

UNITIL ENERGY SYSTEMS, INC.

DIRECT TESTIMONY OF

DOUGLAS J. DEBSKI

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DE 21-\_\_\_

JUNE 17, 2021

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## LIST OF DJD SCHEDULES

<b><u>Schedule Number</u></b>	<b><u>Description</u></b>	<b><u>Pages</u></b>
DJD-1	Displaced Distribution Revenue due to Net Metering – 2020	75
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 2020 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 2020. Schedule DJD-2 is the PVWatts  
4 generation model output showing the amount of annual kWh generated by a  
5 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 2020?**

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 in docket DE 17-102, which were approved as  
20 filed. UES also filed the amount of \$187,746 for 2017 in docket DE 18-096,  
21 \$218,008 for 2018 in docket DE 19-111 and \$243,087 for 2019 in docket DE 20-  
22 098, all of which were approved as filed. Consistent with the settlement

1 agreement and UES' approved tariff, Schedule EDC, UES is including displaced  
2 distribution revenue for 2020 in its EDC for recovery.

3

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

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

15

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

18 A. Schedule DJD-1 shows the 2020 data. Distribution rates are used in each month  
19 in which they were in effect. The company has assumed that the monthly billing  
20 kW or kVA for these customers is not affected by installed generation due to the  
21 intermittent nature of solar and wind generation, whether or not that is actually the

1 case. This produces a conservative estimate of displaced distribution revenue for  
2 these customers.

3  
4 The estimated kWh generation for each customer is calculated each month based  
5 on the size of the customer generator in kW-AC multiplied times the monthly to  
6 annual ratio of the PVWatts data described above. This amount is then compared  
7 to the kWh billed each month for the customer. For customers who installed  
8 generation during one of the months of the year being calculated, the estimated  
9 displaced distribution revenue is only calculated for the month, or portions  
10 thereof, that the generation was installed. Detailed calculations are shown in the  
11 schedule. The Company only estimates the costs of displaced distribution  
12 revenue for kWh that is actually displaced. Therefore, in months the customers  
13 generates more than they consumed, they have a net surplus of kWh generation,  
14 and the difference between the kWh generation and the kWh consumed is not  
15 included in the calculation of displaced distribution revenue. The calculation  
16 yields displaced distribution revenue in the amount of \$291,559 for 2020.

17

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

20 A. The Company has had one test year which affects the calculations here. That case  
21 test year was 2015 (DE 16-384). Customers with on-site generation installed  
22 prior to 2015 are not included in Schedule DJD-1. For those customers installed

1 during 2015, the portion of annual displaced kWh following the date of the  
2 installation served to lower the test year billing units. Therefore, in Schedule  
3 DJD-1, only the portion of the year up until the date of the installation is used in  
4 the calculation of estimated generation and displaced kWh and distribution  
5 revenue. The remainder of the year is not included because the test year already  
6 took those reductions to sales into account in the test year billing units. In  
7 summary, the Company included the displaced kWh for all new customer  
8 installations since the test year, and for customers with installation during the test  
9 year, the Company included the displaced kWh for only a portion of the year.  
10 The Company's recent distribution rate filing in docket 21-030 did not have an  
11 effect on the 2020 calculation since no proposed or approved rate recovery  
12 occurred in the 2020 timeframe.

13

14 **Q. Is your calculation of the displaced distribution revenue for 2020 in**  
15 **accordance with the methodology approved by the settlement agreement in**  
16 **Docket DE 15-147?**

17 A. Yes.

18

19 **IV. BILL IMPACTS**

20

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



1 A. Yes. A simple estimate of the proposed costs of \$291,559 for 2020 divided by  
2 estimated kWh sales for August 2021 – July 2022 of 1,172,224 MWh yields an  
3 incremental rate of \$0.00025 per kWh, or about a \$0.15 increase, or 0.14 percent,  
4 on a current monthly 600 kWh residential default service bill of \$108.74.

5

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

7 A. Yes it does.