

UNITIL ENERGY SYSTEMS, INC.

DIRECT TESTIMONY OF
CHRISTOPHER J. GOULDING

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DE 23-xxx

JUNE 16, 2023

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 – 2022	30
CJG-2	PVWatts model of generation data	1

1 **I. INTRODUCTION**

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

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

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

6 I am the Vice President of Finance and Regulatory for Unitil Service Corp.
7 ("Unitil Service"), a subsidiary of Unitil Corporation ("Unitil Corp.") that
8 provides managerial, financial, accounting, regulatory, engineering and
9 information technology services to Unitil Corp.'s subsidiaries. My responsibilities
10 include all rate and regulatory filings, financial planning and analyses, treasury
11 operations, budget, and insurance and loss control programs.

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

13 A. I have over 20 years of professional experience in the utility industry focused
14 within the finance, accounting and regulatory areas. In 2000, I was hired by
15 NSTAR Electric & Gas Company ("NSTAR," now Eversource Energy) and held
16 various positions with increasing responsibilities in Accounting, Corporate
17 Finance and Regulatory. I was hired by Unitil Service in early 2019 as the
18 Director of Rates and Revenue Requirements. In 2023, I was promoted to my
19 current position. I earned a Bachelor of Science degree in Business

1 Administration from Northeastern University in 2000 and a Master's in Business
2 Administration from Boston College in 2009.

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

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

10 **II. SCOPE OF TESTIMONY**

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 2022 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 **Q. Please outline the organization of your Testimony and Schedules.**

17 A. In addition to Exhibit CJG-1, the written testimony here, I am presenting two
18 schedules. Schedule CJG-1 is the calculation of displaced distribution revenue
19 associated with net metering for the year 2022. Schedule CJG-2 is the PVWatts

1 generation model output showing the amount of annual kWh generated by a
2 typical 1,000 kW-AC unit.

3 **III. DISPLACED DISTRIBUTION REVENUE**

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

6 A. In NHPUC Docket DE 15-147, the Commission, in Order No. 25,991, approved a
7 settlement agreement among the Company, the Office of Consumer Advocate
8 (“OCA”) and the Commission Staff (“Staff”) which provided an agreed upon
9 methodology for the calculation of displaced distribution revenue due to net
10 metering, and the recovery of such properly calculated amounts through the
11 Company’s EDC. The Order also authorized UES to file for recovery of the
12 displaced distribution revenue for the years 2013-16, and for recovery of these
13 amounts through the EDC commencing with rates effective on and after August 1,
14 2017. UES filed those amounts in docket DE 17-102, which were approved as
15 filed. UES also filed the amount of \$187,746 for 2017 in docket DE 18-096,
16 \$218,008 for 2018 in docket DE 19-111, \$243,087 for 2019 in docket DE 20-098,
17 \$291,559 for 2020 in docket DE 21-121 and \$177,575 for 2021 in docket DE 22-
18 038 all of which were approved as filed. Consistent with the settlement
19 agreement and UES’ approved tariff, Schedule EDC, UES is including \$51,157 of
20 displaced distribution revenue for 2022 in its EDC for recovery.

1 **Q. Can you detail the displaced revenue associated with the year the generation**

2 **was installed that is included in the displaced distribution revenue**

3 **calculation?**

4 A. Yes. The table below provides details on the number of units installed by year and

5 the associated displaced revenue associated with those units.

	Units	Annual kWh	Annual kWh	2022 Displaced
Installation Year	Installed ⁽¹⁾	Generated	Displaced ⁽²⁾	Distribution Revenue ⁽²⁾
2020	98	2,034,497	634,845	\$ 16,293
2021	133	2,850,576	1,008,214	27,423
2022	86	1,562,628	244,359	7,442
Total	317	6,447,701	1,887,418	\$ 51,157
(1) 2022 equals installations through May 31, 2022 prior to decoupling				
(2) Calculation accounts for new distribution rates effective June 1, 2021 consistent with Settlement Section 4.4 approved in Docket No. DE 21-030				

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

17 amount is then applied on a calendar month basis in the amounts shown. This

18 amount and process was approved in the aforementioned Settlement Agreement.

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

3 A. Schedule CJG-1 shows the 2022 data. Distribution rates are used in each month
4 in which they were in effect. The company has assumed that the monthly billing
5 kW or kVA for these customers is not affected by installed generation due to the
6 intermittent nature of solar and wind generation, whether or not that is actually the
7 case. This produces a conservative estimate of displaced distribution revenue for
8 these customers.

9 The estimated kWh generation for each customer is calculated each month based
10 on the size of the customer generator in kW-AC multiplied times the monthly to
11 annual ratio of the PVWatts data described above. This amount is then compared
12 to the kWh billed each month for the customer. For customers who installed
13 generation during one of the months of the year being calculated, the estimated
14 displaced distribution revenue is only calculated for the month, or portions
15 thereof, that the generation was installed. Detailed calculations are shown in the
16 schedule. The Company only estimates the costs of displaced distribution
17 revenue for kWh that is actually displaced. Therefore, in months the customer
18 generates more than they consumed, they have a net surplus of kWh generation,
19 and the difference between the kWh generation and the kWh consumed is not
20 included in the calculation of displaced distribution revenue. The calculation
21 yields displaced distribution revenue in the amount of \$51,157 for 2022.

1 **Q. What is driver in the of the reduction from \$177,575 of 2021 displaced**
2 **revenues to \$51,157 of 2022 displaced revenues?**

3 A. The reduction in 2022 displaced revenues is driven by the Company's rate case
4 filed in Docket No. DE 21-030 which resulted in new distribution rates effective
5 June 1, 2021 and the transition to decoupling on June 1, 2022.

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

8 A. The Company has had one test year which affects the calculations here. That case
9 test year was 2020 (DE 21-030). Customers with on-site generation installed
10 prior to 2020 are not included in Schedule CJG-1. For those customers installed
11 during 2020, the portion of annual displaced kWh following the date of the
12 installation served to lower the test year billing units. Therefore, in Schedule
13 CJG-1, only the portion of the year up until the date of the installation is used in
14 the calculation of estimated generation and displaced kWh and distribution
15 revenue. The remainder of the year is not included because the test year already
16 took those reductions to sales into account in the test year billing units. In
17 summary, the Company included the displaced kWh for all new customer
18 installations since the test year, and for customers with installation during the test
19 year, the Company included the displaced kWh for only a portion of the year.

1 **Q. Is your calculation of the displaced distribution revenue for 2022 in**
2 **accordance with the methodology approved by the settlement agreement in**
3 **Docket DE 15-147?**

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

7 **Q. Is your calculation of the displaced distribution revenue for 2022 in**
8 **accordance with the methodology approved by the settlement agreement in**
9 **Docket DE 21-030?**

10 A. Yes, the calculation complies with Section 4.4 of the settlement agreement
11 approved in Docket DE 21-030.

12 **IV. BILL IMPACTS**

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

15 A. Yes. A simple estimate of the proposed costs of \$51,157 for 2022 divided by
16 estimated kWh sales for August 2023 – July 2024 of 1,120,359 MWh yields a rate
17 of \$0.00005 per kWh. For a residential customer using 600 kWh per month, this
18 results in a bill impact of roughly \$0.03 per month.

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

20 A. Yes, it does.