalation factor. The annual costs cover the software license fees; IT costs for data processing, testing and validation; marketing and promotion; and program support.
v. The number of unique customers that use the program on an annual basis;	There are currently 5,271 unique residential customers that have logged into the CEP. A digital marketing campaign is targeted for the fourth quarter of 2017 to increase customer participation and adoption.
vi. The total annual kWh saved directly related to th usage of the platform; vii. The summer and winter kW saved directly relate to the usage of this platform;	 Annual kWh savings are not directly tracked to the CEP, please reference item ix Summer and winter kW savings are not directly tracked to the CEP, please reference item in
viii. The annual MMBtu saved directly related to the usage of this platform;	Annual MMBtu savings are not directly tracked to the CEP, please reference item ix

Docket DE 17-136 Data Request STAFF 1-011 Dated: 10/9/17 Attachment STAFF 1-011		Docket No. DE 17-136 Testimony of Leszek Stachow Page 25 of 33
Page 3 of 7 ix. rel be	. If no kWh, kW, or MMBtu savings are directly elated to the usage of a platform, please provide the enefit of each platform.	Attachment A The objective of the CEP is to provide a tool that allows customers to analyze their energy use, profile their home, and find targeted energy savings ideas. The CEP allows customers to establish and manage a tailored energy saving plan. The CEP provides information on each energy savings measure and provides methods for the customer to enroll in the programs. As such savings are directly attributed to the measures and programs they participate in. The CEP does provide energy usage and savings information that customers can view to see how they are tracking towards their energy savings plan.

b.

Attachment A

CEP (Business)	Eversource
i. The key data inputs from the customer-side;	Business customers are able to profile their business by providing input into a variety of areas which will better inform their energy usage analysis and also provide the most appropriate energy savings recommendations. Targeted business profile areas include: customer information (i.e., industry business type, building type, own/rent, # of employees, etc.); building information (square footage, year build, operating hours, # of floors, # of buildings, % occupied, parking lot/parking garage information, % of building cooled/heated, etc.); heating information (type of fuel, heating system, insulation, other fuel usage); cooling information (type of cooling system); lighting information (upgrades to LED, occupancy sensors, exterior lighting) ; water heating (type of fuel, type of water heater), and plug load information (i.e., # of computers).
ii. The key data inputs from the utility-side;	Historical (last three years) and current year billing information which includes both energy consumption in kWh and total utility cost is updated on a monthly basis based on each customer's billing cycle. Additionally, customer account information (name, site id, service address, billing accounts, etc.) are loaded into the CEP. The utility also transfers information on completed energy efficiency savings measures from its energy efficiency tracking and reporting systems. The CEP contains historical measures completed as well as having the ability to capture the status of customer's current energy efficiency measures in progress. Additionally, information from the utilities CIS system is transferred, including 3rd party data sources. This information can be updated by customers when they enter their profile information.
iii. The objective of each platform;	The objective of CEP is to help business customers understand their usage and cost, allow them to update their business profile and be provided with energy savings recommendations. Additionally, large business clients could work with Account Executives to benchmark their buildings and find out potential saving opportunities through CEP.
iv. The total annual cost related to each program and explanation of the costs;	CEP budgeted costs for the C&I sector for 2018, 2018 and 2019 are \$355,801, \$370,033 and \$384,834, respectively. The 2019 and 2020 costs include a 4% escalation factor. The annual costs cover the software license fees; IT costs for data processing, testing and validation; marketing and promotion; and program support.
v. The number of unique customers that use the program on an annual basis;	There are currently 194 unique commercial customers that have logged into the CEP for Eversource, NH. A digital marketing campaign is targeted for the fourth quarter of 2017 to increase customer adoption.
vi. The total annual kWh saved directly related to the usage of the platform; uiii The summer and winter kW saved directly related.	Annual kWh savings are not directly tracked to the CEP, please reference item ix
to the usage of this platform;	please reference item ix

Page 5 of 7

	- Attachmen
viii. The annual MMBtu saved directly related to the	Annual MMBtu savings are not directly tracked to the CEP, please
usage of this platform;	reference item ix
ix. If no kWh, kW, or MMBtu savings are directly	The objective of the CEP is to provide tool that allows customer to
related to the usage of a platform, please provide the	analyze their energy use, profile their business, and find targeted
benefit of each platform.	energy savings ideas. The CEP allows customers to establish and
	manage a tailored energy saving plan. The CEP provides
	information on each energy savings measure and provides methods
	for the customer to enroll in the programs. As such savings are
	directly attributed to the measures and programs they participate
	in. The CEP does provide energy usage and savings information
	that customers can view to see how they are tracking towards their
	energy savings plan

b. H

	Attachm
HERs	All Utilities except NHEC
 The key data inputs from the customer-side; 	Publicly available information to generate customer profile.
	Customer can update profile online.
ii. The key data inputs from the utility-side;	Electric usage and account information is pulled in from the billing
	system
iii. The objective of each platform;	To provide analysis of customer energy use compared to a
	representative sample of similar homes. Through this comparison,
	customers are encouraged to adopt behaviors or install measures
	that will help them save energy.
iv. The total annual cost related to each program and	See Program Cost Effectiveness Tables (Utility Costs)
explanation of the costs;	
v. The number of unique customers that use the	See Program Cost Effectiveness Tables (Number of Customers
program on an annual basis;	Served)
vi. The total annual kWh saved directly related to the	See Program Cost Effectiveness Tables (Annual MWh Savings)
usage of the platform;	
vii. The summer and winter kW saved directly related	See Program Cost Effectiveness Tables (Winter kW Savings,
to the usage of this platform;	Summer kW Savings)
viii. The annual MMBtu saved directly related to the	See Program Cost Effectiveness Tables (Annual MMBtu Savings)
usage of this platform;	
ix. If no kWh, kW, or MMBtu savings are directly	n/a
related to the usage of a platform, please provide the	
benefit of each platform.	

EM&V (Utility EE Tracking Systems)	All Utilities
i. The key data inputs from the customer-side;	None
ii. The key data inputs from the utility-side;	Customer information such as address, account number and
	contact information, project tracking data including installed
	measures, dates, payments, status of project, etc.
iii. The objective of each platform;	To manage and track energy efficiency program activity.
iv. The total annual cost related to each program and	Tracking system costs are included in the evaluation budgets.
explanation of the costs;	
v. The number of unique customers that use the	n/a
program on an annual basis;	
vi. The total annual kWh saved directly related to the	Systems are used to track program results.
usage of the platform;	
vii. The summer and winter kW saved directly related	Systems are used to track program results.
to the usage of this platform;	
viii. The annual MMBtu saved directly related to the	Systems are used to track program results.
usage of this platform;	
ix. If no kWh, kW, or MMBtu savings are directly	To manage and track energy efficiency program activity.
related to the usage of a platform, please provide the	
benefit of each platform.	

b.

c.

Attachment A

NHSaves website	All Utilities
i. The key data inputs from the customer-side;	Customers may enter data on fuel consumption, size of home and
	location in order to determine if they are a good candidate for
	weatherization.
ii. The key data inputs from the utility-side;	Program and educational information.
iii. The objective of each platform;	To provide recommendations on programs and offerings.
iv. The total annual cost related to each program and	The utilities are planning on a site redesign to be launched in early
explanation of the costs;	2018.
v. The number of unique customers that use the	In 2016, there were 52,542 unique visitors. 2017 year-to-date
program on an annual basis;	(through September), there were 61,119 unique visitors.
vi. The total annual kWh saved directly related to the usage of the platform;	Savings captured within programs.
vii. The summer and winter kW saved directly related	Savings captured within programs.
to the usage of this platform;	
viii. The annual MMBtu saved directly related to the	Savings captured within programs.
ix If no kWh kW or MMBtu savings are directly	The primary benefit of the platform is to provide program and
related to the usage of a platform please provide the	educational material to customers. Energy savings is cantured
henefit of each platform	within programs
If some of the data inputs for two or more platforms	Each of the platforms serves a unique purpose. While some of the
are similar and/or some of the outputs for two or more	platforms may share similar data, each serves a unique purpose
platforms are similar, please justify the need for more	and the data needs and expected results are inherently different.
than one platform.	Therefore, they each require unique data sets, different amounts of
	data (i.e., data for several customers versus the entire population), and differences in granularity.
	For example, several of the tools (HPwES, HERs, CEP, NHSaves) require home size. However, for HPwES, this data would need to be collected by a on-site, trained technician, for a limited number of customers, and detailed data would need to be collected on other variables impacting building peformance (R-values, equipment performance, etc.). For both HERs and CEP, home size is required for a large (or entire) population. These data are extracted from publicly available information (e.g. town records), but each of those platforms has other data requirements based on their objective. For NHSaves, home size is input by the customer. However, additional fossil fuel data usage is required that only the customer would have access to.

Public Service of New Hampshire d/b/a Eversource Energy Docket No. DE 17-136

Date Request Received: 10/05/2018 Request No. OCA 2-010 Request from: Office of Consumer Advocate Date of Response: 10/19/2018 Page 1 of 2

Witness: Katherine W. Peters

Request:

Reference 2018-20 Statewide Energy Efficiency Plan Settlement Agreement, Page 7-8, which states "In the event that marketing efforts carried out during the first six-months of 2018 do not result in comparable increases in customer access to the platform as achieved and recently reported by Eversource for the CEP in Connecticut and Massachusetts, any of the Settling Parties may propose alternative strategies."

- a. Is the Customer Engagement Platform provided to Eversource by an external vendor as a software-as-a-service (SaaS) tool?
- b. Does Eversource earn a rate of return on any aspect of the Customer Engagement Platform?
- c. Please provide the number of unique hits the Customer Engagement Platform site has experienced during the first six months of 2018.
- d. Please provide a comparison of the number of unique hits over time in New Hampshire compared to the increases "recently reported" in Connecticut and Massachusetts.
- e. Please describe the funding source for the Customer Engagement Platform at each of the Company's affiliates in Massachusetts and Connecticut, the annual budget, and the overall cost to date.

Response:

- a.) Yes, the Customer Engagement Platform (CEP) is supported by an external vendor as a softwareas-a-service (SaaS) tool.
- b.) Eversource invested \$3 million in IT costs to develop the infrastructure to support the Customer Engagement Platform, and for this portion, Eversource receives cost recovery plus weighted average cost of capital. The balance of cost is recovered from the Energy Efficiency program budget (i.e. License fees, maintenance). The spending from energy efficiency programs is incorporated into the energy efficiency performance incentive calculation for that state.
- c.) The chart below shows the total traffic CEP received during the first half of the year, including both new users and repeat visitors for NH.

	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
CEP Visitors - NH	915	632	583	533	898	459

d.) The chart below show hits CEP got between September 2017 and September 2018 for all three states. For context, there are 1.2 million customers in Connecticut, 1.4 million customers in Massachusetts and 510,000 customers in New Hampshire. The graphic below compares the percent increase in unique hits, using September 2017 as a reference, for each state during the past 12 months.

	Sep- 17	Oct- 17	Nov- 17	Dec- 17	Jan- 18	Feb- 18	Mar- 18	Apr- 18	May- 18	Jun- 18	Jul-18	Aug- 18	Sep- 18
СТ	676	617	2089	1808	2170	1762	1528	1214	2079	1268	1391	1515	1289
MA	576	528	2404	1812	2377	2013	1749	1438	1892	1099	1261	1204	1014
NH	135	175	1347	1161	915	632	583	533	898	459	577	713	540



e.) The CEP is funded by the energy efficiency programs in all three states. The primary funding sources for Connecticut's energy efficiency programs are: 1) The three-mill systems benefit charge on customer electric bills; 2) The Conservation Adjustment Mechanism ("CAM") less gross receipts tax ("GRT") assessed on customer electric bills; and 3) Contributions from natural gas customers (on firm rates) through the natural gas CAM.

The primary funding sources for Massachusetts's energy efficiency programs are: 1) revenues collected from ratepayers through the SBC; 2) proceeds from the Program Administrators' participation in the FCM; 3) proceeds from cap and trade pollution control programs, including but not limited to the RGGI; and 4) other funding as approved by the Department, including revenues to be recovered from ratepayers through a fully reconciling funding mechanism (i.e., an EES).

The combined annual budget for CEP in 2018 is \$4,642,648, (NH portion \$529,692) which includes license fee, marketing, and IT cost etc. Overall cost since inception to date is \$22,966,929 (NH portion \$1,360,287.50).

Public Service of New Hampshire d/b/a Eversource Energy Docket No. DE 17-136

Date Request Received: 10/10/2018Date of Response: 10/24/2018Request No. STAFF 2-014Page 1 of 1Request from:New Hampshire Public Utilities Commission Staff

Witness: Katherine W. Peters

Request:

Referring to Bates page 31 of the 2019 Update, please provide more detail concerning the virtual loan loss reserve mechanism.

Response:

The Utilities will consider with lenders whether or not a virtual loan loss reserve mechanism would be an effective element of a moderate income loan offering. A loan loss reserve reduces risk for lenders by covering loan losses due to default or non-payment. In a traditional loan loss reserve there is either a designated amount of capital set aside, or a percentage of each loan is set aside at the time of the loan in a reserve account. A *virtual* loan loss reserve is the idea that the loan would be guaranteed, under certain conditions, by the utility but no capital is transferred to the lender unless a loss actually occurs. The utility would still need to have funds available in the event of a loan default, but the up-front outlay would be minimized. Depending on the number of loans and associated risk, the utility could cover for any defaults out of the efficiency program budget or create a set-aside in a separate budget line. The virtual loan loss reserve is an option that the utilities are considering, but it has not yet been determined with lending partners whether it is definitely needed, nor have we finalized the parameters, exact mechanism or contract language.

(Joint Utility Response)

Public Service of New Hampshire d/b/a Eversource Energy Docket No. DE 17-136

Date Request Received: 10/10/2018Date of ResponseRequest No. STAFF 2-018Page 1 of 1Request from:New Hampshire Public Utilities Commission Staff

Date of Response: 10/24/2018 Page 1 of 1

Witness: Katherine W. Peters

Request:

Referring to Bates page 34 of the 2019 Update one finds the following:

"The NH Utilities will work in 2019 to identify potential foundation funding sources that align with the goals of the energy efficiency programs, and also to identify non-profit partner(s) whose mission(s) align with one or more of the goals of the energy efficiency programs. Once potential resources and partners have been identified, the NH Utilities will form the initial partnership(s) and work with the nonprofit partner(s) to apply for identified foundation or grant funding."

Please explain in detail why the utilities have not already begun this initiative in 2018?

Response:

The Utilities have begun investigating funding sources and potential partners in 2018, however we believe the effort will be well served by bringing on a consultant partner with greater expertise in the non-profit and foundation sectors. A consultant will be able to take on the tasks of identifying potential foundation funding sources and potential non-profits and make recommendations to the utilities on those areas where the most opportunity exists. We hope to have such a consultant on-board by early 2019 and they will being assisting with this work at that time.

(Joint Utility Response)