

UNITIL ENERGY SYSTEMS, INC.

DIRECT TESTIMONY OF
CHRISTOPHER J. GOULDING

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DE 22-___

JUNE 17, 2022

TABLE OF CONTENTS

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

LIST OF CJG SCHEDULES

<u>Schedule Number</u>	<u>Description</u>	<u>Pages</u>
CJG-1	Displaced Distribution Revenue due to Net Metering – 2021	105
CJG-2	PVWatts model of generation data	1

1 **I. INTRODUCTION**

2

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

4 A. My name is Christopher J. Goulding, and my business address is 6 Liberty Lane
5 West, Hampton, New Hampshire 03842.

6

7 **Q. Please explain your position and responsibilities.**

8 I am the Director of Rates and Revenue Requirements for Unitil Service Corp.
9 (“Unitil Service”), a subsidiary of Unitil Corporation (“Unitil Corp”) that
10 provides managerial, financial, regulatory and engineering services to Unitil
11 Corp’s utility subsidiaries including Unitil Energy Systems, Inc. (“UES” or the
12 “Company”). My responsibilities include all rate and regulatory filings related to
13 the financial requirements of UES and Unitil Corp’s other subsidiaries.

14

15 **Q. Please describe your business and educational background.**

16 A. In 2000 I was hired by NSTAR Electric & Gas Company (“NSTAR,” now
17 Eversource Energy) and held various positions with increasing responsibilities in
18 Accounting, Corporate Finance and Regulatory. I was hired by Unitil Service in
19 early 2019 to perform my current job responsibilities. I earned a Bachelor of
20 Science degree in Business Administration from Northeastern University in 2000
21 and a Master’s in Business Administration from Boston College in 2009.

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

3 A. Yes, I have testified before the New Hampshire Public Utilities Commission (the
4 “Commission”) on various financial, ratemaking and utility regulation matters,
5 including utility cost of service and revenue requirements analysis. I have also
6 testified before the Maine Public Utilities Commission and Massachusetts
7 Department of Public Utilities on similar matters on several occasions.

8

9 **II. SCOPE OF TESTIMONY**

10

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

12 A. I am presenting the Company’s calculation of displaced distribution revenue
13 associated with net metering for 2021 for Commission review so that it may be
14 included in the External Delivery Charge (“EDC”) for cost recovery in this
15 reconciliation filing.

16

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

18 A. In addition to Exhibit CJG-1, the written testimony here, I am presenting two
19 schedules. Schedule CJG-1 is the calculation of displaced distribution revenue
20 associated with net metering for the year 2021. Schedule CJG-2 is the PVWatts
21 generation model output showing the amount of annual kWh generated by a
22 typical 1,000 kW-AC unit.

1 **III. DISPLACED DISTRIBUTION REVENUE**

2

3 **Q. On what basis is UES seeking recovery of displaced distribution revenue**
4 **associated with net metering for the year 2021?**

5 A. In NHPUC Docket DE 15-147, the Commission, in Order No. 25,991, approved a
6 settlement agreement among the Company, the Office of Consumer Advocate
7 (“OCA”) and the Commission Staff (“Staff”) which provided an agreed upon
8 methodology for the calculation of displaced distribution revenue due to net
9 metering, and the recovery of such properly calculated amounts through the
10 Company’s EDC. The Order also authorized UES to file for recovery of the
11 displaced distribution revenue for the years 2013-16, and for recovery of these
12 amounts through the EDC commencing with rates effective on and after August 1,
13 2017. UES filed those amounts in docket DE 17-102, which were approved as
14 filed. UES also filed the amount of \$187,746 for 2017 in docket DE 18-096,
15 \$218,008 for 2018 in docket DE 19-111 and \$243,087 for 2019 in docket DE 20-
16 098, \$291,559 for 2020 in docket DE 21-121 all of which were approved as filed.
17 Consistent with the settlement agreement and UES’ approved tariff, Schedule
18 EDC, UES is including \$177,575 of displaced distribution revenue for 2021 in its
19 EDC for recovery.

1 **Q. Can you detail the displaced revenue associated with the year the generation**
 2 **was installed?**

3 A. Yes. The table below provides details on the number of units installed by year and
 4 the associated displaced revenue associated with those units.

	Units	Annual kWh	Actual kWh	2021 Displaced
Installation Year	Installed	Generated	Displaced⁽¹⁾	Distribution Revenue⁽¹⁾
2015	176	2,771,693	942,701	\$ 24,099
2016	311	4,195,209	1,603,928	48,671
2017	119	1,831,282	669,784	18,858
2018	83	2,260,394	842,229	11,643
2019	122	2,413,200	847,646	20,574
2020	98	2,032,628	1,074,548	26,910
2021	133	2,688,024	954,036	26,820
Total	1042	18,192,429	6,934,872	\$ 177,575

(1) Calculation accounts for new distribution rates effective June 1, 2021 consistent with Settlement Section 4.4 approved in Docket No. DE 21-030

5
6

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

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

1 amount is then applied on a calendar month basis in the amounts shown. This
2 amount and process was approved in the aforementioned Settlement Agreement.

3

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

6 A. Schedule CJG-1 shows the 2021 data. Distribution rates are used in each month
7 in which they were in effect. The company has assumed that the monthly billing
8 kW or kVA for these customers is not affected by installed generation due to the
9 intermittent nature of solar and wind generation, whether or not that is actually the
10 case. This produces a conservative estimate of displaced distribution revenue for
11 these customers.

12 The estimated kWh generation for each customer is calculated each month based
13 on the size of the customer generator in kW-AC multiplied times the monthly to
14 annual ratio of the PVWatts data described above. This amount is then compared
15 to the kWh billed each month for the customer. For customers who installed
16 generation during one of the months of the year being calculated, the estimated
17 displaced distribution revenue is only calculated for the month, or portions
18 thereof, that the generation was installed. Detailed calculations are shown in the
19 schedule. The Company only estimates the costs of displaced distribution
20 revenue for kWh that is actually displaced. Therefore, in months the customers
21 generates more than they consumed, they have a net surplus of kWh generation,

1 and the difference between the kWh generation and the kWh consumed is not
2 included in the calculation of displaced distribution revenue. The calculation
3 yields displaced distribution revenue in the amount of \$177,575 for 2021.

4

5 **Q. What is driver in the of the reduction from \$291,559 of 2020 displaced**
6 **revenues to \$177,575 of 2021 displaced revenues?**

7 A. The reduction in 2021 displaced revenues is driven by the Company's rate case
8 filed in Docket No. DE 21-030 which resulted in new distribution rates effective
9 June 1, 2021.

10

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

13 A. The Company has had two test years which affect the calculations here. One was
14 the test year for a 2015 distribution rate case ~~of 2015~~ (DE 16-384) affecting
15 January 2021 through May 2021 and the other is 2020 (DE 21-030) affecting June
16 2021 through December 2021. Customers with distributed generation ("DG")
17 installed prior to 2015 are not included in Schedule CJG-1. For those customers
18 with DG installed during the 2015 test year, the portion of annual displaced kWh
19 following the date of the installation served to lower the test year billing units, so
20 is omitted. Data for customers with DG installed June 2015 – May 2020 is
21 included only for the period January – May due to temporary rates becoming
22 effective on June 1, 2021 and therefore recovered in temporary rates. For

1 customers with DG installed June 2020 – December 2020, only the data prior to
2 installation date is included for 2021 since the remainder of the installation year
3 served to lower test year billing determinants. For customers with DG installed in
4 2021, data is included for the period after the DG was installed. In summary, the
5 Company included the displaced kWh for all new customer installations since the
6 test year, and for customers with installation during, and prior to, the test year, the
7 Company included the displaced kWh for only a certain portion of the year as
8 described above.

9

10 **Q. Is your calculation of the displaced distribution revenue for 2021 in**
11 **accordance with the methodology approved by the settlement agreement in**
12 **Docket DE 15-147?**

13 A. Yes, and the treatment of rate case test year data and temporary rates is the same
14 methodology as was presented and approved for the 2016 displaced distribution
15 revenue calculation.

16 **IV. BILL IMPACTS**

17

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

20 A. Yes. A simple estimate of the proposed costs of \$177,575 for 2021 divided by
21 estimated kWh sales for August 2022 – July 2023 of 1,150,272 MWh yields a rate

1 of \$0.00015 per kWh. For a residential customer using 600 kWh per month, this
2 results in a bill impact of roughly \$0.09 per month.

3

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

5 **A. Yes it does.**