

UNITIL ENERGY SYSTEMS, INC.

JOINT TESTIMONY OF:

KAREN M. ASBURY

JUSTIN C. EISFELLER

ROBERT S. FURINO

New Hampshire Public Utilities Commission

Docket No.: DE 11-\_\_\_\_

May 13, 2011

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1 **I. INTRODUCTION OF PANEL**

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

3 A. My name is Karen M. Asbury. My business address is 6 Liberty Lane West,  
4 Hampton, New Hampshire 03842.

5

6 **Q. By whom are you employed and in what capacity?**

7 A. I am Director of Regulatory Services for Unitil Service Corp. ("USC"), which  
8 provides centralized management and administrative services to all Unitil  
9 affiliates, including Unitil Energy Systems, Inc. ("UES").

10

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

12 A. In 1987, I graduated *magna cum laude* from the University of New Hampshire  
13 with a Bachelor of Science Degree in Mathematics. I joined USC in January  
14 1988 and have held various positions in the regulatory/rate department. I have  
15 been involved in regulatory compliance and rate analysis for electric and gas  
16 utilities for over twenty years. In my current position, I am responsible for  
17 directing regulatory filings, pricing research, analysis, and design, tariff  
18 administration, revenue requirements and cost of service calculations,  
19 customer research, and other analytical services.

20

21 **Q. Have you previously testified before the New Hampshire Public Utilities**  
22 **Commission ("Commission")?**

1 A. Yes. I have testified on numerous occasions before the Commission. I have  
2 also testified before the Massachusetts Department of Public Utilities and  
3 participated in the preparation of filings for the Federal Energy Regulatory  
4 Commission ("FERC").

5

6 **Q. Please state your name and business affiliation.**

7 A. My name is Justin C. Eisfeller and I am the Director of Energy Measurement  
8 and Control at USC. As Director of Energy Measurement and Control  
9 (“EM&C”) I am responsible for daily operations of the metering, substation,  
10 and gas and electric dispatching areas. These responsibilities have involved  
11 shaping the company’s direction in areas of advanced metering applications  
12 and regulatory actions due to EPACT and distributed generation. My business  
13 address is 325 West Road, in Portsmouth, NH.

14

15 **Q. Please summarize your qualifications and current position with USC.**

16 A. I received my Bachelor of Science Degree in Electrical Engineering (Power  
17 Option) from Northeastern University in 1990 and my Master of Business  
18 Administration from UNH in 2005. I have also been a Registered  
19 Professional Engineer in the State of New Hampshire (License No. 9066)  
20 since 1996. I joined USC in 2002 as Manager of Distribution Engineering  
21 with responsibility for distribution system design and support. In 2004, I  
22 assumed the responsibilities of Director of Engineering with responsibilities

1 for distribution engineering, planning, transmission and substation  
2 engineering, system protection and control, computer aided design, and  
3 geographic information systems. In 2008 I assumed responsibilities for my  
4 current position. The functions of the Director, EM&C include responsibility  
5 for the installation, operation, and maintenance of equipment necessary to  
6 provide for metering, dispatching and substation systems as well as equipment  
7 and systems necessary for the implementation of new energy technology, the  
8 digitization and automation of the electric system, equipment  
9 communications, system performance data gathering, demand response, and  
10 the enabling of other displacement energy technologies.

11

12 **Q. Have you previously testified before the Commission?**

13 A. Yes. I have testified on several occasions before the Commission. I have also  
14 testified before the Massachusetts Department of Public Utilities.

15

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

17 A. My name is Robert S. Furino. My business address is 6 Liberty Lane West,  
18 Hampton, NH.

19

20 **Q. By whom are you employed and in what capacity?**

21 A. I am employed by USC as Director of the Energy Contracts department.

22

23 **Q. Please briefly describe your educational and business experience.**

1 A. I received my Bachelor of Arts Degree in Economics from the University of  
2 Maine in 1991. I joined USC in March 1994 as an Associate DSM Analyst in  
3 the Regulatory Services Department and have worked in the Regulatory,  
4 Product Development, Finance and Energy Contracts Departments. Currently,  
5 my primary responsibilities involve energy supply planning and acquisition,  
6 including the procurement of electric Default Service for UES and its affiliate  
7 Fitchburg Gas and Electric Light Company (Fitchburg), and natural gas  
8 supply for both Fitchburg and for Northern Utilities, Inc.

9  
10 **Q. Have you previously testified before the Commission?**

11 A. Yes. I have testified before the Commission on many occasions.

12  
13 **II. PURPOSE OF TESTIMONY**

14 **Q. Please describe the purpose of this joint testimony in this proceeding?**

15 A. The purpose of this testimony is to: present and explain the nature of a large  
16 overbilling error that occurred with respect to a customer<sup>1</sup> of UES; to describe  
17 UES's calculation of the refund provided to the customer concurrent with the  
18 filing of its Petition; and to describe and support the request for approval to  
19 adjust the account balances in the External Delivery Charge ("EDC"), the  
20 Stranded Cost Charge ("SCC"), the System Benefits Charge ("SBC") and the  
21 Non-G1 Default Service Charge. Adjusting these account balances would

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<sup>1</sup> Contemporaneously with the filing of this testimony, UES has filed a Motion for Protective Order and Confidential Treatment to maintain the confidentiality of the customer's identity.

1 allow UES to recover from its customers the amount by which they benefited  
2 as the result of the above-referenced overbilling.

3

4 **III. BACKGROUND**

5 **Q. Please describe the nature of the billing error and how it was discovered.**

6 A. During November and December 2010, USC's Business Development  
7 department had been working with the customer to identify ways of reducing  
8 the energy consumption at the customer's three facilities. One facility in  
9 particular had a higher consumption than the other two facilities. Through the  
10 monitoring of the sub-panels at the facility, the Company was able to identify  
11 a potential of a billing inaccuracy at this location.

12

13 Several visits to the customer site were made to first verify the meter was  
14 working correctly, then several sets of measurements were taken of the  
15 metering transformers to verify their function. On Monday, February 7, 2011  
16 metering personnel confirmed that the meter and current transformers ("CT")  
17 were found to be working correctly. However, the metering personnel  
18 discovered that the CTs were mislabeled. As the result of the mislabeled CTs,  
19 billing was double the actual usage.

20

21 **Q. How long had this customer been inaccurately billed?**

1 A. Billing has been incorrect for this location since September 10, 2004, the date  
2 of the initial installation of the mislabeled CTs and the initiation of the  
3 customer's account for this location. The meter constant was programmed at  
4 the time the meter was set in accordance with the (mis)labeling on the  
5 installed CTs. Since the labeling was incorrect, billing has been incorrect  
6 since the initial installation.

7

8 **Q. What are CTs and why are they needed for this installation?**

9 A. In order to meter large customer loads, utilities must install instruments that  
10 transform the large currents into quantities measurable by the meters. This  
11 device is called a current transformer or CT. One CT is installed for each  
12 phase of the electric service. These devices are installed around the service  
13 wires and have output leads that are connected to the meter. The output of the  
14 CTs are a ratio of the actual load. The meter uses this reduced current output  
15 to measure energy usage. In order to determine billable usage, the metered  
16 values are multiplied by this ratio (or meter constant) to calculate the actual  
17 energy consumption.

18

19 **Q. Please explain how the installation of a CT can lead to a billing error?**

20 A. If the meter constant is incorrect, the billing system will calculate usage that is  
21 different from actual consumption.

22

1 At this particular customer site, UES installed dual ratio CTs, which provided  
2 for either a 3000:5 ratio or a 1500:5 ratio. The ratio is selected by changing  
3 the connections for the output wiring based on which of two labeled taps are  
4 chosen. The output wiring at this site was connected to the tap labeled  
5 “3000:5” resulting in a meter constant of 600. Since the CT was mislabeled it  
6 was actually transforming at a ratio of 1500:5 or a meter constant of 300.  
7 Because the metered values were multiplied by the incorrect constant, the  
8 customer’s bill was based on double the amount of the customer’s actual  
9 usage.

10

11 **Q. Does UES test meters upon installation or periodically to ensure accurate**  
12 **readings?**

13 A. UES regularly tests its meters in accordance with the requirements of the Puc  
14 300 rules. All meters are either tested at the factory or in UES’s facilities,  
15 consistent with Puc Rule 305. The meter at this location had been tested and  
16 found to be accurate on a number of occasions during the period in question.

17

18 UES performs connection verification tests of installations as required by Puc  
19 Rule 305.01(g). UES relies on the manufacturer’s specifications and test  
20 results of the CT ratio. All polyphase transformer meters are tested every four  
21 years following the initial installation, which complies with Puc Rule  
22 305.03(c)(4).

1

2           Periodic inspections and testing of instrumented sites include an inspection of  
3           the CT, but does not require actual ratio measurement, as these devices are  
4           static, contain no moving parts, and are basically a coil of wire with a specific  
5           set of unchanging characteristics. Additionally, these devices may be difficult  
6           to physically access, require special equipment or line crew assistance to  
7           measure, and field measurements can sometimes be misleading (verifying  
8           with instantaneous checks can provide erroneous results during rapid load  
9           changes).

10

11   **Q.    When were the CT and the meter initially installed at this location?**

12   A.    The CT and meter were initially installed on September 10, 2004. As  
13           required, the meter was tested prior to installation. UES relied on the CT  
14           manufacturer's test of accuracy and performed the installation according to  
15           the labeling on the CT.

16

17   **Q.    Was the meter ever changed at this location during the period in  
18           question?**

19   A.    Yes. The meter was changed on January 4, 2007, as part of the company's  
20           deployment of its Automated Metering Infrastructure ("AMI") project. This  
21           change occurred one year prior to the scheduled four year cycle for testing and  
22           verification. Subsequently, on March 11, 2008, the meter was changed again,

1 in response to the customers request to install KYZ pulse output metering. On  
2 both of these occasions the new meter was tested prior to installation, but the  
3 setting of the CT, which had been based upon the manufacturer's  
4 specifications, was not changed.

5

6 **Q. Were subsequent meter tests performed?**

7 A. Yes. In early November 2010, the customer contacted the Company,  
8 concerned that usage at this one location was running twice as high as at its  
9 two other locations, and requested that UES test the meter. The meter was  
10 tested and its accuracy verified. In January 2011, the Company's meter  
11 department checked the pulse weight and pulse multiplier calculations. The  
12 meter department also inspected the meter and CT configuration and  
13 confirmed that the CT wiring was in fact on the 3000:5 terminals. Finally, in  
14 early February 2011, the results of a subpanel metering report, which was  
15 undertaken as part of an energy audit, indicated that this location was  
16 consuming only half of what the meter was reporting. It was at this point that  
17 it was determined that the CTs were marked incorrectly. Special equipment  
18 was brought in to the site, and the CT ratios were measured and confirmed to  
19 be 1500:5, not 3000:5.

20

21 **Q. Once the mislabeling of the CT was discovered, what steps were taken?**

1 A. On February 8, 2011 UES changed the billing multiplier in the billing system  
2 for this meter from 600 to 300. UES also performed a full meter test,  
3 including tests of all CTs at the customer's other facilities to ensure that no  
4 other issues existed.

5

6 **Q. What steps is UES taking to prevent a future occurrence of this error at**  
7 **other similarly instrumented sites?**

8 A. UES will perform a full review of all dual ratio CT installations within the  
9 next 12 months, prioritizing these by account size.

10

11 **IV. CALCULATION OF OVERPAYMENT, REFUND AMOUNT AND**  
12 **PROPOSED ACCOUNT ADJUSTMENTS**

13 **Q. Please describe how the overpayment was calculated.**

14 A. UES has prepared a detailed spreadsheet with the customer's billing history  
15 from September 2004 through January 2011, the time period over which the  
16 billing error occurred. The customer was on Default Service for the period  
17 September 2004 through July 2006. Thereafter, the customer was served by a  
18 third-party supplier, so UES obtained the customer's energy billings from  
19 their third-party supplier for the period August 2006 through January 2011.  
20 All of this information is included in the calculations that appear in the  
21 spreadsheet which is provided as Schedule UES-1. The monthly billing detail  
22 is shown in columns 1 through 12.

1

2 **Q. What is total amount over-collected from the customer?**

3 A. As shown in column 8, page 2 of 2 of Schedule UES-1, the customer paid  
4 total charges of \$3,613,338 over the period September 2004 through January  
5 2011. The total over-collected amount, which is half of all charges, excluding  
6 customer charges, is \$1,801,504. As shown in columns 13, 14, and 15, the  
7 breakdown of the over-collection is as follows:

8	Distribution Charge:	\$185,663
9	Other Delivery Charges:	\$299,751
10	Supply Charges:	\$1,316,090

11

12 **Q. Please provide more detail concerning the over-collected amount for**  
13 **Other Delivery Charges.**

14 A. The amount related to Other Delivery Charges is further broken down as  
15 follows:

16	Restructuring Surcharge:	\$592
17	Rate Case Surcharge:	\$4,696
18	System Benefits Charge - Energy Efficiency ("SBC EE"):	\$23,253
19	System Benefits Charge -	
20	Low Income-Electric Assistance Program ("SBC LI"):	\$18,001
21	Stranded Cost Charge:	\$103,558
22	Fuel Purchased Power Adjustment Charge ("FPPAC")	
23	Underrecovery:	\$4,380
24	External Delivery Charge:	\$137,970
25	Subtotal Delivery Charges:	\$292,450
26	Consumption Tax:	<u>\$7,301</u>
27	Total including Consumption Tax:	\$299,751 <sup>2</sup>

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<sup>2</sup> Page 3 of Schedule UES-1 provides the monthly detail for this amount.

1

2 **Q. Has UES provided a refund to the customer?**

3 A. UES has provided a refund of \$611,699 to the customer concurrent with the  
4 filing of the accompanying Petition. This amount includes an over-collection  
5 of \$587,948 and interest of \$23,751.<sup>3</sup> This refund was calculated based upon  
6 the over-collection for the two year period prior to February 2011 when the  
7 Company confirmed the error, and includes compound interest at the prime  
8 rate for this period up through the filing of the Petition. The amount refunded  
9 includes \$67,564 of distribution charge over-collection, \$441,797 of supply  
10 charges, and \$102,339 of other delivery charges.

11

12 **Q. Why has UES not refunded the entire over-collection to the customer?**

13 A. UES has requested a declaratory ruling from the Commission confirming the  
14 time period for calculation of the refund under Puc 305.05 and RSA 365:29.  
15 As stated in the petition, the Company is willing to pay the full amount of the  
16 overcharge, from September 10, 2004 forward, provided that the Commission  
17 issues a final ruling (a) that such payment will not run afoul of the two-year  
18 limitation set forth in RSA 365:29 and (b) that the Company is authorized to  
19 adjust account balances for that entire period.

20

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<sup>3</sup> See Schedule UES-3 for the calculation of the interest amount.

1 **Q. Please explain why the Company is requesting authorization to adjust its**  
2 **account balances for the period of time for which reparations are made to**  
3 **the customer.**

4 A. Due to the reconciling nature of the delivery costs, all customers benefitted  
5 from this customer's overpayment, since the overpayment was reflected in the  
6 delivery charge account balances, thus lowering the amounts due from all  
7 customers. In the case of the SBC, which is a fixed rate, the overpayment  
8 increased the amount of funds available for EE and LI programs. In the case  
9 of the supply related overpayment, as explained below, UES's Non-G1  
10 customers benefitted as they received power that they didn't pay for.  
11 Accordingly, UES seeks recovery of the delivery charge refund and the  
12 portion of the supply charge refund above through the normal operation of its  
13 reconciling clauses.<sup>4</sup>

14  
15 **Q. Please more fully describe UES's request to adjust its delivery charge**  
16 **reconciling mechanisms to recognize the refund of \$611,699.**

17 A. UES seeks to make an accounting entry that removes the overpayment from  
18 revenue in the External Delivery Charge ("EDC") and Stranded Cost Charge  
19 ("SCC"). The end result would be decreases to EDC revenue of \$65,198 and  
20 SCC revenue of \$20,548. UES also proposes to decrease SBC EE revenue of

---

<sup>4</sup> The consumption tax amount remitted to the State of New Hampshire would be lowered when the refund is made.

1           \$7,089 and SBC LI revenue of \$7,133, reflecting the refund of the SBC  
2           amounts.

3

4   **Q.    When would UES's EDC and SCC rates include these adjustments?**

5    A.    If approved, the adjustments to the EDC and SCC would be reflected in  
6           UES's next annual EDC/SCC rate filing scheduled for June 17, 2011 for rates  
7           effective August 1, 2011. The net impact to the EDC and SCC would be  
8           approximately \$0.00007 per kWh or \$0.04 for a residential customer using  
9           600 kWh per month.

10

11   **Q.    Please describe the impact of the proposal on the SBC EE and SBC LI**  
12       **accounts.**

13   A.    As the SBC is a fixed rate, the proposed SBC EE and SBC LI adjustments will  
14       have no rate impact on customers, but rather will affect the account balances  
15       for these programs. For example, UES's Commercial & Industrial sector SBC  
16       EE balance is an over-collection of \$225,662 as of March 31, 2011. This one  
17       time adjustment would change the over-collected balance to \$218,573 for that  
18       month. In the case of SBC LI, the adjustment would lower the amount to be  
19       remitted to the State of New Hampshire in the month that the adjustment was  
20       made.<sup>5</sup> For example, the amount remitted by UES for the month of March

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<sup>5</sup> UES's SBC LI revenues are generally higher than LI-EAP costs, resulting in a monthly remittance to the State of New Hampshire.

1 2011 was \$51,532.99. If the adjustment was made in March, UES would have  
2 remitted a lower amount of \$44,399.99 to the State of New Hampshire. These  
3 accounts would be adjusted when the refund is made.

4

5 **Q. Please describe UES's proposal with respect to supply charges.**

6 A. With respect to the supply charge overcharges, UES seeks to make an  
7 accounting entry in the amount of \$386,350 that increases costs in the Non-G1  
8 Default Service Charge. This amount is less than the full supply charge  
9 refund amount, reflecting what the Non-G1 Default Service supply charges  
10 would have been if the error had not occurred. This calculation, which is  
11 shown in columns 17 through 21, rows Feb-09 through Jan-11, of Schedule  
12 UES-1, was performed by pricing out the overbilled kWh sales by the Non-G1  
13 Default Service rates in effect at the time. This calculation results in lower  
14 supply charges to the Non-G1 class as shown in columns 20 and 21.

15

16 **Q. Why is UES proposing to charge the Non-G1 Default Service Charge by**  
17 **an amount less than it is proposing to refund to the customer for the**  
18 **supply charge portion of the over-collection?**

19 A. The reason for adjusting Non-G1 Default Service for the supply charge refund  
20 as described above is because the error shifted costs from Non-G1 Default  
21 Service to the customer. UES utilizes a load allocation process in order to  
22 assign load obligations associated with customer consumption to the

1 numerous suppliers on its system. These load obligations are reported to ISO  
2 New England for the proper assessment of wholesale cost. As part of the load  
3 allocation process, UES must either use actual meter readings or estimate  
4 usage for all customers on an hourly basis. For load allocation purposes, there  
5 are two types of customers: those with interval meters, which provide hourly  
6 reads, and those with standard meters, which provide monthly reads. Under  
7 UES's tariff, G1 customers such as this customer receive interval metering  
8 and Non-G1 customers receive monthly metering.

9  
10 For each hour, UES must match the sum of all customer loads, adjusted for  
11 distribution losses, to the tie point total which measures power flowing into  
12 the system, including adjustments for power generated within the system. The  
13 loads of G1 customers are known since they are metered on an hourly basis,  
14 providing "interval data." The loads of Non-G1 customers are estimated  
15 initially based upon customer class load profiles and usage factors. For each  
16 hour, the sum of the interval data for G1 customers and the estimated data for  
17 Non-G1 customers is netted from the tie point data. The difference, referred  
18 to as residual load, is then allocated on a pro-rata basis to all Non-G1  
19 customers.

20  
21 The customer's interval meter data was overstated during the period of the  
22 meter error, and due to the application of residual load to Non-G1 customers,

1 the Non-G1 customer loads were correspondingly understated. Had the meter  
2 error not occurred, the Non-G1 loads reported to ISO-NE would have been  
3 higher than reported and the Non-G1 customers would have paid additional  
4 supply cost.

5  
6 The difference in actual supply costs paid by the customer and what would  
7 have been paid by Non-G1 Default Service relates to differences in retail  
8 rates. For the two-year period for which the refund is calculated, while being  
9 served by third party supplier, the customer over-paid \$424,642 in supply  
10 costs. By comparison, Non-G1 supply costs during this period would have  
11 been \$369,196. UES has decided that it will absorb the refund of the  
12 difference, \$55,447, to the customer, though it did not profit from the over-  
13 collection of this amount.

14

15 **Q. When would UES's Non-G1 Default Service rates include this**  
16 **adjustment?**

17 A. UES proposes to include this adjustment in its next semi-annual rate filing for  
18 non-G1 Default Service, scheduled for September 9, 2011 for rates effective  
19 November 1, 2011. UES proposes to include the adjustment in rates for a  
20 twelve month period. The impact to the Non-G1 Default Service rate would  
21 be approximately \$0.00048 per kWh or \$0.29 for a residential customer using  
22 600 kWh per month. Combined with the impact to the EDC and SCC, a

1 residential customer using 600 kWh per month would see a bill impact of  
2 \$0.33 or 0.39%.

3

4 **Q. Have you provided a schedule showing a summary of these calculations**  
5 **and the estimated rate impact?**

6 A. Yes. Schedule UES-2 provides a summary of the figures and rate impact  
7 calculations discussed above. Table A summarizes the amounts billed to the  
8 customer and refund amount by component for the two-year period. Table B  
9 shows the impact to the reconciling mechanisms and associated rate and bill  
10 impact to a residential customer using 600 kWh per month. As discussed  
11 above, the customer impacts exclude a portion of the supply charge refund.  
12 Table C shows the UES impact, which includes the refund of distribution  
13 charges as well as the difference for supply costs. Table D provides a further  
14 breakdown of these impacts as a percentage of UES's annual revenue by rate  
15 component.

16

17 **Q. If the Commission were to determine that a different time period is to be**  
18 **used for calculating the reparation due to the customer, would the**  
19 **amounts by which the Company is seeking to adjust its account balances**  
20 **change?**

21 A. Yes. The principles supporting the request to adjust the account balances  
22 would apply as well to the entire time period. The specific amounts to be

1 adjusted would have to be recalculated, based upon the data in Schedule UES-  
2 1. For example, assuming that a refund for the entire 77 month period is  
3 determined to be appropriate, the full refund amount to the customer would be  
4 \$1,801,504. UES would seek to adjust the account balance for the Non-G1  
5 Default Service Charge by \$1,152,493, and adjust the account balances which  
6 make up the Other Delivery Charges by a total of \$299,751 as detailed on  
7 page 11, above.

8

9 **V. CONCLUSION**

10 **Q. Does that conclude your testimony?**

11 **A.** Yes, it does.