

UNITIL ENERGY SYSTEMS, INC.

DIRECT TESTIMONY OF

DOUGLAS J. DEBSKI

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DE 17-xxx

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LIST OF DJD SCHEDULES

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1 **I. INTRODUCTION**

2

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

4 A. My name is Douglas J. Debski. I am a Senior Regulatory Analyst for Unitil
5 Service Corp., an affiliate of Unitil Energy Systems, Inc. ("UES" or the
6 "Company"). My business address is 6 Liberty Lane West, Hampton, New
7 Hampshire, 03842-1720. Both Companies are subsidiaries of Unitil Corporation.

8

9 **Q. Please describe your educational background.**

10 In 1987, I graduated cum laude from the University of New Hampshire with a
11 Bachelor of Science Degree in Mathematics. I have attended the Georgia Institute
12 of Technology "Sampling Methods and Statistical Analysis in Power Systems
13 Load Research" course and the "Advanced Sample Design and Analysis
14 Techniques of Load Research" course sponsored by the Association of Edison
15 Illuminating Companies Load Research Committee.

16

17 **Q. Please describe your professional background.**

18 A. I joined Unitil Service Corp. in May 1988. I have held numerous positions with
19 the Company in the Rates and Regulatory Service Departments in progressing
20 responsibilities up to my current position. I have prepared regulatory filings,
21 tariffs, price analysis and design, load research studies and analyses, bill
22 frequency analyses and load forecasting for or on behalf of Unitil and its retail

1 affiliates, Unitil Energy Systems, Inc. and Northern Utilities, Inc. These projects,
2 after review, have been filed at the Department of Public Utilities ("Department"),
3 the New Hampshire Public Utilities Commission, and the Maine Public Utilities
4 Commission, as applicable.

5

6 **Q. Have you previously testified before the Commission or any other regulatory**
7 **body?**

8 A. Yes, I have previously presented Testimony before the New Hampshire Public
9 Utilities Commission ("Commission"). I have also prepared and presented
10 testimony before both the Maine Public Utilities Commission and the
11 Massachusetts Department of Public Utilities.

12

13 **II. SCOPE OF TESTIMONY**

14

15 **Q. What is your responsibility in connection with this proceeding?**

16 A. I am presenting the Company's calculation of displaced distribution revenue
17 associated with net metering for years 2013, 2014, 2015 and 2016 for
18 Commission review so that it may be included in the External Delivery Charge
19 ("EDC") for cost recovery in this reconciliation filing.

20

21 **Q. Please outline the organization of your Testimony and Schedules.**

1 A. In addition to Exhibit DJD-1, the written testimony here, I am presenting five
2 schedules. Schedules DJD-1 through DJD-4 are the calculations of displaced
3 distribution revenue associated with net metering for years 2013 through 2016.
4 Schedule DJD-5 is the previous and current PVWatts generation model output
5 showing the amount of annual kWh generated by a typical 1,000 kW-AC unit.
6

7 **III. DISPLACED DISTRIBUTION REVENUE**

8

9 **Q. On what basis is UES seeking recovery of displaced distribution revenue**
10 **associated with net metering for years 2013, 2014, 2015 and 2016?**

11 A. In NHPUC Docket DE 15-147, the Commission, in Order No. 25,991, approved a
12 settlement agreement among the Company, the Office of Consumer Advocate
13 (“OCA”) and the Commission Staff (“Staff”) which provided an agreed upon
14 methodology for the calculation of displaced distribution revenue due to net
15 metering, and the recovery of such properly calculated amounts through the
16 Company’s EDC. The Order also authorized UES to file for recovery of the
17 displaced distribution revenue for the years 2013, 2014, 2015 and 2016, and for
18 recovery of these amounts through the EDC commencing with rates effective on
19 and after August 1, 2017.
20

21 **Q. Can you describe how you estimated the monthly and annual generation for**
22 **the net metering customers?**

1 A. The calculation of the kWh displaced per kW of AC generation installed is based
2 on the PVWatts generation model and is used at the location of the Concord
3 Airport, TMY2 (see Schedule DJD-5). PVWatts is a commonly used model
4 designed by the National Renewable Energy Laboratory for the purpose of
5 estimating generation. In order to calculate the amount of annual kWh generated
6 per kW of AC installed, the model inputs utilized a 1,250 kW-DC and a DC to
7 AC derate factor of 1.25 to achieve the desired 1,000 kW-AC. The model
8 estimates annual generation kWh per kW-AC of 1,636.556 for 2015 and 2016 at
9 Schedule DJD-5 pg. 2 (note this is slightly lower than the 1,637.869 kWh
10 previously filed in 2015 for years 2013 and 2014 due to PVWatts model revisions
11 at Schedule DJD-5 pg. 1). This amount is then applied on a calendar month basis
12 in the amounts shown.

13
14 **Q. Please describe how you estimated the displaced distribution revenue**
15 **associated with net metering?**

16 A. Schedules DJD-1 through DJD-4 show the 2013, 2014, 2015, and 2016 data,
17 respectively. Distribution rates are used in each month in which they were in
18 effect. For customers in the general service classes (shaded rows), there is no rate
19 block so all amounts are calculated in the first block section. The company has
20 assumed that the monthly billing kW or kVA for these customers is not affected
21 by installed generation due to the intermittent nature of solar and wind generation,
22 whether or not that is actually the case. This produces a conservative estimate of

1 displaced distribution revenue for these customers. For residential customers, the
2 blocked kWh rates that were in effect are shown and utilized in the models each
3 month.

4
5 The estimated kWh generation for each customer is calculated each month based
6 on the size of the customer generator in kW-AC multiplied times the monthly to
7 annual ratio of the PVWatts data described above. This amount is then compared
8 to the kWh billed each month for the customer. Depending on the amount of the
9 generation and the kWh billed, the displaced distribution revenue is calculated by
10 computing the appropriate kWh at each block level times the appropriate block
11 rate. For example, if the customer billed above 250 kWh (first block cutoff), all
12 the displaced kWh would have been at the second block rate. If the customer
13 billed less than 250 kWh, then the kWh displaced would be allocated to the first
14 block (up until the combination of billed kWh and a portion of displaced kWh
15 reaches 250 kWh) and the second block (remaining amount of displaced kWh)
16 appropriately. For customers who installed generation during one of the months
17 of the year being calculated, the estimated displaced distribution revenue is only
18 calculated for the month, or portions thereof, that the generation was installed.

19 Detailed calculations are shown in the two schedules. The Company only
20 estimates the costs of displaced distribution revenue for kWh that is actually
21 displaced. Therefore, in months the customers generates more than they
22 consumed, they have a net surplus of kWh generation, and the difference between

1 the kWh generation and the kWh consumed is not included in the calculation of
2 displaced distribution revenue. The calculation yields displaced distribution
3 revenue in the amount of \$15,261.23, \$26,366.92, \$58,364.59 and \$134,966.58
4 for each of the years 2013 to 2016, respectively.

5

6 **Q. How has test year displaced revenue associated with the Company's last two**
7 **base rate cases been excluded from these calculations?**

8 A. The Company has had two test years which affect the calculations here. One was
9 the test year for a distribution rate case of 2009 (DE 10-055) affecting January
10 2013 through June 2016 and the other is 2015 (DE 16-384) affecting July 2016
11 through December 2016. Customers with on-site generation installed prior to
12 2009 are not included in Schedules DJD-1 through DJD-4. For those customers
13 installed during 2009, the portion of annual displaced kWh following the date of
14 the installation served to lower the test year billing units. Therefore, in Schedules
15 DJD-1 through DJD-3 and for Schedule DJD-4 through June 2016 (prior to
16 temporary rates becoming effective in DE 16-384), only the portion of the year up
17 until the date of the installation is used in the calculation of estimated generation
18 and displaced kWh and distribution revenue. The remainder of the year is not
19 included because the test year already took those reductions to sales into account.
20 In summary, the Company included the displaced kWh for all new customer
21 installations since the test year, and for customers with installation during the test
22 year, the Company included the displaced kWh for only a portion of the

1 year. The process is similar for the period July 2016 through December 2016, but
2 for the customers installed after June 30 during the 2015 test year in DE 16-384.

3

4 **Q. Is your calculation of the displaced distribution revenue for 2013 through**
5 **2016 in accordance with the methodology approved by the settlement**
6 **agreement in Docket DE 15-147?**

7 A. Yes.

8

9 **IV. BILL IMPACTS**

10

11 **Q. Have you prepared an estimate of the bill impacts associated with this**
12 **proposal?**

13 A. Yes. A simple estimate of the proposed costs of \$234,959.32 for 2013-2016
14 divided by estimated kWh sales for August 2017 – July 2018 of 1,191,465 MWh
15 yields an incremental rate of \$0.00020 per kWh, or about a \$0.12 increase, or 0.12
16 percent, on a current monthly 600 kWh residential bill of \$100.71.

17

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

19 A. Yes it does.

