BEFORE THE STATE OF NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

In the matter of:	
Unitil Energy Systems, Inc.)

Direct Prefiled Testimony

Of

Scott J. Rubin
On behalf of the Office of the Consumer Advocate

Dated: **November 16, 2016**

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1		Introduction

- 2 Q. Please state your name and business address.
- 3 A. My name is Scott J. Rubin. My business address is 333 Oak Lane, Bloomsburg, PA.
- 4 Q. By whom are you employed and in what capacity?
- 5 A. I am an independent consultant and an attorney. My practice is limited to matters
- 6 affecting the public utility industry.
- 7 Q. What is the purpose of your testimony in this case?
- 8 A. I have been asked by the New Hampshire Office of the Consumer Advocate ("OCA") to
- 9 review the cost-of-service studies and rate design proposal filed by Unitil Energy
- Systems, Inc. ("Unitil" or "Company") in this case.
- 11 Q. What are your qualifications to provide this testimony in this case?
- 12 A. I have testified as an expert witness before utility commissions or courts in the District of
- 13 Columbia, the province of Nova Scotia, and the states of Alaska, Arizona, California,
- 14 Connecticut, Delaware, Kentucky, Illinois, Maine, Maryland, Mississippi, New
- Hampshire, New Jersey, New York, Ohio, Pennsylvania, and West Virginia. I also have
- testified as an expert witness before federal, state, and local legislative committees. I also
- have served as a consultant to the staffs of three state utility commissions, as well as to
- several national utility trade associations, and state and local governments throughout the
- country. Prior to establishing my own consulting and law practice, I was employed by
- the Pennsylvania Office of Consumer Advocate from 1983 through January 1994 in
- 21 increasingly responsible positions. From 1990 until I left state government, I was one of

two senior attorneys in that Office. Among my other responsibilities in that position, I had a major role in setting its policy positions on water and electric matters. In addition, I was responsible for supervising the technical staff of that Office. I also testified as an expert witness for that Office on rate design and cost of service issues.

A.

Throughout my career, I developed substantial expertise in matters relating to the economic regulation of public utilities. I have published articles, contributed to books, written speeches, and delivered numerous presentations, on both the national and state level, relating to regulatory issues. I have attended numerous continuing education courses involving the utility industry. I also have participated as a faculty member in utility-related educational programs for the Institute for Public Utilities at Michigan State University, the American Water Works Association, and the Pennsylvania Bar Institute. Attachment SJR-1 to this testimony is my curriculum vitae.

13 Q. Have you published any papers on the topic of electric utility rate design?

14 A. Yes, in November 2015 I published a paper entitled "Moving Toward Demand-Based
 15 Residential Rates" in *The Electricity Journal*.

O. Do you have any recent experience that is particularly relevant to the issues in this case?

Yes, I do. In the past three years, I have testified on rate design, cost allocation, and/or tariff issues in rate cases involving the following electric utilities: Ameren Illinois, Chugach Electric (Alaska), Commonwealth Edison (Illinois), Entergy Mississippi, Massachusetts Electric, Municipal Light & Power (Alaska), Ohio Edison, Pike County

Light & Power (Pennsylvania), Potomac Electric Power (District of Columbia), United
 Illuminating (Connecticut), and UNS Electric (Arizona).

Q.

testimony.

calculations are substantial.

Overview and Summary

Please provide an overview of your analyses, conclusions, and the focus of your

A. My review of the Company's accounting cost-of-service study ("ACOSS") concludes that the Company did not properly classify distribution plant between demand and energy. In particular, the Company did not correctly apply the minimum size methodology set forth in the *Electric Utility Cost Allocation Manual* published by the National Association of Regulatory Utility Commissioners ("NARUC"). As an example, the Company applied the minimum size methodology to a trended cost (that is, a representation of the current cost of equipment); but the NARUC manual states that the minimum size methodology should be applied to the average embedded cost of plant. The differences between these

Moreover, the Company incorrectly used the minimum size method to classify line transformer costs, even though the Company's records show that line transformer costs are essentially entirely demand-related (that is, the cost of transformers is roughly proportional to the demand served by the transformer, not to the number of customers served).

Correcting those errors would reduce the Domestic class's revenue requirement by almost 10%, from \$39.62 million to \$35.86 million. The Company's proposed rates,

however, apply a limiter such that no class would receive an increase of more than 125% of the system-average percentage increase. Applying that limiter to the Domestic class results in revenue responsibility for that class of \$30.63 million, which remains below the corrected revenue requirement that I calculate for the Domestic class. Thus, my changes in the ACOSS do not have any effect on the allocation of any rate increase to the Domestic customer class.

As a result, and to simplify this proceeding, I am not discussing my findings concerning the ACOSS in the body of my testimony. While I conclude that there is a serious flaw in the Company's methodology, that flaw does not affect the ultimate issue in this case, which is the determination of just and reasonable rates for each customer class.

Did you also review the Company's marginal cost-of-service study?

Q.

A.

Yes. In a similar vein, I find that the Company's marginal cost-of-service study ("MCOSS") is not a reliable measure of the cost of providing service to different types of customers. In most instances, the Company's attempts to find a long-term relationship between system costs and measures such as demand or the number of customers found that there was not a statistically valid relationship. Thus, the results presented in the MCOSS primarily measure the existing average cost of providing various components of electric service. While the average cost might be of some academic interest, it does not represent the cost of serving customers (those costs are based on investments made by the Company over many decades) and it does not mean that there is any relationship between

that cost and either customer demand or any other reliable measure to which a marginal cost might be applied.

Again, however, the Company did not rely on the MCOSS in either its class revenue allocation or its rate design. Thus, to further simplify this proceeding, I will not discuss the MCOSS further.

6 Q. What will be the focus of your testimony?

A.

My testimony will focus on the Company's proposed rate design for the Domestic (residential) customer class, and on the calculation of some of the miscellaneous fees contained in the tariff.

As I discuss below, the Company has proposed a significant increase in the Domestic customer charge, coupled with a decrease in the charge for usage in excess of 250 kilowatt-hours ("kWh") per month. The combined effect of these changes results in widely disparate bill impacts for year-round Domestic customers, with some customers receiving decreases in their annual bills for distribution service with others facing increases in excess of 40%. The same types of exorbitant bill increases would be imposed on some low-income customers. Such bill changes are unreasonable, unfair, and unnecessary in the context of a proposed 15% increase in revenues for the Domestic class. I will propose a Domestic rate design that realigns the Company's rates, makes movement toward collecting an appropriate level of revenues from seasonal customers, and avoids excessive rate increases on year-round customers. Specifically, I explain the development below of my proposed Domestic rate design, which consists of a customer charge of \$11.97 per month during the months of October through May, a customer

1 charge of \$15.00 per month from June through September, and a distribution charge of 2 4.099¢ per kWh year-round. These rates assume Unitil's proposed revenue requirement. 3 If the Commission determines that the revenue requirement is less than Unitil requested, 4 then these rates should be reduced in proportion to the change in revenue requirement. 5 Finally, I will propose changes in some of the Company's miscellaneous fees. 6 The Company has not fully justified the fees for a returned check or for enhanced 7 metering, and I have calculated cost-based charges for those services. **Domestic (Residential) Rate Design** 8 9 Q. What are the Company's existing permanent rates for Domestic service? 10 A. The existing rates consist of a customer charge of \$10.27 per month, a rate for the first 11 250 kWh per month of 3.404¢ per kWh, and a rate for usage in excess of 250 kWh per 12 month of 3.904¢ per kWh. 13 Q. How is the Company proposing to change those rates? 14 A. Unitil is proposing to increase the customer charge by 46% to \$15.00 per month. The 15 Company also is proposing to eliminate the tiered consumption rate and charge the same 16 rate of 3.786¢ for all kWh consumed. This represents an 11% increase in the rate for the 17 first 250 kWh per month and a 3% decrease in the rate for monthly usage in excess of 250 kWh.¹ 18 19 Q. Are these drastic rate changes needed for the Company to collect its revenue 20 requirement from the Domestic class?

¹ I am not discussing the Company's proposed rate design changes for customer with distributed generation. I understand that those issues are being addressed in a separate proceeding.

A. No. The Company proposes to collect \$30.6 million in distribution revenues from the Domestic class, which is an increase of \$4.0 million (15%) over pro forma present distribution revenues. There are many ways that rates could be designed to collect that level of revenues. It certainly does not require an increase in the customer charge that is three times the percentage increase in the class's revenues. Fairly collecting the revenue requirement from the class also does not require a reduction in the rate charged for usage in excess of 250 kWh per month.

Q.

A.

In preparing its rate design proposal, did the Company evaluate the effects of the proposed changes on customers' bills?

No, it does not appear that the Company's proposal was based on a full consideration of the bill impacts on Domestic customers. While Mr. Debski presents bill impact information in his direct testimony (Schedule DJD-1, page 1; Bates page 000299), this information is not referred to anywhere by Dr. Overcast who was responsible for the rate design. Moreover, Mr. Debski's bill impact calculations include energy supply charges which are not at issue in this case (and which may increase or decrease over time due to market conditions). Neither Mr. Debski nor any other Company witness presents bill impact calculations for the distribution charges at issue in this case.

Further, the only constraint Dr. Overcast mentions is that he wanted the increase in the customer charge to be no more than 50%. Exh. HEO-1, p. 63 (Bates 000699). He claims that this is consistent with the principle of gradualism, but he never explains why increasing the customer charge by three times the amount of the class's overall increase is gradual. This is particularly striking because in the class revenue allocation section of his

testimony, Dr. Overcast states that limiting the increase to 125% of the overall system average percentage increase is consistent with gradualism. <u>Id.</u>, p. 49 (Bates 000685). How can a 125% limit be considered the right standard for gradualism for class revenue allocations, but 300% of the average increase be the standard for gradualism when it comes to rate design?

Q.

A.

Have you evaluated the effect on customers of the Company's proposed rate changes?

Yes. In Attachment SJR-2, I have plotted actual billing data for 2015 for all year-round customers (separating low-income customers) and all customers who appear to be seasonal (excluding the few who are indicated to be low-income customers). On the left axis of each graph is the annual percentage increase in the annual distribution bill. Along the bottom axis is the percentage of customers. For example, in Figure 1 (year-round, not low-income), if you find 20 on the left axis (an annual 20% increase in the bill for distribution service) and follow it across to the line, you will see that it crosses at 60 on the bottom axis; that is, 60% of customers would see annual increases of 20% or less, meaning that 40% of customers would have increases of more than 20%, even though the class average increase is 15%.

Overall, these graphs illustrate that the impact on customers' annual bills from the Company's proposed rate design is quite dramatic. For year-round (not low-income) customers, the bill impacts range from a 3% decrease to a 46% increase -- impacts that are extraordinary given the overall class increase of 15%. Year-round low-income customers do not receive any meaningful bill reductions (the smallest is a 0.04% annual

decrease), but the largest increase for this group is 47%. Overall, 40% of low-income customers would receive an annual bill increase of more than 20%, with 10% (more than 300 low-income customers) receiving an increase of more than 30% -- twice the classaverage increase.

Finally, under the Company's proposal, some progress is made in better aligning seasonal revenues with costs. The average increase for seasonal customers would be 30% and approximately one-half of seasonal customers would see increases of between 30% and 46% in their total distribution bill.

Q. Do you consider these types of bill impacts to be reasonable?

A.

A.

I do not consider the impacts on year-round customers to be reasonable. It is not reasonable or consistent with established ratemaking procedures to impose increases that are two or three times the class-average increase for thousands of year-round customers.

As I discuss below, I do not take issue with the level of increases proposed by the Company for seasonal customers.

O. In your opinion, what would be an appropriate gradualism standard?

In my opinion, it is reasonable to implement the regulatory principles of gradualism, fairness, and rate continuity by imposing a limit of 125% to 150% of the average increase. That limiter should be applied both to the class allocation of any increase and to each rate element in the rate design. I would add a further limit that no class or rate element should be reduced in the context of an overall increase in revenues. Typically I suggest that lower limit should be roughly proportional to the upper limit. That is, if the

upper limit is 25% to 50% more than the class average increase, then the lower limit should be 25% to 50% less than the class average increase.

Q. How would you apply these limits to this case?

Q.

A.

A.

For the class revenue allocation, I agree with Dr. Overcast that a limit of the increase to any customer class of 125% of the system-average increase is appropriate. For rate design, I would impose a further goal that no rate element for the Domestic class should increase by more than 150% or less than 50% of the Domestic class's average increase in distribution charges. Under the Company's proposed revenue requirement, the Domestic class increase would be 15.1%, so the goal would be to design rates such that no rate for the class would increase by more than 22.7% or less than 7.5%.

Are there any other rate design goals that you consider appropriate for this case?

Yes. The Company has approximately 1,600 Domestic customers who appear to be seasonal; that is, they are customers only (or primarily) during the summer months of June through September. The basic customer cost of serving a seasonal customer is not very different from the basic cost of serving a year-round customer. Every customer needs access to the distribution grid through a service line, a meter, and so on.

According to the Company's billing data base, most seasonal customers use less electricity, even in the summer months, than do year-round customers. I expect this is because most of the customers do not occupy their vacation homes for an entire month at a time; they may make weekend visits or spend a week or two there during a month. It also could be that these homes are just smaller than a typical year-round home, so that they use less electricity for space conditioning and lighting, have fewer appliances, and

so on. Whatever the reason, there is no doubt that seasonal customers use much less electricity than their year-round counterparts. For example, according to the Company's billing database, the average seasonal customer used an average of 281 kWh in a summer month, compared to an average year-round customer whose usage averaged 728 kWh per month in the summer.

I am concerned that seasonal customers do not pay charges that even come close to covering the basic cost of serving those customers. For example, under existing rates, the average Domestic customer provides approximately \$393 per year in revenues.²

Obviously, customers who use more electricity pay more and those who use less pay less. The minimum that any customer pays under present rates is the customer charge of \$10.27 per month, or \$123.24 per year. The customer charge is designed to recover some of the basic costs incurred to bring service to each customer, such as the meter and service line.

From the Company's billing database provided in response to OCA 1-69, I estimate that the Company has 1,661 seasonal customers. From those customers, the average revenues under present rates are just \$88.83 per year. Fully 50% of the seasonal customers provide less than \$80 per year in revenues, or less than two-thirds of the minimum amount paid by year-round customers. Indeed, of those 1,661 customers, only four (less than 0.2% of the seasonal customers) provide revenues that are more than the average level of revenues provided by Domestic customers as a whole.

² Present revenues of $26,615,561 \div 67,696$ customer accounts (based on average number of customers from June through September in the Company's billing database provided in OCA 1-69) = 393.16 per customer per year.

In my opinion, therefore, another goal of the rate design in this case should be to increase the amount of revenues paid by seasonal customers so that they move closer to providing revenues that are at least equivalent to the minimum charge paid by year-round customers. Given the difference between costs and revenues under existing rates, I do not expect to close that gap in one case, but in my opinion progress should be made toward that goal now.

7 Q. Are there any practical problems in attempting to collect increased revenues from seasonal customers?

A.

Yes, there are several practical problems that must be addressed. First, the Company does not have a separate customer class for seasonal customers, so those customers must be served on the same rate schedule as all other Domestic customers. This is also true because there may be properties that started as seasonal but end up being year-round residences (when the owner retires, for example). Finally, at the time a customer applies for service, the Company probably cannot easily distinguish between a permanent customer who moves into the area in May and a customer who asks to have service connected in May, but will then disconnect in September or October. All of this means that, at least for now, seasonal customers and year-round customers will be served under the same rate schedule.

Q. The Company has proposed eliminating the inclining block feature of Domestic rates. Do you agree with that proposal?

21 A. Yes, I do. The Company's Domestic customers do not exhibit strong seasonal usage 22 patterns. In fact, consumption for year-round customers is very similar in the summer months and the winter months. More importantly, very few seasonal customers use more than 250 kWh per month, even in the summer. For example, according to the Company's billing data, 38% of seasonal customers had no usage whatsoever in the second block during the entire summer of 2015. In contrast, only 8% of year-round customers had no usage in the second block during the four summer months.

Q.

The effect of the existing inclining block rate, therefore, is that year-round customers -- including low-income customers -- are subsidizing service to seasonal customers. Given the lack of any other demonstrated system benefits to the inclining block rate design, and the counter-intuitive (and I suspect unintended) subsidy to seasonal customers that the current rate design creates, I agree with the Company's proposal to eliminate the inclining block feature of the Domestic rate design.

Have you developed a rate design for the Domestic class that addresses the concerns you raised?

Yes. One important feature of my rate design is that it has a higher customer charge in the summer months (June through September). The annual effect of this higher customer charge in the summer is offset for year-round customers in the other eight months of the year, but most seasonal customers would not receive that offsetting benefit. In addition, as the Company recommended, I have eliminating the inclining block feature of the rate schedule, so that all kWh will be billed at the same rate. I have set that rate equal to a 5% increase above the existing rate for usage in excess of 250 kWh per month. This eliminates any rate reductions for customers, ensuring that all customers will share to

some extent in the burden of an increased revenue requirement (assuming that the Commission approves an increased revenue requirement).

The specific rates I recommend under the Company's proposed revenue requirement are a summer customer charge of \$15.00 per month (June to September), a customer charge of \$11.97 in the other eight months of the year (October to May), and a consumption charge of 4.099¢ per kWh year-round. Attachment SJR-3 compares my proposed rates to present rates, and also shows the Company's proposal, including a proof of revenues demonstrating that my proposal collects the same amount of revenues (within reasonable rounding parameters) as the Company's proposal.

What is the impact of your rate design proposal on customers' bills for distribution service?

Attachment SJR-4 shows the effect of my rate design compared to the Company's proposal. These are the same figures contained in Attachment SJR-2, but with the addition of a dashed line that shows the annual bill impacts of my proposed rate design.

Simply stated, my rate design proposal eliminates any bill decreases and moderates the effect of the rate change on most customers. Increases of 30% or more that would have been felt by thousands of year-round customers under the Company's proposal are eliminated under my proposal. The bill impacts for seasonal customers under my proposal are very similar to those that Unitil proposed.

Q. What do you recommend?

Q.

A.

- 1 A. I recommend that the Commission adopt my proposed rate design for the Domestic class.
- 2 If the Commission determines that the revenue requirement is lower than the Company's
- 3 requested revenue requirement, then the rates should be scaled back by equal percentages
- 4 to keep the same relationship among rates but collect the lower level of revenues.

Returned Check Fee

- 6 Q. Does Unitil charge a fee for returned checks or electronic payments?
- 7 A. Yes. Under Unitil's tariff, the Company charges a fee that "shall be the greater of \$5 or
- 8 the actual administrative cost of recovery whichever is greater." The Company indicated
- 9 in discovery (response to OCA 1-65, attached as Attachment SJR-5) that it actually
- 10 charges a fee of \$15.00 for a returned item.

5

- 11 Q. Did the Company provide support for a \$15.00 fee?
- 12 A. No. The Company's calculations in Attachment SJR-5 show that even under the
- 13 Company's assumptions, its cost to process a returned electronic payment is \$13.53 and
- its cost to process a returned paper check is \$16.53. In response to OCA 4-3 (attached as
- Attachment SJR-6), however, the Company states that of the 1,680 returns during 2015,
- 1,546 (92%) were electronic payments. Thus, the weighted average cost of processing a
- 17 returned item under the Company's assumptions is \$13.77, as I show on Attachment
- SJR-7. Given those costs, the returned payment fee should be no higher than \$13.75.
- 19 Q. Do you have any concerns with the reasonableness of Unitil's cost analysis?
- 20 A. Yes. I question the reasonableness of assuming that it takes 14 minutes (0.233 of an
- 21 hour) to process each returned payment. I would expect that this process is largely

automated, with an entry being made in the customer billing system and the appropriate correspondence to the customer generated automatically. It is difficult for me to imagine that it takes 14 minutes for this to occur for each returned item. Indeed, under the Company's assumptions, it would have a person dedicated to processing returned payments, and doing nothing else, for about 1.5 hours every work day of the year.³

In discovery, the Company was asked to support this assumption and it was unable to provide any documentary support. Attachment SJR-6, item b.

Do you have reason to question the reasonableness of this assumption?

Q.

A.

Yes. Over the years, I have made similar inquiries of many other utilities and I do not recall a utility suggesting that it takes 14 minutes to process each returned payment. As I mentioned, this process is (or certainly should be) largely automated. I will provide two examples from recent cases for other electric utilities in New England.

I recently completed work on a rate case for United Illuminating Co. in Connecticut. That utility stated that it took an average of 10 minutes to process each returned item. I also questioned the reasonableness of that assumption since the utility did not have documentation to support it. But that estimate (processing six returns per hour) is roughly 50% more efficient -- and appears to be much more reasonable -- than Unitil's assumption of being able to process only four returns per hour.

 $^{^3}$ 1,680 returned payments x 14 minutes per return \div 60 minutes per hour = 392 hours per year, divided by 250 work days per year (50 weeks x 5 days per week) = 1.57 hours per day.

Second, in a recent case for Massachusetts Electric Co., an affiliate of National Grid, the utility showed that it was able to process more than 28,000 returned payments per year at an annual internal cost of less than \$11,000 -- less than 40 cents per transaction. Attached as Attachment SJR-8 is the explanation and documentation of National Grid's process for handling returned payments. National Grid has largely automated this process, so that it was able to reduced its returned payment fee to only \$5.60 per returned item.

8 Q. What do you recommend?

A.

I recommend that Unitil's returned check fee should be calculated using the assumption that it takes 10 minutes to process each returned payment. While I believe that even greater efficiency is possible, this should more closely mirror the reasonable cost of processing a returned item. I show on Attachment SJR-9 that using this assumption will result in a fee of \$11.06, which I would round to \$11.00.

Regardless of the specific fee determined to be reasonable by the Commission (either \$13.75 or \$11.00), I recommend that Unitil's tariff should be revised to state the specific fee that will be charged to a customer for a returned payment.

Enhanced Meter Fee

- Q. Unitil has proposed increases in its Enhanced Metering fees (proposed tariff, First Revised pages 44-46). Did you review those proposed increases?
- 20 A. Yes, I did. In discovery, OCA asked the Company to support the reasonableness of the 21 proposed charges for enhanced metering. Unitil provided supporting workpapers in

response to OCA 1-67, attached as Attachment SJR-10. The critical assumption made by Unitil in those calculations is that if the customer does not pay the full cost up-front, the enhanced metering equipment should be depreciated over a three-year period.

During the technical conference on September 8-9, Unitil was asked to support this assumption and it provided a written response attached as Attachment SJR-11. In that response, the Company states only that it "chose a depreciation rate of 3 years in order to recover the asset quickly since it is an optional service." While I appreciate the Company's honesty, this is not a reasonable assumption. Metering equipment typically has a useful life of between 10 and 20 years. It is not reasonable to ask the customer to depreciate it over three years. This is particularly the case when the tariff does not contain any reduction in the rate if the equipment remains in service longer than three years (as one would expect to be the case). Thus, the Company is likely to greatly over-recover its cost of providing the enhanced equipment.

14 Q. What do you recommend?

I recommend that the charges for enhanced metering equipment should be based on a depreciation period of 10 years. I recommend the Commission adopt the recalculated rates, using all of the Company's other assumptions that I show on Attachment SJR-12.

18 Q. Does this conclude your direct testimony?

19 A. Yes, it does.