BEFORE THE STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

In the matter of:	)
DE 15-137	)
Electric and Natural Gas Utilities	)
Energy Efficiency Resource Standard	)

Direct Prefiled Testimony

Of

James Brennan
Finance Director

On behalf of
The New Hampshire Office of the Consumer Advocate

Dated: **March 1, 2016**

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

2   A.   My name is Jim Brennan. I am the Finance Director at the New Hampshire

3   Office of the Consumer Advocate (OCA). My business address is 21 South

4   Fruit Street, Suite 18, Concord, New Hampshire.

5   **Q.**   **Please summarize your educational background and work experience.**

6   A.   I graduated in 1978 from Saint Bonaventure with a Bachelor of Science

7   degree in Finance. In 1980, I graduated from Syracuse University with an

8   MBA. In 1981, I completed a nine month JP Morgan Chase (formerly

9   Chemical Bank) MBA Management Training Program. I have completed

10   courses in business, finance, software development, electric utility

11   regulation, regulatory finance and accounting, and Smart Grid.

12   In my present position at the OCA I perform economic and financial analysis

13   of utility filings across all industries, draft discovery and testimony, and

14   provide guidance on financial policy and regulatory issues.

15   My business career began in banking as First Vice President at Chemical

16   Bank, 1980-1989, with responsibilities as analyst, credit department

17   manager, account relationships, and course designer and instructor of Risk

18   Assessment training. I have experience managing business and technology

19   operations. At TD Waterhouse Securities, 1995-2001, I ran the third largest

1   brokerage statement operation on Wall Street during a period of 400%

2   growth with responsibilities for budget, operations, Information Technology

3   data processing and New York Stock Exchange Compliance. Waterhouse's

4   statement was awarded #1 ranking by Smart Money during my assignment. I

5   have experience in IT project management and software design. Experience

6   includes: implementation of paperless technology in Waterhouse Security

7   National Investor Clearing Corporation stock clearing operation (2000);

8   managing launch of an eServices web site providing on-line secure access of

9   brokerage statements to 2.5 million Waterhouse clients (2001); designing

10   Microsoft.NET and SQL Server based software systems for Mathematica

11   Policy Research 2003-2006; directing design testing and launch of cloud

12   based Microsoft Customer Relationship Management (CRM) applications for

13   Southern New Hampshire University (2012-2013). As an Adjunct Instructor I

14   have taught courses in Corporate Finance, Microsoft applications and

15   Microsoft C# programming language.

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

17   A.   The purpose of my testimony is recommend all New Hampshire residential

18   rate payers participate in the advanced state-of-the-art customer

19   engagement technology platform being developed by Eversource and

20   scheduled for release near the time of this testimony. In my testimony I

21   refer to this technology as Customer Relationship Management (CRM).

1 **Q.** **Please summarize the basis for recommending a statewide CRM approach**
2 **for NH utilities.**

3 A.   The utility is the primary conduit for advising and marketing and bringing

4   energy efficiency (EE) to New Hampshire residents. The level of economic

5   benefits of EE in New Hampshire depends on the effectiveness of the

6   utilities marketing and administering customer funded EE programs. Broad

7   adoption of EE across New Hampshire spreads the administrative costs of EE

8   such as database management, marketing, EM&V over a larger base,

9   reducing bill impact and saving money. Broad adoption of EE (including

10   demand response) brings long term economic benefits and customer savings

11   as fewer power generation plants get constructed and lower levels of fixed

12   costs including transmission and distribution are paid by customers.

13   Therefore broad adoption and scale are as important as the efficiency

14   measures themselves.

15   However the tools, IT platforms, customer relationship techniques, and best

16   practices of marketing traditional utility services are vastly different from

17   those required to shift entrenched customer energy habits and spending

18   associated with EE and demand response. Marketing EE services becomes an

19   evolution from the traditional business model associated with a poles and

20   wires utility. In some states EE marketing and advising is outsourced to 3rd

1   parties.[1] In order to market and EE the utility must develop a detailed

2   understanding of customer usage. Customer usage and EE data is made

3   available electronically. Sales-driven organizations use state-of-the-art data

4   analytics and communication techniques to grow their business. Utilities

5   use CRM platforms to: better educate customers; target messages to

6   individual market segments; institute behavioral programs that change

7   habits and promote savings; offer customer on-line self-service options as

8   an alternative to customer reliance on call center; allow customers to

9   update their profiles with data that in turn feeds into predictive applications

10   such as energy disaggregation algorithms; provide for data visualization;

11   facilitate mobile device integration; and offer numerous integration

12   opportunities likely to arise down the road.   The inevitable outcome is

13   broader participation in EE and energy savings for all customers.

14   Four factors support my recommendation for state wide participation in

15   Eversource's system. They are:

16   1. CRM is an essential tool for broad EE market penetration;

17   2. Commitment to uniformity of CORE programs regardless of franchise

18   territories;

19   3. Economics of a single technology platform;

20   4. Planning for distributed generation and smart grid data needs.

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[1] https://www.veic.org/

1 **Q.** **Please describe the Eversource platform that you refer to as a CRM**
2 **platform.**

3 A. Based on attending a one hour live demonstration of Eversource's customer

4 engagement platform on February 18, 2016, I have the following

5 observations. The system architecture is Software as a Service (SAAS) and

6 resides off-site in a third party vendor cloud environment. The pre-built

7 vendor system is sold as a specialized instance of the platform that is then

8 customized to the specific needs of customers, such as Eversource. The

9 system accepts data, stores data, analyzes data and communicates/shares

10 data with other systems. Its data warehouse is defined by more than 150

11 unique data elements (for example, name field and address field) creating a

12 robust and holistic view of the energy used by the customer's premises. Into

13 this container large quantities of row data are loaded periodically from data

14 sources (for example, 3 years of customer meter usage data) and third party

15 vendors and government data (for example, census and tax data).

16 A multitude of complex software applications and compiled algorithms with

17 baked-in business logic and rules are run against the customer dataset

18 mentioned above. This is referred to as data analytics. Data analytics

19 provide marketing insight and usage insight superior to a traditional utility

20 Customer Information System CIS (although the utility's CIS is a key data

21 source to the CRM data warehouse). Data analytics give Eversource the

22 capability to perform powerful market and user analysis. Customer market

1   segmentation is performed (for example, by house size and income level).

2   Energy use disaggregation is calculated (for example, estimating a

3   customer's energy consumption by category such as, electronics, lighting

4   and refrigeration). Historical EE activity of the customer is tracked.

5   Customer specific EE recommendations are identified and links to rebate

6   forms are available to help the fulfillment process (for example, matching a

7   homeowner to a heat pump incentive program).

8   The system is web-based and can integrate (deliver and present data) to

9   Eversource call center computers and Eversource customers devices.

10   Customers can view results of the analytics on their computer screens and

11   mobile devices. They can be added to a marketing campaign. Online self-

12   service customer data entry forms encourage customers to provide

13   additional information on their profile. This builds deep customer knowledge

14   which in turn enables Eversource to make better recommendation to

15   customers. For example, a customer may indicate changes in fuel type,

16   participation in an EE program, or absence of LED bulbs in all rooms.

17   **Q.   How was Eversource's platform funded?**

18   A.   This Eversource corporate initiative includes its affiliates in Connecticut,

19   Massachusetts and now New Hampshire. The system was partially funded by

20   SBC funds through a New Hampshire CORE program. For year 2015, $591,540

1   was set aside for the customer engagement platform reference DE 14-216,

2   September 12, 2014 CORE Utilities filing[2].

3   **Q.   Please discuss commitment of uniformity of CORE programs across**
4   **franchise territories.**

5   A.   All rate-payers contribute to energy efficiency through an identical charge

6   on their electric bills;- therefore everyone should be able to participate

7   equally in benefits. It is unfair for a significant base of residential customers

8   living outside PSNH territory to be excluded from benefits of CRM platform

9   for which they have paid significant development costs.

10   **Q.   Please discuss the advantages of a statewide single CRM system.**

11   A.   Notwithstanding legal and technical hurdles that are beyond the scope of

12   this testimony, it is likely that building a single statewide CRM platform for

13   New Hampshire will be significantly less risky, less costly and more

14   functional as compared to each utility designing and building its separate

15   systems. There are major advantages of pooling costly and scarce resources:

16   1. Utility IT staff - DBA's , System Engineers, and Project Managers;
17   2. Eversource System architecture, design and requirements, project
18   management lessons learned – data warehouse, integration methods, and
19   algorithms components already designed tested and in production;
20   3. 3rd Party resources - IT infrastructure, cloud resources, 3rd party data,
21   consulting, and project management;
22   4. System Maintenance: CRM system require full-time maintenance and
23   dedicated staff for trouble shooting issues, bug fix, data synchronization,

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[2] 9/12/2014 filing PSNH filing of CORE Utilities 2015-2016 Statewide Energy Efficiency Plan

1   security and access, system integration, versioning updates, and change

2   management.

3   Risk Mitigation: Technology projects such as building or purchasing a CRM

4   system are complex, expensive, and carry significant risk of failure[3].

5   According to IAG Consulting[4] 68 percent of all IT projects fail or

6   underperform. According to a PM Solutions[5] survey of Chief Information

7   Officers[6] 37 percent of IT projects fail due to poor requirements analysis,

8   lack of resources (including technical staff), poor planning, and poor

9   management. Leveraging pooled resources listed above, including

10   Eversource code, will significantly reduce the time frame and the risk NH

11   utilities face moving toward a CRM system.

12   Consistent EE policy: A statewide central system implements approved state

13   wide standards, formulas, and rules.

14   Uniform Customer Experience: A statewide approach will ensure a powerful

15   consistency for customers seeking advice and viewing their individual EE

16   usages and savings. This has been a key objective since the advent of the

17   CORE programs more than a decade ago.

18   Utility Call Center CRM System: Utility call center and systems receive

19   consistent data from the system for internal needs.

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[3] http://www.iag.biz/images/resources/
[4] http://www.iag.biz/images/resources/iag%20business%20analysis%20benchmark%20-%20full%20report.pdf
[5] http://www.pmsolutions.com/
[6] http://www.zdnet.com/article/cio-analysis-why-37-percent-of-projects-fail/

1 **Q.** **Please discuss data needs for distributed generation and smart grid[7].**

2 A. The need and justification for advanced CRM capabilities are likely to

3 increase, not decline going forward. As an example, complex data usage and

4 analytics will be needed to support cost savings programs such as:

5   1. Net metering;

6   2. Time variant pricing,

7   3. AMI systems and behind meter energy systems

8   4. AMI enabled demand response[8]

9   5. AMI enabled EM&V,

10 If utilities are entrusted to run energy efficiency in NH it is essential they

11 have powerful, well supported CRM and data analytics platforms to assist

12 customers implementing EE in their homes.

13 **Q.** **Does this conclude your testimony?**

14 A. Yes.

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[7] http://www.whatissmartgrid.org/

[8] The arrival of AMI enables the utility to target customers with usage patterns best suited to lowering peak usage. In addition AMI will allow the utility to verify if an individual customer has responded to that event.