

BEFORE THE STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

In the matter of:
DE 16-384 Petition for Permanent Rate Increase
Unitil Energy Systems, Inc.

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Direct Prefiled Testimony

Of

James Brennan
Finance Director

On behalf of
The New Hampshire Office of the Consumer Advocate

November 16, 2016

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

2 A. My name is James Brennan. I am the Finance Director at the New Hampshire
3 Office of the Consumer Advocate (OCA). My business address is 21 South Fruit
4 Street, Suite 18, Concord, New Hampshire.

5 **Q. What is the purpose of your data pilot testimony?**

6 A. The purpose of my testimony is to describe the OCA's concern with the
7 Company's proposed revenue requirement and five year 2016 Rate Plan and to
8 propose an improvement to the plan. The Rate Plan gives the Company a clear
9 pathway to implement and recover the prudent capital costs associated with
10 roughly \$100 million in planned capital expenditures out to 2020¹. Under the
11 proposed multiyear rate plan the Company's financial risk is reduced
12 significantly by the use of a capital expenditure tracking mechanism. The
13 mechanism increases the annual revenue streams to the Company as future
14 capital projects get completed and utility plant increases. Yet, the inherent
15 business risk associated with these projects, particularly in the out years of
16 2018-2020, is growing due to increases in Distributed Energy Resources (DER)
17 that provide customers with alternatives. Therefore, both the Company and the
18 regulator need to sharpen their understanding of how DER impacts the cost-
19 effectiveness of traditional utility projects. In particular, better data is needed
20 to inform capital budgeting decisions on projects that will compete with DERs
21 such as Distributed Generation (DG), Energy Efficiency (EE), and Demand
22 Response (DR) over the life of the proposed multiyear rate plan. Therefore, as a

1 Reference DE 16-384 Kevin Sprague testimony Table 1 2016-2020 Capital Budgeting Forecast at Bates 245

1 condition of approving a multiyear rate plan it is vital that the Company also
2 adopt a broader approach to energy data collection and sharing based on its
3 existing technical capabilities. An advanced energy data management program
4 enables the Company and its regulators to address a wide range of regulatory
5 issues expected in the next five years.

6 **Q. Please define “energy data” as used in your testimony.**

7 A. For purposes of my testimony energy data is a combination of customer
8 centered data (energy and demand) along with related utility centered data
9 (circuits, system loads, system peak). Smarter distribution grids such as
10 Until’s are capable of generating much more customer centered data. The
11 concept of viewing energy data in terms of customer vs. utility is discussed in a
12 2015 U.C. Berkeley School of Law paper “Knowledge is Power”²

13 **Q. What is your concern regarding the multiyear plan?**

14 A. The OCA recognizes the need for the Company to update its aging
15 infrastructure and meet reliability needs. In a period of low load growth, the
16 OCA sees some justification for supporting a capital expenditure mechanism for
17 these investments. However, the Company has not shown a compelling need, or
18 rate payer benefit, for a plan with a five year duration. In addition we have a
19 separate concern that a five year plan could shift too much risk to the
20 ratepayers due to a dramatically changing energy environment.

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² The Berkeley Law January 2015 paper “Knowledge is Power” discusses energy data in terms of two buckets – Utility centered data and customer centered data. https://www.law.berkeley.edu/files/Knowledge_Is_Power.pdf

1 **Q. How does the changing DER environment make traditional projects a greater**
2 **risk?**

3 A. The paradigm shift towards more DER projects that could be potentially more
4 cost effective than traditional utility infrastructure projects, must be duly
5 considered. The benefits of DER projects include the avoided costs of
6 generation, transmission and distribution associated with traditional projects
7 as being considered today. The risk of overbuilding traditional distribution
8 infrastructure falls on the ratepayers. More granular data is required to
9 evaluate when DER projects are better alternatives to achieving the most cost
10 effective distribution system.

11 **Q. Would a stronger and broader data platform help evaluate projects that are**
12 **being planned and built during a multi-year rate plan.**

13 A. Yes. In the future we need the ability to evaluate new DER projects and
14 potentially abandon or scale back prior traditional solutions that may no
15 longer be reasonably cost effective based on a careful analysis of advanced data
16 analytics. A better data platform will provide actionable data, improve
17 planning, and identify potential cost-effective projects (including DERs). This
18 is imperative in minimizing the risk of building projects that are not prudent.

19 **Q. What is your recommendation?**

20 A. The OCA recommends the Company perform a study to investigate low cost
21 ways of leveraging its existing systems in order to generate more energy data
22 and share more energy data. The study would produce a proposal to pilot a new
23 data sharing platform. The results of the study, including proposed data
24 management system, would be due to the Commission by Q3 2017. The Phase 1

goal would be the development of a working data sharing platform by January 1, 2018.

Q. Would an advanced data platform be helpful analyzing issues other than capital projects during a multi-year plan?

A. Yes, better data from such a platform would help the analysis of other regulatory issues including:

- Revenue decoupling;
- Establishing new performance metrics, consideration of Performance Based Regulation (PBR) models;
- Distribution system planning and Distributed Energy Resources (DER);
- New tariff models such as Time Variant Pricing (TVP) and DG tariff;
- New ways to measure EE and evaluate program effectiveness;
- New ways to empower residential customers with data and data driven advanced technology solutions.

Q. How might this study be conducted?

A. The study could be conducted using planning, analysis and design practices typical of a system built using a System Development Life Cycle (SDLC) approach.³ The Company could appoint a project manager to lead the study effort and head a small work group comprised of members selected by the Company and the PUC. The work group would provide guidance and visibility to numerous areas of consideration that the study may include.

Q. What areas of consideration could the study include?

A. The study can address:

- Challenges of sharing data which include data privacy, data security and data retention;
- Identification of energy data already acquired today through existing technology and additional data possible but not currently acquired;

³ https://en.wikipedia.org/wiki/Systems_development_life_cycle

- 1 -Leveraging existing staff expertise in both operations technology (OT)
- 2 and information technology (IT);
- 3 -Advantages or disadvantages of creating a new dedicated IT;
- 4 -Using a phased approach that brings results more quickly at lower risk
- 5 but allows expansion of the system in future phases;
- 6 -Gaining insights from well-known platforms already sharing data with
- 7 third parties – as is being done in Vermont and Texas.

8 **Q. Describe the Company's current data acquisition capabilities?**

9 A. The Company has an Advanced Metering Infrastructure (AMI) deployed to all of
10 its customer meters in New Hampshire. To varying degrees, 100% of meters
11 are capable of collecting a wide range of data including kWh daily and kWh
12 interval with time stamp, kW demand with time stamp, voltage, and four Time
13 of Use (TOU) registers.⁴ The Company's Geographic Information System (GIS)
14 contains an inventory of all distribution assets (meters, circuits, substations,
15 etc.) including latitude and longitude attributes.

16 **Q. Is the OCA aware that cost may be associated with the recommendation to**
17 **study, build and maintain a data sharing platform?**

18 A. Yes. The OCA is confident that costs can be minimized given Unitil's existing
19 AMI capability and internal staff expertise. The OCA believes that with vigilant
20 regulatory oversight, subject to review, the cost of sharing data will be
21 outweighed by the benefits realized from a more efficient and more cost
22 effective distribution.

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

24 A. Yes.

⁴ The Company's data acquisition capability is limited by operational and technology constraints.

APPENDIX

Please summarize your educational background and work experience.

A. I graduated in 1978 from Saint Bonaventure with a Bachelor of Science degree in Finance. In 1980, I graduated from Syracuse University with an MBA. In 1981, I completed a nine month JP Morgan Chase (formerly Chemical Bank) MBA Management Training Program. I have completed courses in business, finance, software development, electric utility regulation, regulatory finance and accounting, and Smart Grid.

In my present position at the OCA I perform economic and financial analysis of utility filings across all industries, draft discovery and testimony, and provide guidance on financial policy and regulatory issues.

My business career began in banking as First Vice President at Chemical Bank, 1980-1989, with responsibilities as analyst, credit department manager, account relationships, and course designer and instructor of Risk Assessment training. I have experience managing business and technology operations. At TD Waterhouse Securities, 1995-2001, I ran the third largest brokerage statement operation on Wall Street during a period of 400% growth with responsibilities for budget, operations, Information Technology data processing and New York Stock Exchange Compliance. Waterhouse's statement was awarded #1 ranking by Smart Money during my assignment. I have experience in IT project management and software design. Experience includes: implementation of paperless technology in Waterhouse Security National Investor Clearing Corporation stock clearing operation (2000); managing launch of an eServices web site providing on-line secure access of brokerage

1 statements to 2.5 million Waterhouse clients (2001); designing Microsoft.NET
2 and SQL Server based software systems for Mathematica Policy Research 2003-
3 2006; directing design testing and launch of cloud based Microsoft Customer
4 Relationship Management (CRM) applications for Southern New Hampshire
5 University (2012-2013). As an Adjunct Instructor I have taught courses in
6 Corporate Finance, Microsoft applications and Microsoft C# programming
7 language.