STATE OF NEW HAMPSHIRE

BEFORE THE

PUBLIC UTILITIES COMMISSION

Docket No. DE 16-576

DEVELOPMENT OF NEW ALTERNATIVE NET METERING TARIFFS and/or
OTHER REGULATORY MECHANISM and TARIFFS FOR CUSTOMER GENERATORS

PREFILED REBUTTAL TESTIMONY OF

KARL R. RÁBAGO

ON BEHALF OF

NEW HAMPSHIRE SUSTAINABLE ENERGY ASSOCIATION

DECEMBER 16, 2016

I. INTRODUCTION AND OVERVIEW

Q1. Please state your name and business address.

A1. My name is Karl R. Rábago. I am the Executive Director of the Pace Energy and Climate Center at the Pace University School of Law ("Pace"). My business address is 78 North Broadway, White Plains, New York.

Q2. What is Pace?

A2. Pace is a project of the Elisabeth Haub School of Law at Pace University. As a non-partisan legal and policy think tank, Pace develops cost-effective solutions to complex energy and climate challenges and transforms the way society supplies and consumes energy. For more than twenty-five years, Pace has been providing legal, policy, and stakeholder engagement leadership in New York, the Northeast, and other jurisdictions. Located on the campus of the Elisabeth Haub School of Law, Pace engages and leverages a strong legal faculty and student body in its work, particularly through the internationally recognized Environmental Law Program and the Pace Land Use Law Center. Pace has many years of success in working with and supporting the New York State Energy Research and Development Authority ("NYSERDA"), the New York Public Service Commission ("NYPSC"), and the New York Department of Environmental Conservation. Pace's work also includes strategic engagement with state legislative and executive officials, as well as in key NYPSC proceedings. In these capacities, we have had the opportunity to form long-lasting partnerships within the community of non-governmental organizations that work in the field of energy.

Q3. Please summarize your background and experience.

A3. I have some twenty-five years' experience in electric utility regulation, the electricity business, technology development, and markets. I am an attorney with degrees from Texas A&M University and the University of Texas School of Law, and post-doctorate degrees in military and environmental law from the U.S. Army Judge Advocate General's School and Pace School of Law, respectively. Of note, my previous employment experience includes serving as a Commissioner with the Public Utility Commission of Texas, Deputy Assistant Secretary with the U.S. Department of Energy, Vice President with Austin Energy, and Director of Regulatory Affairs with AES Corporation. I am also principal of Rábago Energy LLC, a consulting practice operating in New York. A detailed resume is attached as Exhibit KRR-1.

Q4. What is your experience with rate making related to solar energy generation and other distributed energy resources?

A4. I have had the opportunity to work extensively as a professional in electric and telephone utility rate making in general, and in rate making relating to renewable energy in particular. I have made decisions on the record in hundreds of rate proceedings as a public utility commissioner in Texas. I have participated in utility rate making efforts relating to renewable energy and distributed energy resources as a utility executive, and as a public policy advocate. I have written extensively, delivered scores of presentations on the principles of rate making as applied to distributed energy resources, and testified in several proceedings and on the invitation of regulators, legislators, and other officials. I

created the Value of Solar tariff concept and implemented it as a utility executive in Austin, Texas.[1] I helped write the Minnesota law on value of solar and participated in developing the methodologies for quantifying the value of distributed solar through transparent, public, and data-based analysis in Maine, Minnesota, New York, and Texas; and have formally reviewed and commented on valuation methodologies in many more states. As a utility executive, I have managed and led a successful distributed solar program in Austin, Texas. I have worked closely with solar business leaders in dozens of states and maintain a high level of understanding about the economics and business realities of running a successful distributed solar leasing or sales business. I have worked to educate and support advocates and customers about the benefits and costs of distributed energy resources.

Q5. Have you previously testified before this or any other Commission?

A5. I have not testified before the New Hampshire Public Utilities Commission (the "Commission"). In the past few years, I have submitted or supported testimony, comments, or presentations in commission proceedings in New York, Indiana, Ohio, Iowa, Hawaii, Rhode Island, California, Virginia, Georgia, Minnesota, Michigan, Mississippi, Missouri, Louisiana, North Carolina, Kentucky, Arizona, Florida, Wisconsin, and the District of Columbia. A listing of my recent testimony is attached as Exhibit KRR-2.

[1] A description of the issues and process relating to the development of the VOST can be found in an article published in the ICER Chronicle, at http://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1950&context=lawfaculty

Q6. What is the purpose of your testimony?

A6. I am appearing on behalf of the New Hampshire Sustainable Energy Association ("NHSEA"). The purpose of my testimony is to rebut the proposal by Unitil Systems, Inc. ("Unitil" or "Company") to establish new rate and tariff provisions for customer-generators under Net Energy Metering. I address the testimony of Company witnesses Meissner and Overcast.

Q7. What evidence did you review in preparing this rebuttal testimony?

A7. I reviewed the direct testimony of witnesses Meissner and Overcast, discovery responses and information provided by the witnesses and various other parties, testimony of other parties, and applicable laws of New Hampshire.

Q8. How would you summarize your findings and conclusions regarding the Company's proposal for a new Net Energy Metering ("NEM") customer class and rates?

A8. A review of the Company's proposal demonstrates that the proposal for a three-part NEM rate and a separate NEM rate class are without merit and were not offered with the data or analytical foundation necessary to meet the Company's burden of production or persuasion. In summary, I find that:

- Detailed review of the proposal, supported by extensive discovery, confirms that the proposal is without foundation in analysis based on actual data relating to costs and benefits.

- The Company proposes to create a new rate class and new punitive rates on net metering customers based on flawed and unsubstantiated assumptions about costs. The Company assumes that a net metering customer who invests in self-generation creates costs when that system generates energy because the customer is not generating all the sales and service revenue the Company had hoped to receive from that customer. The Company further assumes, without justification, that a distributed generator creates distribution system costs any time that it operates, regardless of whether the customer uses the energy produced and regardless of coincident peak conditions on the grid in the location where the system is installed.
- The Company then creates a three-part rate design to create a non-bypassable method to collect its hypothetical lost revenues and imaginary costs in a way that appears designed to render distributed generation in New Hampshire uneconomic.

Q9. What action do you recommend that the Commission take regarding the Company's NEM proposals?

A9. The Commission should reject the Company's proposals in their entirety as unsupported in evidence and contrary to the policy of New Hampshire and sound rate making principles. Further, I recommend that the Commission order the Company to begin metering, collecting, and sharing the location- and facility-specific information about both costs and benefits that would be required to guide transparent and fact-based evaluation of the need for changes in the existing net metering model in New Hampshire.

Q10. Does your proposal create a risk that unjust and unreasonable cost-shifting related to the current net metering model will continue and potentially grow in the Company's service territory?

A10. The Company's proposal does not contain adequate facts upon which to base any conclusions regarding cost-shifting resulting from net metering, either toward or away from net metering customers. The results of several transparent, fact-based studies of the costs and benefits of distributed solar generation in New Hampshire and other studies show that it is likely that net metered solar customers are subsidizing the utility grid and non-solar customers.[2] Because unjustified charges on net metering customers could render private distributed generation investments uneconomic, stifle growth of the renewable energy sector and competition in New Hampshire, and unjustly enrich the utility at the expense of clean air and economic growth, I recommend that the Commission devote the next several years to gathering and analyzing hard data about distributed generation and its costs and benefits.

II. THE POLICY CONTEXT

Q11. What legislative obligations guide this proceeding?

A11. Most directly, this proceeding is governed by HB 1116, which provides, in paragraph XVI:

[2] The not-for-profit organization Environment America has published a report that compiles the results of many of these studies. See Environment America Research and Policy Center and Frontier Group, "Shining Rewards: The Value of Rooftop Solar Power for Consumers and Society," (Oct. 18, 2016). Available at: http://www.environmentamerica.org/reports/ame/shining-rewards

[T]he commission shall initiate a proceeding to develop new alternative net metering tariffs, which may include other regulatory mechanisms and tariffs for customer-generators, and determine whether and to what extent such tariffs should be limited in their availability within each electric distribution utility's service territory. In developing such alternative tariffs and any limitations in their availability, the commission shall consider: the costs and benefits of customer-generator facilities; an avoidance of unjust and unreasonable cost shifting; rate effects on all customers; alternative rate structures, including time based tariffs pursuant to paragraph VIII; whether there should be a limitation on the amount of generating capacity eligible for such tariffs; the size of facilities eligible to receive net metering tariffs: timely recovery of lost revenue by the utility using an automatic rate adjustment mechanism; and electric distribution utilities' administrative processes required to implement such tariffs and related regulatory mechanisms. The commission may waive or modify specific size limits and terms and conditions of service for net metering specified in paragraphs I, III, IV, V, and VI that it finds to be just and reasonable in the adoption of alternative tariffs for customer-generators. The commission may approve time and/or size limited pilots of alternative tariffs.[3]

Q12. What is the significance of these requirements listed in HB 1116?

[3] New Hampshire HB 1116, 2016 Session (May 2, 2016).

A12. The Commission has an obligation to consider, inter alia, the costs and benefits, any potentially unjust and unreasonable cost-shifting, and rate impacts that may be associated with tariff alternatives to traditional net metering. This means that the Company has an affirmative burden of both production of evidence and proof that it must meet to ensure that the Commission has competent and probative evidence that shows consideration of costs, benefits, potential cost-shifting, and rate impacts. A failure of such production or proof means that the Commission cannot approve an alternative rate for net metering customers that would comply with the law.

Q13. Does other statutory guidance apply to this proceeding?

A13. Yes. Most notably, the Purpose section of HB 1116 provides that:

> *To meet the objectives of electric industry restructuring pursuant to RSA 374-F, including the overall goal of developing competitive markets and customer choice to reduce costs for all customers, and the purposes of RSA 362-A and RSA 362-F to promote energy independence and local renewable energy resources, the general court finds that it is in the public interest to continue to provide reasonable opportunities for electric customers to invest in and interconnect customer-generator facilities and receive fair compensation for such locally produced power while ensuring costs and benefits are fairly and transparently allocated among all customers. The general court continues to promote a balanced energy policy that supports economic growth and promotes energy diversity, independence, reliability, efficiency, regulatory predictability,*

environmental benefits, a fair allocation of costs and benefits, and a modern and flexible electric grid that provides benefits for all ratepayers.[4]

NHSEA witness Epsen provided extensive comments on the import of this purpose statement in her prefiled direct testimony. I endorse and adopt that testimony. The findings and purposes of the law make it clear that any proposal to amend or modify net metering must address potential impacts on economic growth, energy diversity, independence, reliability, efficiency, regulatory predictability, environmental benefits, a fair allocation of costs and benefits, and a modern and flexible electric grid that provides benefits for all ratepayers.

Q14. Do you find that the Company has met its burdens under the law in its proposals to modify its net metering tariff?

A14. The Company has failed in meeting its burdens under the law.

III. NET METERING OVERVIEW

Q15. What is Net Energy Metering?

A15. Net Energy Metering is a widely-adopted, Congressionally-sanctioned rate design that provides that customer-generators can earn a credit for production from certain kinds of generators, and that this credit can be applied against consumption on the bill.

[4] *Id.*

Q16. Does the testimony of the Company witnesses fairly and accurately describe net metering and the operational, engineering, economic, and financial implications associated with the operation of distributed generation, especially solar generation?

A16. Company witnesses Meissner and Overcast offer opinions that strike me as based on both lack of facts regarding distributed generation and upon a degree of hostility to distributed solar generation. I offer the following testimony to add balance to the record regarding distributed solar generation and would also commend to the Commission the testimony of witnesses Bride, Phelps, Chernick, Beach and Huber who seek to also ensure a full and fair record for the Commission's consideration.

Q17. Are the Company's efforts to render net metered generation much less economic unique?

A17. In my experience, the Company's position and proposals are all too common among utilities with flat sales and worsening load factor. However, these are problems for which net metering is only a very minor contributing factor. I have published an article that analyzes net metering and the most common criticisms of it titled "The Net Metering Riddle." [5] Given the strong public policy preferences regarding competition, choice, and renewable energy, it is important to start any discussion of rates for net metering by understanding that "[a]t the heart of solving the net metering riddle is the realization that the net metering credit is not a tool to avoid actual costs that were incurred. It is a

[5] Karl R. Rábago, "The Net Metering Riddle," ElectricityPolicy.com, April 2016. Attached as Exhibit KRR-3.

mechanism that provides customers an offsetting billing credit for reducing the costs fairly attributed to their use."[6]

Q18. As an initial point, is there any evidence in federal or state law that the word "energy" in the term "Net Energy Metering" was intended to strictly limit credit earned by customer generators to the energy value of generation?

A18. No, any attempt to be overly literal and prescriptive in the use of the term "energy" in Net Energy Metering is excessively simplistic and contrary to law and policy as practiced throughout the United States. Company witness Meissner attempts to imply such, but the concept is without merit or support in law or regulation.[7] The term "energy" in NEM is widely understood to represent the full bundle of avoided costs created by customer generation. This broader approach is consistent with federal and state law and regulation relating to energy production from qualifying facilities, which speak in terms of "the incremental cost to the electric utility of alternative electric energy."[8]

Q19. Is Net Energy Metering a "service" provided by a distribution utility?

A19. Yes. PURPA specifically defines Net Metering, and without the addition of the word "Energy" as an offsetting service.[9]

[6] *Id.* at p. 2.
[7] Company witness Meissner direct testimony at p. 11, lines 13-19.
[8] 16 U.S. Code § 824a–3(b).
[9] 16 U.S. Code § 2621(d) (11) provides that "Each electric utility shall make available upon request net metering service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term "net metering service" means service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility and delivered to the local

Q20. Does NEM involve physical banking or storage of electricity from customer generators?

A20. Electricity is not banked by the utility in the literal sense. The utility does not invest in storage technology to hold customer-generated electricity until a later time. Rather, NEM service is a billing service. Importantly, this means that because the cost of service varies with time, customer generators produce energy that has one total cost and value profile, and consume energy that has a different profile.

Q21. How does NEM service account for the differences in costs?

A21. NEM service uses the full retail rate (only for systems up to 100 kW in size) as the rate for both consumption and generation for simplicity, and in cases where the utility has not deployed the necessary metering and conducted the necessary analysis to assign different rates to consumption and generation.

Q22. Please explain.

A22. Net metering is an artifact of an era when mechanical "spinning" disk meters were the dominant form of metering. Whenever the detent pin preventing reverse spin was removed, these meters could be used to measure the sum of customer consumption and customer generation as the net forward progress of the meter as of the date that the meter

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distribution facilities may be used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period."

was read. In simple arithmetic terms, and not including taxes and other charges, this allowed net metering billing per the formula:

(Gross Consumption minus Gross Production) times Retail Rate = Bill

What is significant about this reality is that the full gross consumption by the net metering customer is charged by the utility, even if the customer's bill is lower due to the credit for production. That is, the traditional analog spinning disc meter registers the full consumption of electricity by the customer. Net metering allows the customer to net their gross production against that consumption on the bill. The NEM customer does not "avoid" charges, she offsets them; there is a big difference. The Company seems to agree that net metering reflects this net billing of consumption and production.[10]

Q23. Is there any reason, consistent with rate making principles to assume that the full retail rate is the appropriate rate for crediting net metered generation?

A23. Yes. Under cost of service principles, which guide traditional utility rate making, the retail rate is intended to reflect the average of the compilation of costs incurred by the utility to acquire (or generate), transmit, distribute, and bill for a unit of energy consumption. Since the customer generator produces a unit of energy at or near the point of consumption that does all the work that the utility-provided energy performs, regulators and policy makers have long been quite confident that the retail rate is a reasonable approximation of the value of energy produced by customer generators.

[10] NHSEA-UES 2-13.

Q24. How does reality differ from the net metering assumption that customer generation is worth the average retail rate?

A24. Electricity service systems have costs that vary with time of day. As more customers use more energy during particular times of the day or in particular locations, costs rise, including capacity costs. A customer generator that produces during periods of higher cost is producing energy of greater value. Under traditional net metering, the customer generator may be making energy during a high-cost period and may receive offset credit for consumption during a low-cost period. In this situation, the customer-generator is subsidizing the electric utility. Of course, the inverse is also true—if the customer generator only produces energy during low-value periods, and disproportionately consumes during periods of higher utility system cost, they would receive a subsidy from the utility. Understanding and calculating the differences between the value of energy generated from distributed generators is an essential first step in moving away from retail net metering.

Q25. Did the Company undertake such analysis to support its proposals to do away with retail net metering in this case?

A25. The Company did not conduct the necessary analysis to support a just and reasonable departure from retail net metering in this case.

Q26. Are there any studies that attempt to account for the actual net value of generation and consumption by NEM customers?

A26. Numerous published studies are now available that confirm that distributed solar resources offer energy, capacity, line loss savings, financial, and security benefits that cumulatively exceed retail rates for electricity and, therefore, these resources should be credited their full avoided costs. These Value of Solar (VOS) studies are establishing a benchmark for full avoided cost evaluation that will inform similar evaluations for other distributed resources. These empirical data make clear that a more robust analysis of solar (or other DG technologies) avoided costs is now required.[11]

Q27. How does data from Value of Solar studies compare to the analysis used by the Company in justifying the proposed three-part NEM rate?

A27. The Company performed no analysis of the costs avoided by distributed generation of any type. The Company proposals are conclusions based on assumptions, and do not support just and reasonable rates.

Q28. When a customer generator produces energy excess to their needs, what happens to that energy?

A28. Two things happen with excess production. First, the excess energy flows into the distribution system where, according to principles of electrical physics, it serves the nearest connected unserved load. In the typical electric distribution system, this means that the excess production either reduces line losses or flows through another customer's electric meter. In both cases, this generates full retail value to the distribution utility. That

[11] See "Shining Rewards," *supra* note 1.

is, but for the excess generation, the utility would have to procure and distribute a unit of energy, which has a cost equal to the full retail rate.

Q29. What is the second thing that happens with excess energy production from a customer generator?

A29. Second, the excess energy earns the NEM customer a credit that can be applied to that customer's bill at another time. In the case of solar energy net metering, the credit for excess generation typically offsets charges associated with consumption at times when the sun is not shining.

Q30. Are there differences in the cost of energy produced at different times during the day, month, or year?

A30. Yes. Periods of high demand for energy typically reflect higher costs; periods of low demand typically have lower costs. In the summer, utilities experience high demand due to customer use of air conditioning, which is a result of sunny weather. As such, with solar generation, excess energy is often exported by solar NEM customers at or near periods of high cost. Such excess energy has higher than average value to the utility even if the excess production occurs before the system's single hour of peak demand. To the extent that a solar system is generating any energy during the peak demand hour, the utility saves on energy and capacity, even if the solar output peak does not exactly match the system peak.

Q31. How does the difference in costs over time impact the costs of net metering?

A31. In the summer, at least, net metered production has higher value and avoids more cost than the energy that the net metering customer consumes during evening hours when the sun is not shining. Simply put, the solar customer is likely to be generating and or exporting high value energy, and consuming lower value energy when the system is not producing. This value/cost differential creates benefits for the utility and all customers, including those who do not have net metered systems, and should be accounted for in the design of any net metering tariff.

Q32. What do these timing and value differences mean in terms of the impact of net generation on utility costs and on other customers?

A32. It means that when excess generation occurs, on average, during periods of higher costs, the net metering customer is subsidizing the utility and other customers.

Q33. Does the net metering crediting mechanism mean that the customer generator is motivated to produce more energy than they consume overall?

A33. No. For the solar customer, the sizing of the system they install is influenced by several factors. These include the cost of the system, the value of tax credits, the investment payback period, the size of the roof, and others. Customers are unlikely to install extremely large solar systems solely for the value of excess production credits that she does not need. Moreover, under federal tax law, excessive production beyond certain

levels can impact tax treatment of investments, reducing or negating tax benefits.[12] Finally, since excess production credits at the end of the year are compensated at a rate lower than the retail rate, customers have an incentive not to size their systems to generate more than they would consume.[13]

Q34. Does customer generation create integration, billing, and other costs?

A34. Yes. Integration, billing, and other costs should be counted in estimating the costs imposed on the utility by net metering. Many integration costs are one-time costs paid by the net metering customer, and create no adverse impacts on the utility or other customers. According to the Company, system upgrade costs for all net metered systems have totaled just a little more than $33,000.[14] Averaged across all 4,403 kW of net metered solar in New Hampshire,[15] this amounts to $7.54 per kW. Since these are one-time costs, when averaged across a 25-year operating life and assuming a 12% capacity factor, the impact of integration costs is about $0.0003/kWh, paid entirely by solar

[12] Under Section 25D of the Internal Revenue Code ("Code"), an individual is eligible to receive a personal tax credit equal to "30 percent of qualified solar electric property expenditures made by the taxpayer during such year." (I.R.C. § 25D(a)(1) (2012), 26 U.S.C. §25D (2013)) The Code defines a qualified solar electric property expenditure as "an expenditure for property which uses solar energy to generate electricity for use in a dwelling unit located in the United States and used as a residence by the taxpayer." (I.R.C. § 25D(d)(2)) The § 25D credit is subject to the "80-20 Rule" where the credit is only applied to the entire expenditure if "at least 80 percent of the use of a component or item of property is for personal residential purposes . . . ." (26 C.F.R. § 1.23-3(g) (2014)) If less than 80 percent of the use of the component is for non-business use, then the credit is only applicable to that proportion of the use allocable to personal residential use. (*Id.)*

[13] RSA § 362-A:9, XIV(c)

[14] NHSEA-UES 1-3, Att. 1 (updated).

[15] NHSEA-UES 1-7, Att. 1.

customers. The Company asserts that these upgrades provide no value to non-solar customers served by the Company.[16]

Q35. Are billing costs large for net metering customers?

A35. Billing costs associated with modifying billing systems may initially be large, after which the incremental costs of billing would be very low.

Q36. What about costs associated with the fact that solar generation is intermittent?

A36. There is no data in the record of any costs associated with solar generation (or other renewable energy generation) intermittence. High penetration of intermittent generation in the grid could give rise to costs for ancillary services and other support. But there is no data suggesting that any of these costs are being imposed under current and foreseeable penetrations of solar (or other forms of) distributed generation.

IV. COMPANY ANALYSIS OF SOLAR GENERATION

Q37. HB 1116 requires evidence of costs and benefits of customer generation to sustain any proposal for an alternative to traditional net metering. Did the Company offer evidence that it assessed the benefits of distributed generation in this proceeding?

A37. The Company offers only confusing and incomplete evidence of its consideration of costs, and virtually no evidence of benefits analysis. Company witness Meissner asserts that only costs are appropriately considered under cost-of-service ratemaking.[17] The

[16] NHSEA 1-14.
[17] Company witness Meissner direct testimony at p. 12, lines 12-18.

Company did find an average 7.7% reduction in demand for 37 net metered customers.[18] The Company also asserts, without quantification, measurement, or data, that net metering customers "use more distribution services than customers using the grid for consumption only,"[19] even though the Company has not quantified these costs.[20] The Company further asserts that it is not possible to conclude that this 7.7% reduction in average demand for this set of customers is a reduction.[21]

Q38. What did the company do to assess the costs, if not the benefits, of distributed solar?

A38. The Company did nothing to assess and quantify the benefits of distributed solar systems.[22] In terms of costs, the Company did not actually analyze or measure many of the costs it asserts are created by distributed solar generation. NHSEA submitted information requests to establish exactly what kind of analysis the Company performed in support of its rate proposals. These discovery requests reveal the following:

- NHSEA-UES 1-4: The Company did not address the non-distribution system cost-saving benefits of distributed solar.[23]
- NHSEA-UES 1-5: The Company has no intention of performing any analysis of the costs or benefits of net metered generation outside of its distribution system.

[18] NHSEA-UES 1-7 Revised, NHSEA-UES 1-7 Att. 2.
[19] Company witness Meissner direct testimony at p. 7, lines 20-22.
[20] NHSEA-UES 1-9.
[21] NHSEA-UES 1-14. See also L. Carroll, "Through the Looking Glass, and What Alice Found There," ch. 4, ""Contrariwise," continued Tweedledee, "if it was so, it might be; and if it were so, it would be; but as it isn't, it ain't. That's logic.""
[22] *Id.* See also NH-UES 1-6, where Company witness Overcast makes a number of assertions relating to the value of demand reductions, all without any measured data.
[23] See NHSEA UES 1-4, "As stated repeatedly in the testimony, the Company's proposal is limited to its distribution cost of service, and to the distribution services it provides to customers. The Company has not analyzed other components presented on the UES bill."

- NHSEA 1-15 Att. 1: The Company appears to believe that all distributed generation results in "displaced revenue," which it considers a cost without associated benefits.
- NHSEA-UES 1-1: The Company finds that net metered generation avoids RPS compliance costs of about $0.004/kWh. The Company incorrectly asserts that this benefit accrues solely to net metering customers, ignoring the fact that excess net metered generation does decrease RPS compliance costs for non-NEM customers. The Company conducted no assessment of demand reduction related price effects related to reduced RPS purchase obligations, if any.
- NHSEA-UES 1-8 and NHSEA-UES 1-1: The Company "believes" that net metering customers should be assigned to a different sub-class to better reflect their load characteristics,[24] even though the Company reports that it "does not maintain data on customer owned net metered production."[25]
- NHSEA-UES 1-11: In response to a request for specific data to support the Company's assertion in testimony that "new technologies and investments will be needed to accommodate growth of this new class of [net metered] customers,"[26] the Company provided no data to support this assertion, stating only that there is a *possibility* of additional costs.[27] The Company confirms that it is experiencing none of the conditions that might create such costs in New Hampshire.[28]

[24] NHSEA-UES 1-8.
[25] NHSEA-UES 1-1.
[26] Company witness Meissner direct testimony at p. 8, lines 6-9.
[27] Citing to Company witness Meissner direct testimony at p. 10, lines 1-19; p. 43, fn. 11.
[28] See Company response to NHSEA-UES 1-15(l).

- NHSEA-UES 1-19: The Company asserts or refuses to try to quantify any benefits caused by distributed generation related to avoided environmental, "external," or societal costs.[29]
- NHSEA-UES 1-22: The Company has not conducted any analysis of distributed generation benefits associated with energy market impacts, or with system-wide transmission costs. The Company also asserts that distributed generation cannot avoid or defer distribution system upgrades.
- NHSEA-UES 1-23: The Company asserts but offers no evidence to support its contention that "most" net metered systems provide no capacity value.
- NHSEA-UES 1-29, 1-30: The Company cites production at one solar installation on two days in 2016 for the proposition that the solar peak is not exactly coincident with the system peak on those days.[30] However, the Company ignores system pre-cooling benefits from solar or any benefits associated with the ability of very high penetrations of distributed solar to shift the system peak to periods of lower prices. The Company also provided data showing that there is great variability in the time that system peaks occur, but chose to ignore this fact in its analysis.[31]
- NHSEA-UES 1-24, 1-25: The Company asserts that distributed solar generation has absolutely no capacity value in the context of distribution planning, and that distributed generation cannot provide benefits as a non-wires alternative to distribution system investments.

[29] See also Company witness Meissner direct testimony at p. 23, line 8 through p. 24, line 3.
[30] Company witness Meissner direct testimony at p. 32-34, and Figure 3.
[31] See OCA 1-3 Attachment 1.

- NHSEA-UES 1-28: The Company did not analyze the possibility that distributed generation can provide benefits in the form of reduced frequency or duration of interruptions for customers or the distribution system, under the apparent assumption that distributed solar can never operate in an intentionally islanded mode. The Company did not analyze whether distributed solar generation adds or subtracts from the likelihood of system interruptions by providing operational support at the distribution edge of the system.
- NHSEA-UES 1-33: The Company reveals that it has substations that have peak demand at over very near times of peak solar output, even though the testimony of Company witness Meissner was limited to a substation with a peaking profile much less likely to be benefitted by solar generation.[32]
- NHSEA-UES 1-34: The Company provides no data to support its assertion that solar generation increases distribution system costs relating to system wear and tear.
- NHSEA-UES 1-35: The Company takes the position that it should not be required to measure the value of distributed generation in reducing, avoiding, or deferring distribution investments because the distribution system is required to support the integration of distributed generation. The Company position is like saying that the cost of road maintenance is not impacted by commuters driving smaller, lighter cars because those cars must use the road.

[32] Company witness Meissner direct testimony at p. 35, line 3 through p. 36, line 17.

- NHSEA-UES 1-36: The Company provides no evidence to support assertions in direct testimony[33] that there are costs associated with higher penetration levels of distributed generation.
- NHSEA-UES 1-52: The Company has performed no analysis of the carrying or "hosting" capacity of distribution circuits to accommodate distributed generation interconnection without additional equipment costs.
- NHSEA-UES 1-53: The Company has not collected interval metering data from net metering systems, so it does not understand the actual generation performance or consumption profile of net metering customers.
- NHSEA-UES 2-8: The Company's only offering regarding distributed generation integration costs is that at some penetration level, mitigation costs will be incurred. The Company provides no data.

V. FLAWS UNDERPINNING THE COMPANY'S PROPOSALS

Q39. Company witness Overcast provided additional arguments to support the proposed new net metering rates. What does Company witness' Overcast's testimony reveal regarding the reasonableness of the proposed net metering rates?

A39. Company witness Overcast offers a deeply flawed set of arguments and assertions to support the unjust and unreasonable net metering rates proposed by the Company.

[33] Company witness Meissner direct testimony at p. 10, lines 1-19; p. 43, fn. 11.

Q40. Witness Overcast proposes a separate class for solar customers. Do you agree with the proposal?

A40. No. The basis for the proposal to create a class of solar customers is the flawed and unsupported assertion that distributed solar generation creates system load exactly like consumption does.[34] The proposal would also be entirely unworkable for group net metering arrangements, and therefore would be directly against the purposes of both HB 1116 and the original intent of RSA 362-A. There is no evidence in the record or the technical literature to support the notion that self-consumed or exported generation creates any incremental demand on the distribution system that gives rise to costs. Witness Overcast builds his entire argument on this flawed and unsupported assumption about distributed generation, and proposes that the new net metering rate simply add the value of distributed generation to the net metering customer's bill as an energy or kW-denominated charge.[35] This argument stands in contrast to the statement from Company witness Meissner through discovery that "UES has not conducted an extensive analysis to be able to determine whether the cyclical delivery and drawing of energy to and from the utility will result in added costs or added revenues. The Company's concern with current NEM policy is not the disposition of excess energy generated by customer-generators. It is the avoidance of delivery charges by the net metered customer."[36]

Q41. Please explain.

[34] Company witness Overcast at p. 13-16; p. 17, lines 7-8; NHSEA-UES 1-40; Staff 1-20.
[35] Company witness Overcast direct testimony at p. 26, lines 16-19.
[36] NHSEA-UES 2-9.

A41. The following errors flow from witness Overcast's unsupported position that distributed generation creates costs that justify a separate rate class for net metering customers:

- Witness Overcast asserts that New Hampshire state policy should be to limit the size of net metering facilities to no more than customer load.[37] This proposed approach reduces the contribution that excess net metered production can make to the entire system; limits net metered system size to render customer investments less economic, and maybe uneconomic; and, thus, appears designed solely to protect monopoly rents.
- Witness Overcast states that "cost of service ratemaking does not attempt to account for any of the benefits provided by customers."[38] This position flies in the face of logic, ignoring the price signal effect of rates on future costs and the clear language of HB 1116.
- Witness Overcast states, without substantiation, that distributed generation creates costs related to spinning reserves, ancillary services, monitoring and control, bi-directional power flow,[39] power factor adjustments, and voltage regulation that all constitute additional subsidies to distributed generation.[40] The witness offers no study or metering data to confirm or quantify this assertion. Witness Overcast sees all these as additional subsidies because, in his view, distributed generation creates costs when operating and creates no additional benefits.[41]

[37] Company witness Overcast direct testimony at p. 12, lines 2-4.
[38] NHSEA-UES 1-42.
[39] The Company reports that it has no plans to do anything about reverse power flow. NHSEA-UES 2-10(c).
[40] Company witness Overcast direct testimony at p. 13, line 15 through p. 14, line 2.
[41] NHSEA-UES 1-43.

- Witness Overcast offers no analysis of the demand profile of net metering customers because "[t]here is no reason to assume a DG customer's consumption profile will differ after the installation of DG than prior to the installation since the customer NCP is determined by the end-use applications that do not change with DG." This assertion is directly contradicted by the evidence supplied by the Company that customer demand appears to decrease on average 7.7% after installation of a net metered system.

Q42. Have your reviewed the Company's proposal for a three-part rate for net metering customers?

A42. Yes. The Company's three-part rate proposal, advanced by Company witness Overcast, would include a customer charge applied on a per-customer basis, a volumetric charge applied on a per-kWh basis, and a demand charge based on a per-kW basis.

Q43. Do you agree with the Company that the proposed three-part rate is "consistent with current views on best practices."

A43. Witness Overcast fails to support his assertion regarding best practices. He cites three studies and no evidence of widespread adoption of the three-part rate design for net metering customers. The lack of evidence of the widespread adoption of three-part rates for residential and small commercial net metering customers directly contradicts witness Overcast's assertion. As for the cited studies, none expressly supports the Company's

proposed approach. Devoid of fact or context specifics, the cited studies only support the idea that improvements in rate design are possible.

Q44. Witness Overcast argues that the three-part rate design will provide "efficient" price signals to net metering customers. Do you agree?

A44. Witness Overcast's argument that the three-part rate design provides efficient price signals, like his arguments about cost-creation by distributed generators, is based on flawed and unsubstantiated assertions. First and foremost, I disagree with the witness' use of the term "efficient prices signals." The appropriate standard for reviewing price signals is their *effectiveness* in driving behavior by producers and consumers that enhances *economic efficiency*. The test must be whether the proposed rates can reasonably be expected to result in performance that maximizes the production of energy with the highest net societal value and minimizes consumption of energy that has the highest net societal cost, all as consistent with state policy. Prices that customers cannot effectively respond to, like high customer charges, help guarantee and stabilize utility revenue generation in the short run, but this is not the same as economic efficiency, no matter how effective the rate is in generating revenues from captive customers. Economic efficiency is not necessarily advanced by the most efficient means to make revenues flow to utilities for embedded costs.

Q45. Why does the Company focus so much on its cost structure in describing efficient price signals?

A45. Witness Overcast observes that utility costs are generally driven by customer count, energy use, and demand. As I will address later, with volumetric sales for the utility flat, the "salad days" of the utility business have ended. As a simple matter of arithmetic, declining sales increases the relative fraction of demand-related costs. And the traditional monopoly utility business has always been driven by high capital costs. Indeed, this is why public policy advances competition, choice, alternative generation, energy efficiency, and other courses that monopolies seeking to preserve and grow rents have typically resisted. As a descriptive matter, I agree with witness Overcast as to the observed conditions, but I sharply disagree as to the appropriate remedy.

Q46. Why does the proposed three-part rate for small net metering customers fail to provide an effective price signal?

A46. It is a major flaw of economics to assert that economic efficiency is advanced simply by designing rate structure to mimic the utility's cost structure. Witness Overcast implies that this is why the Company's proposed rate design provides "efficient price signals."[42] While it is true that electric utilities are high fixed cost enterprises, so are many other industries—like the hotel, airline, railroad, and even coffee shops. Market efficiency and competitiveness, objectives of economic regulation of the electric sector in general, and in New Hampshire by law. The esteemed Bonbright correctly pointed out that, among other factors, rates should be designed to recover cost of service—rates should "reflect" costs. In my 25 years in the utility regulatory field, I have never found a single economic

[42] Company witness Overcast direct testimony at p. 23, line 16 through p. 24, line 14.

treatise, article, or other source that holds that economic efficiency is advanced by designing rate structures to mimic provider cost structures.

Q47. Why would matching rate design to cost structure not necessarily be effective in advancing economic efficiency?

A47. Consider the example of demand related costs for a typical customer class. Under the approach advocated by witness Overcast and the utility trade association article he cited as best practice, the "matching principle" that seeks to match rate design with utility cost structure would argue for greatly increased fixed customer charges for small customers. If applied to all customers, this rate design would certainly secure the flow of revenues to the utility compared with volumetric recovery of demand-related costs, but would impose extreme burdens on low-use customers who are typically low-income and fixed-income customers—often the poor, the elderly, and students. High fixed charges to recover demand-related costs reward excessive use of energy and reduce the economic value and incentive for efficient use, and for distributed generation. High fixed charges would be expected to increase sales. Finally, and most importantly, high fixed charges to recover demand related costs *would* send one effective price signal—a signal to the utility that they can overbuild the distribution system and increase rates to recover those costs, and that customers cannot avoid those costs by any action on their part. This example demonstrates that a rate design that "matches" utility costs for the class does not necessarily advance economic efficiency. The obligation to ensure just and reasonable rates is not served by a simplistic matching principle relating to rate design.

Q48. How does witness Overcast apply his matching theory to the Company proposals for net metering rates?

A48. Witness Overcast starts by assuming that all distributed solar customers create a non-coincident peak when their solar systems are generating at their highest level of output. There is, of course, no evidence that the generation from solar facilities drives incremental demand related costs. As witness Overcast and Meissner repeatedly assert in their testimony, the peak output of solar generation does not always exactly match the system coincident peak demand. The utility builds its system to meet coincident peak demand. The coincident peak demand is not the sum of class non-coincident peak demands. Rather, coincident peak demand is the highest peak that the system experiences as a whole. Non-coincident peaks are the peak demand of customer classes, and may occur at quite different times from the coincident peak. It would be economically inefficient to build the system to serve the cumulative total of non-coincident peaks because non-coincident peaks are not at 100% of their costs at the time of coincident peak demand.

Q49. Should rates be designed to charge customers for 100% of the cost of their non-coincident peak, as proposed by the Company?

A49. A pure non-coincident peak allocator for demand related costs is neither fair nor efficient. There are several reasons. First, few costs are 100% allocable to the non-coincident peak. The last transformer on the distribution system serving the customer may be the only and

best example of a demand-related cost that is extremely well-correlated with non-coincident peak. For other distribution system costs, a non-coincident peak allocator is likely to result in over-collection of costs by the utility, because the measured demand at the time of the non-coincident peak does not contribute to incremental utility system costs. In fact, a customer with a non-coincident peak that is significantly different from the coincident peak may improve system load factor by using underutilized infrastructure during lower load times, and spread fixed costs over more kilowatt hours. The error in the Company's approach of charging customer generators as if their generation created costs is only compounded by using a non-coincident peak allocation scheme.

Q50. Witness Overcast also proposes that the rate should be designed around a 15 minute increment and ultimately be designed with a 100% ratchet. Witness Overcast states that customers with solar energy systems can and will "respond" to the more complex price signals inherent in the proposed rates. Do you agree?

A50. No. First, solar is not dispatchable, without the complement of storage. Second, the Company proposal is to impose demand charges for generation from distributed solar systems, and makes no evaluation of the benefits of that generation. Third, it appears the rate would assess charges based on the highest production in the previous billing period, meaning that the customer would not know when the peak occurred until after it is too late to do anything. Finally, the ratchet proposal would give distributed generation no credit or benefit for reducing demand during the ratchet period. In combination, the Company's rate design appears designed to be punitive and to make distributed

generation uneconomic for customers, bears little relationship to advancing economic efficiency, and will frustrate the policy objectives of the law.

Q51. Do you agree with the Company proposal to charge net metering customers for so-called non-bypassable charges on "displaced revenue?"

A51. As previously discussed, the Company concept of "displaced revenues" is fiction. It calculates the difference between the revenue the Company wants to generate from a customer and the generation that an estimator model indicates. Hypothetical consumption and hypothetical production are not an adequate foundation for rate making. If the desired revenue is higher than the collected revenue, the Company wants to establish a rate for distributed generation that makes them pay the difference. No costs generated by consumption should be charged when a customer does not consume, regardless of how the customer reduces their energy use. Seeking to impose such charges on distributed generation is unjustly discriminatory and violates the spirit of state and federal law. At its core, the idea of charging customers for "displaced revenue" is ultimate manifestation of an effort to extract monopoly rents today unfairly aimed at one subclass of customers who have made significant private investments in order to bring clean, competitive renewable energy to the New Hampshire grid. There is nothing in the charge for displaced revenues concept that would prevent the Company from charging customers for installing what the Company views as "too much" energy efficiency or demand management. Under the Company definition, any deviation from the average class member's monthly charges would constitute a cost.

Q52. What price signals do "displaced revenue" charges send to the Company?

A52. The proposed charge based on displaced revenue as proposed works just like an increased non-bypassable customer charge in terms of the price signal it sends to the Company. Distributed generation reduces dependence on and utilization of certain fixed investments. The benefits of these savings can be captured in the kind of benefit cost analysis that the Company refused to perform. To allow the Company to impose a charge for so-called displaced revenue, even if the revenue is displaced by private investment in distributed generation, will force those customers to pay the Company for what could be overbuilt capacity built as a result of poor attention to customer behavior and inadequate forecasting. As discussed later, the Company does have a big picture revenue problem—sales are flat and the Company has let demand get very peaky. A charge levied on distributed generation based on displaced revenues will serve the Company's interests at the margin, but will encourage more uneconomic investment and ultimately delay and frustrate progress on addressing the fundamental systemic problems associated with the Company's through-put based electricity business model. The displaced revenue concept as a basis for calculating and imposing rates targeted on customer generators simply substitutes a "non-use" tax for earned revenues, and keeps the Company from focusing on engaging with distributed energy resource users in an effort to reduce costs for all customers. Company witnesses Meissner and Overcast commit to economic myopia in their proposals, arguing both that changes in consumption can never impact future costs, and that only purely variable energy costs are avoidable. Neither contention has merit.

Q53. Do you agree with the Company application of its cost of service data to the rates for net metered generation?

A53. Witness Overcast bases his specific rate proposals on what he calls a cost of service study. Neither the Company nor witness Overcast conducted a cost of service study for net metered customers. That is, from the information provided by the Company, it appears that they did not: (1) select a statistically valid sample of net metering customers, (2) monitor the consumption and production patterns of those customers over a meaningful time period, and then (3) develop and apply a transparent and defensible methodology for discerning the total costs, net of benefits, of providing whatever service is required by these customers. The Company gathered no interval consumption or production data, developed no locational marginal distribution system capacity cost estimates, and did not evaluate before and after usage patterns for a statistically valid sample of distributed generators.

Q54. What did witness Overcast do to assess the costs to serve net metering customers?

A54. Witness Overcast started with the Company assumptions that net metering displaces revenue and that distributed generation creates demand-related costs, and then plugged them into existing cost of service studies that did not focus on distributed generation net metered customers at all. Then the witness used the resulting numbers to label, allocate, and design recovery rates for these assumed costs. The Company has no detailed information on actual costs against which it can validate its hypothetical costs. Therefore,

what the Company offers as a cost of service study foundation for its rates does not provide an adequate foundation for setting just and reasonable rates. For these reasons, I did not review the actual figures in the so-called cost of service studies. They are simply calculations based on flawed assumptions; they are by definition also flawed.

VI. CONCLUSIONS

Q55. Taking all these points into consideration, has the Company conducted a thorough analysis of the costs and benefits of distributed generation?

A55. The Company's analysis of costs and benefits for distributed generation is entirely and intentionally inadequate. The Company simply assumed that all distributed generation creates distribution cost as if it were consumption, and even if that production occurs at a time remote from the system peak, when net metering exports may make use of underused distribution system capacity. The Company intentionally ignores any analysis of the benefits of customer generation to the system.

Q56. What are the implications of the Company's failure to fully and fairly assess costs and benefits of distributed generation?

A56. In the absence of any data showing that distributed generation creates actual costs, it becomes clear that the Company's position is that the only cost associated with distributed generation that it has measured is the loss of revenue that the Company might otherwise have collected from the net metering customer. The Company appears to believe that a customer's failure to use as much Company-supplied energy as the

Company would wish creates an actual cost. There is no cost-based precedent for charging customers for not using electric services; it is not justified here.

Q57. The Company concludes that the current model of net metering is unsustainable.[43] Do you agree?

A57. The current model of net metering has been use in many other jurisdictions with much higher solar market penetration and without causing an unsustainable collapse of the distribution system. The Company's "slippery slope" argument about cost shifting is therefore completely without merit based on practical real-world experience.

Q58. Why is the Company's cost-shifting argument without merit?

A58. The foremost of several errors in the Company's contention that net metered generation causes cost-shifting is the fact that, as previously explained, net metered customers are fully charged for their gross consumption at retail, cost-based rates. Net metering provides an offsetting credit for generation and other volumetric charges, but does not enable the customer generator to avoid charges for gross consumption. Most importantly, there can be no finding of cost-shifting in the absence of a full evaluation of costs and benefits that result from net metered distributed generation. Having failed and even refused to conduct such an evaluation, and having offered only a hypothetical set of numbers based on unreasonable assumptions, the Company cannot substantiate any claim of cost-shifting or its net metering rate proposals.

[43] Company witness Meissner direct testimony at p. 44, lines 13-22.

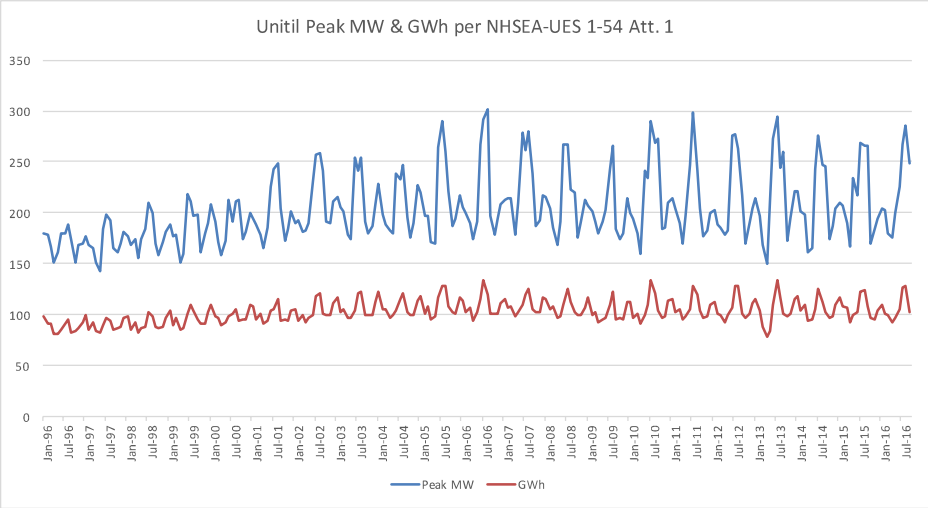
Q59. What about the fixed costs that are not fully recovered, all other things being equal, when the net metering customer earns an offset credit against their consumption charges?

A59. Unrecoverable excess fixed charges are not caused by distributed generation customers under net metering. These costs are caused by forecasting errors and resultant overbuilding of distribution systems. Policy makers, customers, and solar businesses have been making the case, for decades, that distributed generation offsets infrastructure costs over time. The Company chooses to ignore that evidence and should bear the consequences of those mistakes. Otherwise, the utility will never have any incentive to correctly forecast and value DER contributions to avoided costs. The Company's proposed net metering rates would punish customers who make private investments to reduce their exposure to high distribution charges that also provide significant value to the grid, non-solar customers, and society. The Company's proposals to change net metering should be viewed for what they are—an effort to immunize the utility from distribution system overbuilding and to recruit the Commission as an accomplice in extracting monopoly rents from customers seeking to advance competition and renewable energy generation in the state of New Hampshire.

VII. THE BROADER CONTEXT ON THE COMPANY PROPOSAL

Q60. Are there additional issues that the Commission should consider in evaluating the Company's net metering proposal?

A60. The Company witnesses' unsubstantiated antipathy toward distributed generation and net metering suggests deeper concerns on the part of the Company. That is, the small penetration of distributed solar in the Company's service territory does not support a new customer class and rate design. Data provided by the Company reveals the longer-term picture and deepening cause for concern over the past decade. As Figure 1 below demonstrates, the Company's energy sales have been basically flat and even slightly declining over the past 10 years. Moreover, system peaks have dramatically increased, and the Company has not effectively managed its load to prevent a situation of worsening load factor.



Q61. What are the consequences of these long-term trends?

A61. The Company faces rising demand costs as a fraction of total costs and fewer sales of kWh over which to recover those costs. This is a major concern for a distribution company that only passes through, without rate of return, capital intensive generation and transmission costs. Distributed solar generation, at fewer than 100 MW statewide, has

hardly driven this condition. However, it does explain the Company's antipathy, reflected in the testimony of witnesses Meissner and Overcast, toward customer generation that reduces sales.

Q62. Is it reasonable to try to limit distributed generation growth as a mechanism for addressing the Company's chronic problems of declining sales and worsening load factor?

A62. Only in the very short term, it might be reasonable for the Company to attack anything that tends to reduce sales. In the mid- and longer-term, the Company should embrace distributed generation for its resource value and as a way of reducing high demand related costs. At the very least, the Company should undertake a detailed analysis of potential value to be derived from distributed generation over the mid- and long-term. The Company should explore incentives for distributed generation coupled with storage, demand response, appliance control, and other distributed resource options. The Company should recalibrate its excessive concentration on short-term energy sales issues and redirect its efforts toward the long term interests of customers and shareholders. The Company should focus on improving system load factor—not through obsessive focus on the small distributed generation sector, but on larger issues of customer demand.

Q63. How has the Company's inattention to grid and demand management issues manifested in this proceeding?

A63. Company witness Meissner states that one goal of this proceeding is to make net metering customers pay for distribution costs that it asserts, without evidence, that distributed generation customers avoid paying under traditional net metering. The Company indicates that "significant upgrades" are required to modernize the grid.[44]

Q64. Is the Company unique among electric distribution utilities regarding the challenges that the data reveals and that you describe?

A64. The Company is not alone. As Warren Buffet recently commented in a letter to Berkshire Hathaway investors, "[h]istorically, the survival of a local electric company did not depend on its efficiency. In fact, a 'sloppy' operation could do just fine financially."[45] In my experience, many electric utilities are experiencing similar challenges to improve overall system efficiency, and many are regrettably responding with similar attacks on distributed generation.

Q65. What are the implications for meeting New Hampshire's energy policy objectives resulting from the Company's net metering rate proposals?

A65. The Company's proposal would severely constrain renewable energy growth in the State of New Hampshire, and as I have described, is unsupported by the evidence necessary to support a Commission decision that would be just and reasonable. The Company's decision to proceed to proposal without a full and fair evaluation of actual costs and benefits denies the Commission the ability to meet the obligations of HB 1116 as

[44] Company witness Meissner direct testimony at p. 22, lines 1-2. See also NHSEA-UES 1-18.
[45] Warren Buffet, Chairman's Letter, Berkshire Hathaway 2015 Annual Report, available at: http://www.berkshirehathaway.com/2015ar/2015ar.pdf

established by the General Court. The Company proposal, based as it is on this lack of evidence, is frivolous. This proceeding has already consumed the time and effort of many parties because of the importance of distributed generation to New Hampshire and under the law. Approval of the Company's proposals would not only be inconsistent with the law, and result in unjust rates, but would also violate principles of economy of administrative process.

VIII. RECOMMENDATIONS

Q66. Based on your review of the Company's proposal and other information in this proceeding, what are your recommendations to the Commission?

A66. Based on the foregoing, I recommend that the Commission:

- Deny the Company's proposal for a new net metering rate class;
- Deny the Company's proposal to establish a 3-part rate for net metering service;
- Direct the Company to work with stakeholders over the next two years to meter, analyze, and report a comprehensive set of real-world data relating to the costs and benefits of net metering service and generation, according to a list of specific metrics and milestones;
- Monitor the progress of the Company on its data collection efforts and from time-to-time, convene a public session for reporting and feedback on the data.

Q67. Does this conclude your testimony?

A67. Yes.