

UNITIL ENERGY SYSTEMS, INC.

DIRECT TESTIMONY OF

DOUGLAS J. DEBSKI

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DE 18-xxx

JUNE 14, 2018

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	SCOPE OF TESTIMONY	2
III.	DISPLACED DISTRIBUTION REVENUE	3
IV.	BILL IMPACTS.....	7

LIST OF DJD SCHEDULES

<u>Schedule Number</u>	<u>Description</u>	<u>Pages</u>
DJD-1	Displaced Distribution Revenue due to Net Metering – 2017	104
DJD-2	PVWatts model of generation data	1

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 2017 for Commission review so that it may be
18 included in the External Delivery Charge ("EDC") for cost recovery in this
19 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 two
2 schedules. Schedule DJD-1 is the calculation of displaced distribution revenue
3 associated with net metering for the year 2017. Schedule DJD-2 is the current
4 PVWatts generation model output showing the amount of annual kWh generated
5 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 the year 2017?**

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 2013-16, and for recovery of these
18 amounts through the EDC commencing with rates effective on and after August 1,
19 2017. UES filed those amounts last year in docket DE 17-102, which were
20 approved as filed. Consistent with the settlement agreement and UES’ approved
21 tariff, Schedule EDC, UES is including displaced distribution revenue for 2017 in
22 its EDC for recovery.

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

3 A. The calculation of the kWh displaced per kW of AC generation installed is based
4 on the PVWatts generation model and is used at the location of the Concord
5 Airport, TMY2 (see Schedule DJD-2). PVWatts is a commonly used model
6 designed by the National Renewable Energy Laboratory for the purpose of
7 estimating generation. In order to calculate the amount of annual kWh generated
8 per kW of AC installed, the model inputs utilized a 1,250 kW-DC and a DC to
9 AC size ratio of 1.25 to achieve the desired 1,000 kW-AC. The latest model in
10 effect as of June 5, 2018 estimates annual generation kWh per kW-AC of
11 1,611.023 at Schedule DJD-2. This amount is then applied on a calendar month
12 basis in the amounts shown.

13

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

16 A. Schedule DJD-1 shows the 2017 data. Distribution rates are used in each month
17 in which they were in effect. Effective May 1, 2017, the second rate block for the
18 domestic class was eliminated, thus kWh sales by block was no longer needed for
19 the calculation. For customers in the general service classes (shaded rows), there
20 is no rate block so all amounts are calculated in the first block section. The
21 company has assumed that the monthly billing kW or kVA for these customers is
22 not affected by installed generation due to the intermittent nature of solar and

1 wind generation, whether or not that is actually the case. This produces a
2 conservative estimate of displaced distribution revenue for these customers. For
3 residential customers, the blocked kWh rates that were in effect from January
4 through April 2017 are shown and utilized in the model in those months.

5
6 The estimated kWh generation for each customer is calculated each month based
7 on the size of the customer generator in kW-AC multiplied times the monthly to
8 annual ratio of the PVWatts data described above. This amount is then compared
9 to the kWh billed each month for the customer (for January through April).

10 Depending on the amount of the generation and the kWh billed, the displaced
11 distribution revenue is calculated by computing the appropriate kWh at each
12 block level times the appropriate block rate (for January through April). For
13 example, if the customer billed above 250 kWh (first block cutoff), all the
14 displaced kWh would have been at the second block rate. If the customer billed
15 less than 250 kWh, then the kWh displaced would be allocated to the first block
16 (up until the combination of billed kWh and a portion of displaced kWh reaches
17 250 kWh) and the second block (remaining amount of displaced kWh)
18 appropriately. For customers who installed generation during one of the months
19 of the year being calculated, the estimated displaced distribution revenue is only
20 calculated for the month, or portions thereof, that the generation was installed.

21 Detailed calculations are shown in the schedule. The Company only estimates the
22 costs of displaced distribution revenue for kWh that is actually displaced.

1 Therefore, in months the customers generates more than they consumed, they
2 have a net surplus of kWh generation, and the difference between the kWh
3 generation and the kWh consumed is not included in the calculation of displaced
4 distribution revenue. The calculation yields displaced distribution revenue in the
5 amount of \$187,746 for 2017.

6

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

9 A. The Company has had one test year which affects the calculations here. That case
10 test year was 2015 (DE 16-384). Customers with on-site generation installed
11 prior to 2015 are not included in Schedule DJD-1. For those customers installed
12 during 2015, the portion of annual displaced kWh following the date of the
13 installation served to lower the test year billing units. Therefore, in Schedule
14 DJD-1, only the portion of the year up until the date of the installation is used in
15 the calculation of estimated generation and displaced kWh and distribution
16 revenue. The remainder of the year is not included because the test year already
17 took those reductions to sales into account in the test year billing units. In
18 summary, the Company included the displaced kWh for all new customer
19 installations since the test year, and for customers with installation during the test
20 year, the Company included the displaced kWh for only a portion of the year.

21

1 **Q. Is your calculation of the displaced distribution revenue for 2017 in**
2 **accordance with the methodology approved by the settlement agreement in**
3 **Docket DE 15-147?**

4 A. Yes.

5

6 **IV. BILL IMPACTS**

7

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

10 A. Yes. A simple estimate of the proposed costs of \$187,746 for 2017 divided by
11 estimated kWh sales for August 2018 – July 2019 of 1,207,223 MWh yields an
12 incremental rate of \$0.00016 per kWh, or about a \$0.10 increase, or 0.09 percent,
13 on a current monthly 600 kWh residential bill of \$106.11.

14

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

16 A. Yes it does.

