

STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION

7 APR '17 AM 8:05

March 30, 2017 - 2:11 p.m.  
Concord, New Hampshire

DAY 4

RE: DE 16-576  
ELECTRIC DISTRIBUTION UTILITIES:  
Development of New Alternative Net  
Metering Tariffs and/or Other  
Regulatory Mechanisms and Tariffs  
for Customer-Generators.  
*(Hearing to receive public comment  
and oral closing statements from  
certain intervenors)*

**PRESENT:** Chairman Martin P. Honigberg, Presiding  
Commissioner Robert R. Scott  
Commissioner Kathryn M. Bailey

Sandy Deno, Clerk

**APPEARANCES:** *(No appearances taken - refer  
to the daily sign-in sheets for  
this date of the proceedings)*

Court Reporter: Steven E. Patnaude, LCR No. 52

**CERTIFIED  
ORIGINAL TRANSCRIPT**

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**P R O C E E D I N G**

CHAIRMAN HONIGBERG: All right.

We're here for a few important items to wrap up the public part of this docket. We are going to be taking public comment, and I have a sign-up sheet with some names on it already. We're going to have the people who are parties to the docket who wanted to give oral closings the opportunity to do that.

And I know I have one housekeeping item, in the nature of "all decisions are final until changed", related to how we're dealing with the affidavits for the testimony for people who did not appear or whose testimony didn't come in any other way.

I've been advised by the Legal Department of the Public Utilities Commission and the Clerk's office that the better, cleaner way to deal with those affidavits is to have them marked as exhibits in this docket. So, that's what we'll do when they come in, and we'll reserve the appropriate numbers, which I'm hoping, as we sit here right now, we'll be able to figure out how many numbers that is.

1 I don't know if there's any other  
2 housekeeping items. Are there, Mr. Wiesner?

3 MR. WIESNER: I'll just note, we had  
4 numbered reserves for the affidavits of  
5 Dr. Overcast and Mr. Johnson of Eversource. I  
6 believe that's 68 and 69.

7 CHAIRMAN HONIGBERG: That is correct.

8 MR. WIESNER: And, then, we ended  
9 yesterday, if memory serves, at 98.

10 CHAIRMAN HONIGBERG: Your memory is  
11 good on that.

12 MR. WIESNER: And we have affidavits  
13 we expect to come in from Lon Huber, Elizabeth  
14 Doherty, James Bride, Richard Norman, and I  
15 believe that's it.

16 CHAIRMAN HONIGBERG: That right?  
17 Anybody -- was there anybody else?

18 *[No verbal response.]*

19 CHAIRMAN HONIGBERG: All right. So  
20 that's four. That's 99, 100, 101, and 102. Do  
21 we need to assign those numbers to those  
22 individuals?

23 MR. WIESNER: In that order, would  
24 that --

1 CHAIRMAN HONIGBERG: Okay. So, give  
2 me the order again.

3 MR. WIESNER: So, "99" would be Lon  
4 Huber; "100" would be Elizabeth Doherty; "101",  
5 James Bride; and "102", Richard Norman.

6 CHAIRMAN HONIGBERG: Okay.

7 **(Exhibits 99, 100, 101, and 102**  
8 **were reserved)**

9 CHAIRMAN HONIGBERG: Mr. Emerson?

10 MR. EMERSON: Just to clarify, one  
11 affidavit is fine, even if they filed both  
12 direct and rebuttal?

13 CHAIRMAN HONIGBERG: Sure. It can  
14 carry. I mean, just make the affidavit clear  
15 as to what it's doing, --

16 MR. EMERSON: Yes.

17 CHAIRMAN HONIGBERG: -- and then  
18 we'll be good.

19 MR. WIESNER: The only other thing I  
20 would notice, Mr. Chairman, is that I believe  
21 the sign-up sheet you have that appears to be  
22 for public commenters, actually includes as  
23 well some people who are affiliated with  
24 intervenors in the case. And, so, I think my

1 suggestion would be that we open with public  
2 comment from people who are not intervenors in  
3 the case, and then go on to closing statements  
4 for those who are.

5 CHAIRMAN HONIGBERG: That would be my  
6 instinct as well. Can you tell me which is  
7 which?

8 MR. WIESNER: Well, I don't have the  
9 list. I don't have the list.

10 CHAIRMAN HONIGBERG: You will soon.

11 MR. WIESNER: I believe Ms. Quirk put  
12 her name on the list, with Energy Emporium, and  
13 that company is an intervenor in the case. And  
14 I also note that Norwich Technologies is an  
15 intervenor in the case.

16 CHAIRMAN HONIGBERG: And that's Terry  
17 Donoghue.

18 MR. WIESNER: Yes. And Granite State  
19 Solar.

20 MS. EPSEN: I don't think they're  
21 intervenors.

22 MR. WIESNER: I don't believe they're  
23 intervenors.

24 CHAIRMAN HONIGBERG: Okay. What

1 about GoSolar NH?

2 MR. WIESNER: I don't believe they're  
3 intervenors either.

4 CHAIRMAN HONIGBERG: Alrighty. Then,  
5 we'll take it in the following order: Blake  
6 Clark will go first. And I'm having a little  
7 trouble reading Jake's last name. Could be  
8 "Ottolim" or "Ottolin"?

9 MR. OTTOLINI: Ottolini.

10 CHAIRMAN HONIGBERG: "Ottolini".  
11 Things got a little out of hand there at the  
12 end of that name.

13 (Laughter.)

14 CHAIRMAN HONIGBERG: And, then, it  
15 looks like is it "Brian Pace", is that the next  
16 name, but has what looks like an "N" next to  
17 it?

18 MR. PARE: Yes. I don't need to  
19 speak.

20 CHAIRMAN HONIGBERG: Okay. Thank  
21 you.

22 MR. PARE: Thank you.

23 CHAIRMAN HONIGBERG: And, then, Erik  
24 Shifflett. That one I could read.

1 All right. So, we have a seat up  
2 here in the second row for the public  
3 commenters. And I'll ask Blake Clark to step  
4 forward and offer up comments.

5 While you're moving, I will note that  
6 we received a number of written comments.  
7 Those are in the docket online. We also  
8 received a number of comments very early in  
9 this docket. The ones that are unique are  
10 listed in the docket. We also received a  
11 number that I don't have exactly, it's  
12 somewhere between 110 and 130, form emails that  
13 took two formats, they were -- I don't know if  
14 it was about 50/50 in terms of its breakdown.  
15 But, in each case, the request was that there  
16 be an independent study done of costs, and that  
17 study be used to develop appropriate tariffs  
18 going forward. There was a lot of other  
19 verbiage, but that was the import of those two  
20 form emails, of which we received many, many,  
21 many iterations.

22 All right. So, with that, Mr. Clark.

23 MR. CLARK: Thank you. Good  
24 afternoon. Boy, you do have to get close.

1           So, I represent nobody here except  
2           myself, as a homeowner. My name is Blake  
3           Clark. And, on March 23rd, a little over a  
4           week ago, my 5-kilowatt PV array on my roof was  
5           interconnected with the grid for the first  
6           time. In the past nine days, it has generated  
7           approximately 40 percent of my energy  
8           consumption. If I could share only one concern  
9           today, it would be that the PUC continue to  
10          honor existing net-metered -- net-metered  
11          customers' agreements. To do so otherwise  
12          could drastically reduce my ability to repay my  
13          investment.

14                 I live in a modest split-entry ranch  
15                 built in 1977. When my wife and I decided to  
16                 start our family, we moved to New Hampshire and  
17                 gave up an income so that one spouse could be a  
18                 stay-at-home parent. We now have two children,  
19                 ages two and seven. We live within a budget  
20                 and make careful decisions with our money. I  
21                 drive an eight year-old Subaru.

22                 We moved to New Hampshire from  
23                 northern California. Our previous utility bill  
24                 averaged \$27 a month. Our first New Hampshire

1 heating bills were shocking to say the least.  
2 By the following winter, we had replaced a  
3 totally outdated heating system we a  
4 high-efficiency heat pump. And, after  
5 analyzing my usage, I also signed up for  
6 time-of-use metering. It paid off. I was able  
7 to cut our bills by half or more. We looked  
8 into PV at that time, but our roof orientation  
9 and shading was less than ideal.

10 Then, in 2013 and '14, Liberty  
11 Utilities drastically altered the time-of-use  
12 tariff. In addition, energy costs spiked that  
13 winter, and our electric bill went up by over  
14 50 percent. There wasn't much else we could do  
15 efficiency-wise to make up the difference. So,  
16 we took another hard look at PV.

17 It took us three years, paying as we  
18 went, and doing most of the work ourselves.  
19 The first season we took out 24 trees to  
20 increase the solar aperture. We also had to  
21 re-roof the house to prepare for the panels.  
22 Three days after we finished the roof, Liberty  
23 Utilities announced that they had reached their  
24 net metering cap. It took over six months of

1 holding our breath before we were granted our  
2 net metering slot. Meanwhile, we had purchased  
3 the panels and our investment sat gathering  
4 dust.

5 In our situation, we had figured out  
6 how to make an investment in PV pencil out with  
7 a modest return on investment. But, without  
8 net metering, there was no way we could have  
9 even considered the installation. Had the  
10 Legislature not intervened and raised the cap,  
11 we literally would have been out thousands of  
12 dollars. We would have had to resort to  
13 Craigslist to sell off the hardware, if anybody  
14 was buying at that point to recoup some costs,  
15 because there's no way the project could have  
16 gone forward on our budget without net  
17 metering.

18 I have read and understood the  
19 economic positions of the utilities with regard  
20 to net metering. On paper, they seemingly make  
21 a good case. But, in my opinion, and in my  
22 experience, they appear to be stretching  
23 reality a bit to fit their model, rather than  
24 modeling actual reality. My installation is a

1 good example. I heat with electricity. My  
2 5-kilowatt PV array will annually produce  
3 roughly what I consume for heating my home.  
4 Even with the panels, I will still pay, on  
5 average, the same electric bill every month  
6 that homeowners who heat with fossil fuels pay.  
7 The notion that with net metering I am somehow  
8 not paying my share is completely ludicrous.

9 I have nothing but positive things to  
10 say about my experience with the customer  
11 service and technical staff at Liberty  
12 Utilities. They have been helpful, prompt, and  
13 professional throughout the interconnection  
14 process. However, I hate to admit it, but I  
15 personally do not have equal confidence in  
16 Liberty's leadership to negotiate on behalf of  
17 their customers in good faith. When Liberty  
18 Utilities petitioned the PUC to alter the  
19 time-of-use tariff, they made it sound as if  
20 the previous time-of-use rate structure was a  
21 money loser. My skeptical translation of this  
22 assertion is "we're leaving money on the table  
23 with our time-of-use customers." I followed  
24 the rule and shifted my consumption to off-peak

1 times, which, in theory, should have saved  
2 Liberty money. Further, and on this fact or  
3 this point, please absolutely correct me if I'm  
4 wrong, but my understanding from various  
5 sources is that Liberty Utilities gamed the  
6 system in 2015 by proposing 1.5 megawatts as  
7 unrealized paper PV projects, 75 percent of  
8 their allocation, in an unfair attempt at  
9 blocking customers like myself from getting  
10 connected. At the very least, in my opinion,  
11 the utilities have a huge public perception  
12 problem.

13 I consider myself far better informed  
14 than the average consumer about how the  
15 electric grid is managed and operated. I know  
16 what "base load" means. I know what  
17 "dispatchable generation" and "load-shedding"  
18 means. I know about smart meters, pumped  
19 energy storage, peaking plants. And, if you'd  
20 like, I can describe in mind-numbing and  
21 excruciating detail at least four unprofitable  
22 methods of harnessing energy directly from the  
23 ocean.

24 I also understand how quite literally

1 putting power on the roofs of the masses has at  
2 least a small potential to adversely affect a  
3 system largely still operating on principles  
4 conceived of in the 19th century.

5 Given my slightly elevated knowledge,  
6 though, I find it exceedingly hard to conceive  
7 that my PV system, which, on a sunny day,  
8 produces less output than a hot water heater,  
9 and the excess power of which need only travel  
10 300 feet to my neighbor's house before being  
11 gobbled up by his hot tub, is going to  
12 fundamentally change anyone's bottom line;  
13 except mine.

14 In fact, to prove it, I'd be more  
15 than happy to run an extension cord over to my  
16 neighbor's house, plug it into his hot tub,  
17 install a sub-meter, charge him the going rate  
18 for clean energy, which in many states is  
19 higher than fossil fuel energy, and show you  
20 the data. Except I can't do that, that would  
21 be illegal. But, then again, I could probably  
22 get around the law by simply selling him the  
23 hot water instead. That's not a bad idea.  
24 But, in any case, this somewhat absurd example

1 actually proves my point. Net metering in many  
2 cases, including my own, uses so little of the  
3 vast infrastructure of the regional grid, I  
4 could largely replicate its contribution with a  
5 garden hose.

6 In summary, I ask that the PUC not  
7 punish those of us willing to be early  
8 investors in a future of clean and renewable.  
9 Rather than act to protect outdated and  
10 monopolist business models, continue to create  
11 new and better incentives to fully integrate  
12 distributed generation and renewables into the  
13 regional grid. You've got some time to do  
14 this. I, along with many others, want this.  
15 My children and future generations, though,  
16 will likely demand it.

17 Thank you for your time. I'm open to  
18 any questions.

19 CHAIRMAN HONIGBERG: Mr. Clark, I  
20 don't think there's any questions. But thank  
21 you for coming and sharing your thoughts.

22 I think next up is Mr. Ottolini.

23 MR. CLARK: Thank you.

24 MR. OTTOLINI: Hello. And thank you

1 for having me. I represent GoSolar New  
2 Hampshire, out of Rochester. We are a small,  
3 locally-owned solar installer.

4 I wanted to touch upon two points.  
5 I'm glad to follow the gentleman that just  
6 spoke. Because, on Tuesday I came in, and the  
7 common misconception, in regards to solar, was  
8 spoke about a couple different times on behalf  
9 of the utilities saying that the -- most people  
10 who end up going solar are of a higher class.  
11 They have a \$400 electric bill, because they  
12 have a hot tub, and an infinity pool, and they  
13 live on a mountaintop, and they use all kinds  
14 of electricity.

15 It's not necessarily true. Point  
16 proven behind me was the gentleman who just  
17 spoke. A lot of our customers with GoSolar are  
18 small start-up families trying to take  
19 advantage of a tool that can give them the best  
20 budget possible.

21 So, the challenge is, you know, I'm  
22 passionate about solar renewable energy and it  
23 being misrepresented by other parties. So, I  
24 just wanted to make sure that everyone does

1 understand that. It's more affordable now for  
2 young homeowners to go solar and to benefit  
3 long-term from their investment.

4 To my second point is jobs. Right?  
5 So, everybody in NH can understand job growth,  
6 economic times. We're in Rochester, New  
7 Hampshire, and northern New Hampshire, which is  
8 just outside of Berlin, you guys can understand  
9 there being depression there, right?

10 So, if you -- what's presented in  
11 front of us today, GoSolar is very worried as  
12 to its future. Having just under 20 employees  
13 out of Rochester, and hoping to grow the Berlin  
14 office to maybe 10 employees, five to ten  
15 pretty comfortably, and continued growth, we're  
16 going to suffer at least a 50 percent reduction  
17 in staff, in personnel. And we've fought tooth  
18 and nail to keep all of our workers, our  
19 laborers, our staff, employees employed over  
20 the winter. So, we did take a pretty  
21 substantial hit just to make sure everyone had  
22 a paycheck throughout the entire winter. We do  
23 right by our guys. I don't like public  
24 speaking, but I'm here speaking on their behalf

1 today.

2 So, we want to be able to continue to  
3 hire, continue to develop the area of those  
4 that need it, like Berlin, potentially maybe  
5 down the road we go to Claremont, and continue  
6 offering these good-paying jobs in sustainable  
7 energy and continue the business plan we've put  
8 forth in front of us.

9 But, without net metering being what  
10 it is or being close to it, you know, GoSolar  
11 is going to have a significant loss on our  
12 hands, and it's going to be devastating to see  
13 some of our employees go. They have families.  
14 We took on the responsibility to make sure they  
15 were fed and taken care of, and we just want to  
16 continue to be able to do that.

17 That's all I have to say. Questions,  
18 comments?

19 CHAIRMAN HONIGBERG: Thank you, Mr.  
20 Ottolini. Thank you for coming.

21 MR. OTTOLINI: Thank you.

22 CHAIRMAN HONIGBERG: Erik Shifflett.

23 MR. SHIFFLETT: Good afternoon. And  
24 thank you for providing me with this

1 opportunity to address you, the Public  
2 Utilities Commission, and concerned parties,  
3 and the utilities. I appreciate it.

4 While utility representatives -- and  
5 just a little background. I am the co-owner of  
6 Granite State Solar. We're based in Boscawen,  
7 New Hampshire. We were founded here in New  
8 Hampshire in 2008 by my business partner. And  
9 we employ 22 individuals, all are full-time  
10 employees. And we actually just broke ground  
11 in Bow about a week ago to build a new facility  
12 on three acres. We're building a 10,000 square  
13 foot facility, which will allow us to continue  
14 our growth and actually hire -- we intend to  
15 double our headcount within the next 18 months,  
16 if the economics of net metering allow it.

17 So, I guess what I'd like to say  
18 today is that, while utility representatives  
19 are obligated by law, right, to act in the  
20 financial best interest of their shareholders,  
21 I'm not obligated to speak anything other than  
22 truthfully accurate information to you, because  
23 I don't have shareholders to worry about. My  
24 company is held by me and my business partner.

1 And we can discuss what's in the interest of  
2 the public good, not our shareholders' good.

3 And I just would like to point out  
4 that I would like everybody to look at what has  
5 been created so far. And what the Public  
6 Utilities Commission has done is phenomenal.  
7 There's an ecosystem here that's been developed  
8 within the last few years, with companies such  
9 as mine, and GoSolar NH, and Energy Emporium,  
10 and South Pack Solar, and Solar City, and  
11 SunRun, and Kim Fraise Electric, and I could  
12 keep going on and on. Look at what's been  
13 created. The public demands net metering, the  
14 public demand for solar and being able to take  
15 control of their energy production is robust.  
16 And I'm very proud of what has been  
17 accomplished in this state in such a short  
18 period of time.

19 The amount of investment that's taken  
20 place and the amount of money that's circulated  
21 in the economy, staying within New Hampshire,  
22 is significant. Payroll for Granite State  
23 Solar last year was over \$1.2 million. Our  
24 eleven vehicles and two excavators were

1 purchased here in NH. They're all  
2 American-made as well. Our employees are  
3 buying their first homes, having their first  
4 children, they are using the health services.  
5 By the way, they all have health insurance paid  
6 100 percent, which is very rare. They are  
7 contributing to the economy in a very tangible  
8 fashion.

9 So, I think that distributed  
10 generation under current net metering policy  
11 provides a public good, provides a service  
12 that's in demand. The reason utilities are  
13 regulated is to protect the public, because  
14 they provide an essential service.

15 But what we are doing is we're not  
16 asking for a handout. We're not asking for  
17 anybody to feel sorry for us or our clients.  
18 What we're doing is providing a service. When  
19 our clients make an investment in solar,  
20 they're paying for it, not the utility. And,  
21 when our clients turn on their arrays, they are  
22 literally transmitting and distributing that  
23 energy right into the grid. Our electricians  
24 make the interconnection, not the utility. The

1 utility does not spend any money on labor. We  
2 have to pay for an interconnection application  
3 and a supplemental review. We have to pay  
4 upwards of \$5,000 on occasion when Eversource  
5 wants to upgrade a transformer from 15 kVA to  
6 25 kVA. It's highway robbery. But we pay it,  
7 not the utility. We're helping them upgrade  
8 their infrastructure.

9 And, so, for the utilities to claim  
10 that they're entitled to all of the  
11 distribution costs, when literally, physically,  
12 our clients are doing the distribution for  
13 them, I think it's disingenuous.

14 So, a couple short points I'll make  
15 before I end. Current net metering  
16 arrangements work. The ecosystem of jobs, of  
17 the industry, we're not taking advantage of the  
18 utilities, we're providing a service for the  
19 utilities. We're bringing capacity to the  
20 market where it's much needed. Distributed  
21 generation is robust. And it's an investment  
22 that's not made by the utilities, it's made by  
23 individuals and companies.

24 This investment would not have

1           happened if net metering was not the way it is  
2           now. And this investment will cease, if net  
3           metering becomes unfavorable. If utilities win  
4           this battle for their shareholders, the public  
5           loses. We'll move. We're already looking at  
6           Vermont. We'll move. We'll have our facility  
7           in Bow. If we can't grow, if we can't staff it  
8           the way we want to, if we can't continue to  
9           provide a service that our clients are  
10          demanding in New Hampshire, we'll look  
11          elsewhere. And I know we're not the only  
12          company that would do this. If we can't feed  
13          our families of our employees, as Jake  
14          mentioned earlier, then there's nothing else  
15          left to do.

16                        So, with that, I'll close. And thank  
17          you very much for hearing my testimony.

18                        CHAIRMAN HONIGBERG: Thank you for  
19          coming, Mr. Shifflett.

20                        Other than the people who are  
21          intervenors in the docket, and will be called  
22          in a minute, are there other members of the  
23          public who wish to speak?

24                                        *[Show of hands.]*

1                   CHAIRMAN HONIGBERG: I see a hand.  
2                   If you're --

3                   MR. ANDERSON: I'm actually not  
4                   speaking on behalf of myself.

5                   CHAIRMAN HONIGBERG: I'm confused  
6                   then.

7                   MR. ANDERSON: I'm here speaking on  
8                   behalf of the City of Keene and the Town of  
9                   Wilton, two individuals, they're -- each of  
10                  those municipalities couldn't be here today, so  
11                  they sent me comments and asked them to read  
12                  them on their behalf. If that's okay?

13                  CHAIRMAN HONIGBERG: Sure. And  
14                  you'll leave copies with Mr. Patnaude when  
15                  you're done. Identify yourself for the record  
16                  and then say who you're speaking -- whose  
17                  statements you are reading.

18                  MR. ANDERSON: All right. Thank you.  
19                  My name is Chris Anderson. I'm with Borrego  
20                  Solar. And I'm reading first the statement on  
21                  behalf of the City of Keene, Duncan Watson,  
22                  Assistant Public Works Director for the City of  
23                  Keene.

24                  To the Public Utilities Commission:

1 Apologies to the Commission for not being able  
2 to be at today's hearing in person.

3 CHAIRMAN HONIGBERG: Slow down.  
4 Mr. Patnaude will not be able to keep up with  
5 you at that speed.

6 MR. ANDERSON: The City of Keene  
7 would like to go on record with the following  
8 items of interest regarding PUC Docket 16-576.

9 The City of Keene has made extensive  
10 efforts over the past years to incorporate  
11 renewable energy into the City's energy  
12 portfolio, and has recently issued a Request  
13 for Proposals for the development of Municipal  
14 Solar Arrays on City lands and facilities. The  
15 City has received interest from a number of  
16 solar developers and are currently under RFP  
17 review. However, the suggested change of  
18 reducing the distribution credit to zero has a  
19 significant impact on project feasibility  
20 necessary to create the economic conditions for  
21 solar development. In addition, the  
22 instantaneous netting period will have the  
23 effect of moving all the City's generated  
24 energy that is not consumed in real-time to an

1 export channel of a meter that will then be  
2 compensated at the proposed lower rate.

3 The City has no historical record on  
4 how facilities consume energy on an  
5 instantaneous basis, which leaves the City and  
6 any developers who want to partner with the  
7 City with too much uncertainty as to how the  
8 investment into distributed energy resource  
9 will impact the investment in solar resources.

10 The City understands that the  
11 proposals in DE 16-576 are in favor of allowing  
12 large projects over 100 kilowatts to get out of  
13 group net metering if there is at least a 20  
14 percent on-site consumption. This would allow  
15 the City to leave the other City meters on  
16 competitive supply and take advantage of the  
17 spread between the default service rate and the  
18 competitive supply rate. It is anticipated  
19 that this change would allow the City of Keene  
20 to increase its savings under any potential  
21 solar investment and the City is therefore in  
22 support of this change.

23 Finally, we understand that there is  
24 a proposal that would allow the City to sign up

1 for a pilot program for large projects where  
2 the City could possibly get a credit on the  
3 transmission charges. Assuming the solar array  
4 is producing power in line with the coincident  
5 peak on the grid and it has the effect of  
6 reducing demand, then according to our  
7 understanding of the pilot, the City would get  
8 credited on demand charges. The City believes  
9 this could possibly yield material savings to  
10 the City, and the City would support this  
11 proposal as well.

12 The City of Keene wants the PUC to  
13 know that, if the rate drops per the utilities'  
14 proposal dramatically, the City will find it  
15 difficult, if not impossible, to develop  
16 municipal solar arrays as the required  
17 investment will not be feasible. The City of  
18 Keene believes net metering helps control  
19 energy costs and encourages investment in  
20 renewable energy resources.

21 The City of Keene as well as many  
22 other municipalities throughout the state that  
23 are seeking to avoid increases in energy costs,  
24 reduce dependence on carbon-based fuels, and

1 increase the use of solar and other renewable  
2 technologies. The City of Keene believes that  
3 rather than discouraging the investment in  
4 renewable energy technologies by reducing  
5 incentives created by net metering, it is time  
6 to increase investment in renewable energy  
7 where economic and environmental benefits are  
8 not mutually exclusive.

9 Duncan Watson, Assistant Public Works  
10 Director.

11 I have one more brief statement, from  
12 Glynn Graham, who is on the Wilton Energy  
13 Committee.

14 Glynn writes: I am connected with  
15 three different projects that cause me to  
16 comment with my concerns about PUC Docket DE  
17 16-576.

18 First, as a member of a family that  
19 recently installed a solar system at our home  
20 in Wilton, New Hampshire. The current net  
21 metering rules gave us the incentive and  
22 opportunity to invest in this renewable energy.  
23 Because I was able to understand the simple  
24 payback of investing in a solar system to

1 offset my annual consumption, through reviewing  
2 my monthly utility bills with a few solar  
3 companies and comparing their production  
4 estimates for various sized systems, I was able  
5 to confidently make a selection and invest in a  
6 solar system.

7 If I had to sell what my system  
8 produced each second I was not using it back to  
9 the utility company, at what I understand would  
10 be about a 25 percent reduction from the retail  
11 rate, rather than store what was generated on  
12 sunny days and use it to meet my electric needs  
13 when the sun was not shining without being  
14 penalized, I would have not made this decision.

15 I cannot imagine and would not want  
16 to be forced to organize my day and my use of  
17 the energy to coincide with when the sun was  
18 shining so that I could get the most financial  
19 benefit from my system. In fact, one of the  
20 pleasures I get on sunny days is knowing that I  
21 am contributing in my small way to the energy  
22 needs of others at these peak demand times.

23 Second: I represent a farm community  
24 in Wilton, New Hampshire. We have been working

1 to move to a more efficient and renewable  
2 source of energy for our many refrigerators  
3 freezers, milking equipment, and general  
4 household use for the farmers and apprentices  
5 who live there. Our current electric use is  
6 high. We have limited resources, as do most  
7 small farms in New Hampshire, and this  
8 future-oriented project is untenable if the  
9 charges -- excuse me -- if the changes that are  
10 under consideration are passed.

11 Third: I am also a member of the  
12 Wilton Energy Committee. Our mission is to  
13 "strive to move in a direction of  
14 self-sufficiency, energy conservation, and the  
15 local generation of energy". The monetary cost  
16 of solar energy are becoming competitive with  
17 other sources of energy, and as long as local  
18 folks generating energy are not penalized by  
19 unfair metering and unfair prices for export of  
20 locally generated energy, these small town  
21 projects can revitalize our towns and  
22 contribute to a more vibrant local community.

23 The hopes and intentions of the farm  
24 and the town are waiting for certainty that the

1 investment of our time and money will not be  
2 undermined before we commit to action.

3 We, as human beings, have been using,  
4 going to war over, and fouling the earth with  
5 fossil fuels for generations. I wish New  
6 Hampshire could be a leader and agree to fair  
7 regulations that support its citizens in  
8 exploring and working in renewable  
9 alternatives.

10 Thank you. Glynn Graham, Wilton, New  
11 Hampshire.

12 CHAIRMAN HONIGBERG: Thank you,  
13 Mr. Anderson.

14 Any other members of the public who  
15 are not intervenors who wish to make a public  
16 comment in this docket?

17 *[No indication given.]*

18 CHAIRMAN HONIGBERG: All right.  
19 Seeing none, we'll close the public comment  
20 period.

21 And who wants to -- who of the  
22 intervenors wants to make an oral statement in  
23 closing? I assume that Ms. Quirk and Terry  
24 Donoghue wish to make statements. And I think

1 Mr. Aalto, Representative Oxenham. How did you  
2 end up shaking out there, Mr. Aslin? What did  
3 you decide to do?

4 MR. ASLIN: We'll be submitting  
5 something in writing, Mr. Chairman.

6 CHAIRMAN HONIGBERG: All right. So,  
7 is it just that group?

8 *[No indication given.]*

9 CHAIRMAN HONIGBERG: All right. Why  
10 don't we take Kimi Quirk.

11 MS. QUIRK: Thank you very much for  
12 hearing my testimony, or closing remarks, I  
13 guess as it is.

14 My name is Kimberly Quirk. And I own  
15 the Energy Emporium, a solar installer company,  
16 in Enfield, New Hampshire. I started the  
17 business eight years ago to help people, like  
18 myself, who wanted to find ways to reduce  
19 fossil fuels, depend more on local renewable  
20 resources, save money, and to recognize the  
21 environmental benefits of clean energy. We  
22 design, install, and maintain solar PV and  
23 solar hot water systems, as well as provide  
24 energy efficient products and advice.

1           Over these eight years, I've been  
2           able to provide financial payback and return  
3           information for almost all of the solar PV  
4           proposals that we give to homeowners after  
5           doing a site visit. And what we found is that,  
6           when the years to pay back the system goes out  
7           beyond ten, then the homeowner generally walks  
8           away from it and will not pursue the project.

9           I have a lot of other entrepreneurial  
10          experience, but this industry has been very  
11          unique over these eight years, in terms of  
12          trying to stabilize a business and get it to  
13          grow. We have had to deal with rebate changes  
14          every couple of years, sometimes that would run  
15          out of money in the middle of the year. When  
16          we hit the solar cap in 2015, as Mr. Clark  
17          described, it stopped all interconnect  
18          applications dead in their tracks for about six  
19          months. The federal tax credit has been  
20          stable, but it's now threatened with tax  
21          reforms, and we get questions every day, "do we  
22          know if the tax credit will be there next  
23          year?" But, today, the most important effect  
24          on New Hampshire solar businesses and

1 homeowners trying to make the decision is  
2 wrapped up in the net metering changes that  
3 we're talking about.

4 So, it's been an emotional and  
5 financial roller coaster for both the solar  
6 companies, like myself, and for our customers  
7 who are caught up in the middle of it. It's  
8 extremely difficult to create a business plan  
9 around this much uncertainty.

10 Today, if a homeowner has a nice  
11 south-facing roof, with no shade or very little  
12 shade and at a good angle, they can probably  
13 get between a nine and eleven year return  
14 payback, number of years to pay back that  
15 investment. With any changes, with any changes  
16 to the one-to-one net metering that we have  
17 today, that payback will go out by years, but  
18 it also becomes really difficult, nearly  
19 impossible, to forecast the savings for any  
20 homeowner. We don't know when they're going to  
21 be using their electricity, compared to when  
22 the sun is out, things like that.

23 Additionally, if the utilities are  
24 allowed to charge homeowners based on the total

1 monthly usage, as measured every 10 or 15  
2 minutes, and only provide credit based on the  
3 net energy exported, this ends up making the  
4 losses even higher for the homeowner and the  
5 payback will go out a few more years just  
6 because of that.

7 I think we all see the battery  
8 technology playing a critical role in  
9 addressing the difficulties with renewables and  
10 that storage issue. But I think we're still  
11 quite a few ways [years?] away from a really  
12 affordable battery plus solar system that help  
13 on our smart grid or help the grid in general.  
14 But, when we do have that option, it makes more  
15 sense at that point to look at time-of-use and  
16 net metering, and all of the equipment will be  
17 ready to help deal with that, so that  
18 homeowners and the grid can both work with  
19 renewables much better. We don't have that  
20 today. Today, adding batteries to a system  
21 increases the price at least 50 percent.  
22 There's very -- lots of my customers are asking  
23 about it, but none of them are able to  
24 financially afford, not "none", there's always

1 a few.

2 Today, many states have embraced the  
3 solar industry, and they have a much higher  
4 solar cap than we have. They have good net  
5 metering rules or incentives. And businesses  
6 are growing quickly and the solar industry is  
7 growing in those states, even our local states  
8 nearby. These businesses provide great jobs,  
9 they attract young people. These are the  
10 things that we want in New Hampshire. We have  
11 an opportunity to support and encourage this  
12 industry in New Hampshire, where our love of  
13 mountains, lakes, and countryside is a perfect  
14 complement for a clean energy industry. So,  
15 I'd ask you to consider all of that.

16 The other page I added in my  
17 testimony was just sent out from The Solar  
18 Foundation, reflecting the job -- Solar Jobs  
19 Census in 2016 in New Hampshire. And I'll just  
20 highlight a couple of things. We are 34th  
21 statewide, we have the 34th lowest state  
22 ranking for the number of solar jobs, because  
23 we aren't encouraging solar that much here in  
24 New Hampshire. There were -- but, in the last

1 year, there were 453 new jobs. There are about  
2 1,184 solar jobs in this state, and I honestly  
3 believe that many of them, as my business and  
4 other businesses will attest to, will be  
5 greatly affected by changing the net metering  
6 rules.

7 Any questions?

8 CHAIRMAN HONIGBERG: Is the document  
9 you had in your hand a moment ago and you  
10 referred to as your "testimony", is that  
11 something you have sent in to us or is what you  
12 have here all you have?

13 MS. QUIRK: I just, today, sent it  
14 in, just today. Yes. It's with today's  
15 testimony.

16 CHAIRMAN HONIGBERG: Okay. All  
17 right.

18 MS. QUIRK: Thank you.

19 CHAIRMAN HONIGBERG: Well, thank you  
20 for your comments.

21 Terry Donoghue.

22 MR. DONOGHUE: Good day. And thanks  
23 for taking my closing remarks today. I'm hear  
24 speaking for Norwich Technologies. I've

1 submitted a letter from our president, Joel  
2 Stettenheim. He couldn't be here today. So,  
3 I'm speaking on his and our company's behalf.

4 Norwich Technologies provides  
5 complete end-to-end services to commercial  
6 solar electric customers, including  
7 development, design, engineering, procurement,  
8 construction, power purchase agreements,  
9 structured financial solutions, operations and  
10 maintenance.

11 All of that, I'll, you know, add my  
12 own note, requires a good deal of professional  
13 help, and that we get largely in the State of  
14 New Hampshire.

15 We have a warehouse and assembly  
16 facility in West Lebanon, New Hampshire, and  
17 offices five minutes away, in White River  
18 Junction.

19 Norwich Technologies currently  
20 employs a couple of dozen full- and part-time  
21 staff and have installed multiple megawatts of  
22 solar. And, as I said, we utilize local  
23 professionals, contractors. We drive millions  
24 of dollars into the local economy. We have

1 strong relationships with New Hampshire  
2 businesses, and the utilities, Liberty  
3 Utilities, engineering firms, other solar  
4 companies. We're in the hub of that  
5 "ecosystem" that was described earlier.

6 It's not just the rich that benefit  
7 from the work we do. The letter describes  
8 benefits to NH schools, independent farms,  
9 nonprofit organizations, homeowners, and local  
10 businesses, such as the Cardigan Mountain  
11 School, in Canaan; Maple Manor, a low income  
12 housing community; Edgewater Farm, a locally  
13 owned farm in Plainfield; the Concord Unitarian  
14 Universalist Church. So, these aren't just  
15 rich people getting richer on solar.

16 We support the Energy Future  
17 Coalition Settlement offering as a thoughtful,  
18 current compromise and pathway forward in  
19 determining future net metering rates in New  
20 Hampshire. Our potential and existing clients  
21 rely on stability and fairness in New Hampshire  
22 policy. We believe the Settlement represents  
23 an incremental adjustment or that stability to  
24 those policies while a prescribed and objective

1 valuation study can be performed.

2 Our own experience and research into  
3 nationwide studies, by National Laboratories  
4 and others, suggest that current policy results  
5 in both fairness to all parties and enables the  
6 development -- or, the deployment of local New  
7 Hampshire renewable energy generation  
8 facilities, with all their attendant economic,  
9 consumer, and environmental benefits. But, in  
10 light of the impending changes as a result of  
11 the House Bill 1116, that it says we're going  
12 to review this, we're going to change this, we  
13 think that the Energy Future Coalition  
14 Settlement is a reasonable and equitable  
15 compromise and a way to move forward.

16 Thank you.

17 CHAIRMAN HONIGBERG: Thank you,  
18 Mr. Donoghue.

19 All right. Mr. Aalto, you want to go  
20 next?

21 MR. AALTO: Yes. Should I speak from  
22 here?

23 CHAIRMAN HONIGBERG: As long as you  
24 have a microphone that works and that you're

1 close enough that everybody can hear you --

2 MR. AALTO: Does this work?

3 CHAIRMAN HONIGBERG: That works  
4 beautifully.

5 MR. AALTO: Great. I guess I would  
6 like -- first, thank you for the opportunity to  
7 file these closing comments.

8 I guess I would like to look at the  
9 remaining issues in kind of in somewhat in a  
10 context of perhaps the history of the industry  
11 a little bit. The primary problem that we seem  
12 to have is coming up with a value of the power  
13 that's produced. Both the -- to some extent,  
14 there's been discussion about the energy  
15 component, the commodity component, and then  
16 primarily the distribution end or wires cost or  
17 credit.

18 I would argue that probably the best  
19 way to come up with this valuation would be  
20 through some kind of market test. The problem  
21 is that, at this point, we don't really have  
22 the information to do that. But we may be able  
23 to develop a proxy for a market to provide some  
24 guidance going forward.

1           First, with relation to the energy  
2           component, most folks have agreed that the  
3           default service or a market price provided by  
4           another market entity may be the appropriate  
5           price. And I would agree that -- with those  
6           that say "I should have full freedom to go to  
7           another supplier". And, if they are willing to  
8           do a net metering contract of whatever design  
9           we agree to, that's our business. As far as  
10          the distribution portion of it, that would be  
11          handled by the distribution company, and  
12          whatever we agree to out of this process.

13                 There's been some discussion about  
14          whether that -- the default service price or  
15          the retail price is the appropriate price.  
16          When other suppliers are selling power into the  
17          market at wholesale, which could be a third or  
18          a quarter of the price that we're getting paid,  
19          if we think of it as a sale, and I challenge  
20          that. The issue is that a market price is  
21          generally what I pay to buy something, I'm  
22          buying it at a market price. The  
23          characteristic of a market price is it's  
24          usually reversible. If I go to the farmers'

1 market, and here I'm kind of paraphrasing a  
2 comment that I heard yesterday, if I go to the  
3 farmers' market and buy tomatoes, and they're  
4 at a dollar a pound, and I happen to have some  
5 growing in the backyard and more than I need, I  
6 can go to that farmers' market and sell them  
7 for a dollar a pound, at the same price that  
8 the market has proposed. Now, if I come in  
9 with a truckload of tomatoes, I'm sure the  
10 price will change. And that is something that  
11 we need to consider here also. If we provide  
12 excess capacity in a major way, the price will  
13 change in the market.

14 The other issue is the price that I'm  
15 paying has no relation to the price of tomatoes  
16 in Mexico, or, for that matter, in Maine, at  
17 backyard farms. The price is the price that is  
18 publicly available and is available in both  
19 directions. We need to strive toward a price  
20 that is more or less like that. Obviously,  
21 there may be transaction issues that would come  
22 in, or there may be taxes on the arrangement.  
23 And toward that I would point at the  
24 non-bypassables that we've been discussing, as

1           essentially as taxes that are beyond the  
2           market. And whether we go one way or another  
3           with that is an issue.

4                        So, in effect, I believe that the --  
5           we will ultimately, as we get into more of a  
6           time variant pricing, the retail and wholesale  
7           prices will, in fact, come together, as we  
8           begin to take out some of the inefficiencies  
9           that are in the current process.

10                      The distribution costs or the wires  
11           part of the business is the other area. And  
12           here, we need to think a little bit back to the  
13           history of how we've designed these markets.  
14           Basically, we agreed to a program that said  
15           that the company providing those services gets  
16           paid a rate of return on its investments,  
17           checked by regulation, so that they be used and  
18           useful, in the public interest, and other tests  
19           that would go with them. But I'm told by some  
20           economists that there's this Averch-Johnson  
21           effect, I'm not sure how to spell that, but it  
22           says, basically, if I understand it correctly  
23           that, if the incentive structure says make  
24           investments and you'll make money on them,

1 that's what people will do, and they will  
2 optimize for that type of return. And what  
3 comes out of that is a system that I charge is  
4 overbuilt, particularly in the distribution  
5 parts of the system. And it's built to meet a  
6 peak demand, with no check on that peak. As a  
7 customer, I have no idea if that peak is  
8 occurring or not. There's no pricing signal to  
9 reflect that.

10 The issue then becomes that, if, as  
11 the utilities argue, if I increase the excess  
12 capacity with my capacity by generating power  
13 and injecting it into the system, then it has  
14 no value. Well, of course, that's absolutely  
15 correct. In the short term, a system that is  
16 overbuilt in a market-type economy, there is no  
17 value to excess capacity. And, in this  
18 structure, there never will be, because we've  
19 already effectively overbuilt everything. And,  
20 then, we have to ask "if we're going to move  
21 forward, is there some method that we can use  
22 to deal with the issue?" And I would argue the  
23 way to do that is to essentially look at it as  
24 if it were a competitive business now, where

1 the pricing, the commodity being delivered  
2 varies with location and system state. If the  
3 system is heavily loaded, the price is high.  
4 If the system is at low load, the price is low.  
5 And aim toward a pricing structure that  
6 provides that for all customers that choose to  
7 go there. Obviously, this is quite a change  
8 from the existing structure.

9 And, then, because we are in a  
10 regulated environment, bias those prices to  
11 provide the revenue requirements that the  
12 utility has in the short term. In the long  
13 term, ultimately, we need to change the  
14 incentive structure itself to be more  
15 performance-based and less investment-based.  
16 That's not something we can do here.

17 But, in the short term, strive toward  
18 a variable price based on location and system  
19 state. I have a little bit more detail there.  
20 Today, we have pricing that gets us down to  
21 substations generally. But we have very little  
22 information about the loading on individual  
23 feeders, and that is a major source of the cost  
24 of the distribution costs that we have. The

1 further down we can go the better.

2 Theoretically, the pricing for  
3 transmission of service would be the basis  
4 between two markets, two market nodes, where  
5 the prices are established. The value of the  
6 transmission is defined by the difference in  
7 price between the nodes. We're not going to  
8 get to that type of pricing structure in the  
9 near term. But we can at least provide the  
10 beginning of an assessment for feeders.  
11 Whether we go down to branches off of feeders  
12 or other nodes that appear on the system, some  
13 have talked about each transformer on the pole  
14 is a node, I don't think we're there at that  
15 point. But a structure something like that.  
16 That takes the existing activity, the existing  
17 investment, and tries to provide a better  
18 pricing shape for it.

19 The primary incentive to do that is  
20 not to provide a different price for the solar  
21 power that somebody might inject, but to value  
22 the power itself, with the idea of taking these  
23 cases, distribution systems running at  
24 30 percent capacity factors and improving that.

1 And, by doing that, we tend to reduce the price  
2 for everyone. And whether it's -- and also  
3 provide simultaneously a price for the reverse  
4 power that people put into the system at that  
5 point in time.

6 As to how to come up with a pricing  
7 structure for feeder power, probably the better  
8 way today would be some type of probability of  
9 peak or probability of the capacity -- toward  
10 the capacity of the system. At this point, my  
11 sense is that we're probably not going to  
12 easily do that, but might make more sense is to  
13 come up with a basic mathematical algorithm  
14 that gives us a similar shape. Effectively, at  
15 zero load, the price of buying power or selling  
16 power is zero. When the wire is melting, it's  
17 infinite. And there's a hockey stick type of  
18 shape between the two. That, basically, the  
19 price rises slowly, until you get to some kind  
20 of share of congestion, and at that point the  
21 price goes very high.

22 I believe this would give both buyers  
23 and sellers of power into the system the  
24 ability to properly -- the proper valuation of

1           that power in both directions.

2                       Now, toward the term "selling", there  
3           was some discussion about "Am I selling power?"  
4           If I put in a kilowatt-hour into the system, my  
5           neighbor uses it currently and pays full price  
6           for it. Under the current net metering  
7           standard, if I get that money, all of it, the  
8           only thing that's changed is, as a credit, is  
9           that the utility didn't have to buy that  
10          kilowatt-hour from anyone. So, there is no  
11          purchase from the wholesale market. It looks  
12          just like a load reduction in the system. The  
13          implications there for running the system,  
14          there seems to be complications in that, but I  
15          believe those we can work out with time.

16                      The other half of it is, if I end up  
17          at the end of the year with excess revenue over  
18          cost, after I take into account the investments  
19          I've made, clearly, there's a tax issue of some  
20          sort. And I don't know what the limits are on  
21          that. We had some question about whether --  
22          what kind of percentages might work, 80/20,  
23          something. I don't know how to deal with that  
24          at this point. But, clearly, if I'm selling

1           lots of power, I've got a tax issue.

2                       In this case, if I'm using the system  
3           as a battery, as some people talk about it, I'm  
4           not selling the power, I'm just putting it in.  
5           And it may be that it goes in at a different  
6           value than it comes out.

7                       So, in terms of going forward, what I  
8           would argue is, certainly, for smaller  
9           customers, maintain something like the full  
10          avoided cost that we've had in the past.  
11          Whether we decide on a level of 5 or  
12          10 kilowatts, that's fine. And that can be  
13          with traditional, as some said, analogue  
14          metering, it doesn't require that precision.

15                      As we go forward into a more  
16          time-of-use type of system, we should make that  
17          available to those customers that are willing  
18          to explore that, either with their load-serving  
19          entities in the near term that want to, let  
20          them do that. With their distribution  
21          services, until the distribution service has a  
22          smart pricing system, there's no need for any  
23          fancy metering for distribution service.

24                      But, as soon as we can begin to come

1 up with a pricing structure for distribution  
2 service that's somewhat like what I was  
3 proposing, then, at that point, we will need  
4 the metering to cover that. Whether that  
5 metering is ultimately, for all of that,  
6 whether the metering is provided by the utility  
7 or third parties in the near term is  
8 irrelevant, as long as we can rely on the  
9 readings from them.

10 It's not clear to me that all the  
11 metering is a natural monopoly anymore. It  
12 could be done by Google. It could be done by  
13 Amazon. It could be done by Walmart, for the  
14 same of argument. It's not -- as long as we  
15 get the efficiency, and, apparently, there's a  
16 great deal of difference in pricing of  
17 equipment that's available. Senator Below's  
18 comments, I have had occasion to use the meter  
19 that he's using, it provides enormous amounts  
20 of information. And it costs a couple of  
21 hundred dollars. And the data plans for it  
22 are -- I believe it's \$100, if my understanding  
23 is correct, currently. And, in my day, it was  
24 \$30. And it's essentially for indefinite

1 storage of information in very fine detail, if  
2 that's what's chosen.

3 I'm not sure that that's the only way  
4 to do the metering, but that's where I think a  
5 detailed discussion of how to get inexpensive,  
6 say, five minute or less metering, we can leave  
7 for another day. But there are options to do  
8 that.

9 I believe that completes my thoughts.  
10 Again, thank you very much for the opportunity  
11 to speak.

12 CHAIRMAN HONIGBERG: I have a  
13 question.

14 MR. AALTO: Yes.

15 CHAIRMAN HONIGBERG: You've sat  
16 through the hearings, you've read much of the  
17 material, if not all of it. I think I  
18 understand what it is you think we should do,  
19 but I'm not sure.

20 Can you be explicit as to what you  
21 think the order we enter as a result of this  
22 docket should provide for the issues that are  
23 still in dispute?

24 MR. AALTO: I would say, for

1 customers of, say, 5 to 10 kilowatts of  
2 capacity, they should probably continue on the  
3 existing plan as it is today. For customers  
4 from there to the 100-kilowatt range that we've  
5 sort of arbitrarily selected, we can begin to  
6 explore different structures. And to --

7 CHAIRMAN HONIGBERG: Let me stop you  
8 there.

9 MR. AALTO: Yes.

10 CHAIRMAN HONIGBERG: "Begin to  
11 explore" is a difficult concept to put into an  
12 order. Because what are you telling us to do?  
13 Are you saying to put in place a variety, put  
14 everyone on various pilots, with a control  
15 group that has the *status quo*?

16 MR. AALTO: You're quite correct in  
17 your observation. What I would do is probably  
18 start with something like the -- like the  
19 proposal of 75 percent of the charge, as a  
20 compromise, as a way of making sure that the  
21 minor adjustment or minor transfer that might  
22 occur from people installing solar to other --  
23 cost transfer to others is covered. The number  
24 will be very small, because of the very small

1 penetration at this time.

2 The 75 percent number, I would say,  
3 is a reasonable compromise. And, also, the  
4 issue of the deferred charges or the  
5 "non-bypassables" as we call them, is  
6 reasonable. Although, I would point out that,  
7 in the case of Eversource, we don't know what  
8 the adder is going to be for default service  
9 customers, or for all of Eversource customers,  
10 once the divestiture is complete. It could be  
11 several cents, and that could be an issue.

12 But, taking those items as  
13 compromises, I can certainly accept that. In  
14 terms of fancier metering, I wouldn't push for  
15 fancier metering until we really know what it's  
16 supposed to do.

17 CHAIRMAN HONIGBERG: Okay. Thank  
18 you.

19 MR. AALTO: Thank you.

20 CHAIRMAN HONIGBERG: I appreciate  
21 that.

22 Representative Oxenham. Sounds like  
23 you have the trick microphone.

24 REP. OXENHAM: Maybe we can get this

1 one over here.

2 CHAIRMAN HONIGBERG: And shut that  
3 one off.

4 REP. OXENHAM: Thank you very much.  
5 I appreciate you taking my closing statement.

6 We need a modern, high-tech  
7 electricity grid. We need it to be safe,  
8 secure, resilient, and flexible, both in the  
9 generation and the distribution system. We  
10 need this in order to have a stronger economy,  
11 to attract and keep young people in the state,  
12 keep our businesses competitive, and to power  
13 our drive to be a high-tech innovation-based  
14 state. We also need this in order to be able  
15 to meet the needs of New Hampshire citizens for  
16 health care, education, and many more areas.

17 These proceedings, necessarily, have  
18 largely focused on the needs and wants of the  
19 distribution utilities and the distributed  
20 energy business sector. But the PUC has  
21 broader concerns, as outlined in statute, also  
22 in HB 1116, and those include the public  
23 interest. With the publication of Grid Mod's  
24 Final Report, which has been admitted into

1 evidence here, and the launch of the various  
2 pilots and the Value of DER study, which we  
3 hope will come out of these proceedings, we  
4 have a very real opportunity to do something  
5 important here. This is a nexus point. We  
6 have the chance to enhance the efficiency,  
7 affordability, resiliency and the share of  
8 clean power in the New Hampshire electricity  
9 sector. By modernizing the way we generate,  
10 deliver, and consume electricity. By  
11 incentivizing choices on both the supply and  
12 the demand side of the equation.

13 This decision point is too important  
14 to rush to judgment. I have signed onto  
15 neither Settlement Agreement, because I cannot  
16 support the changes proposed for Phase 1.  
17 These changes will skew the direction of  
18 change, influence business planning decisions,  
19 and perhaps inadvertently send signals as to  
20 the direction of future change, change that we  
21 will only determine in Phase 2. So, we're  
22 going to be skewing things before Phase 2 even  
23 arrives. It will alter our direction. It will  
24 alter our momentum.

1           Staff has amply demonstrated in its  
2           testimony that we do not have the data on which  
3           to base those decisions at this time. In my  
4           former life, I was a Study Director at the  
5           National Academy of Sciences, and an economic  
6           policy analyst on staff before I became a Study  
7           Director. I can tell you, you cannot make good  
8           decisions without good data. We need to do the  
9           research, particularly the meta-studies that  
10          can aggregate what we already know on this  
11          subject. Only then can we make the course  
12          directions and determine the way forward for  
13          decades to come, and send the appropriate  
14          signals to the utilities, to the business  
15          sector, and also to consumers.

16                I share the concerns that were just  
17                voiced about the kinds of meters we may be  
18                determining, if we decide now this is the  
19                bidirectional meter we want to use, we could be  
20                foreclosing our ability to do much more  
21                sophisticated things, with much greater  
22                functionality, that we may determine, in this  
23                interim period, it was a better choice. But it  
24                will be precluded, because we just invested all

1           that money in a simpler, less sophisticated  
2           meter.

3                       I therefore propose that we make no  
4           changes to the current system for systems under  
5           100 kilowatts in Phase 1. With the single  
6           exception, that we remove the arbitrarily  
7           imposed cap on the total number of those  
8           systems. Instead, in Phase 1, we should focus  
9           our efforts on the pilots and the Value of DER  
10          study. Allowing us to leverage the millions of  
11          dollars already spent and being spent on  
12          related DER studies that are going on in  
13          adjacent jurisdictions, particularly  
14          Massachusetts and our neighboring ISO, New  
15          York. This will help ensure that we make the  
16          best possible decision.

17                      I have one other small issue that, if  
18          people will permit me, just one more minute.

19                      CHAIRMAN HONIGBERG: Representative  
20          Oxenham, take your time. I think you're the  
21          last scheduled speaker. It doesn't mean you're  
22          going to be here for the next 30 minutes, but  
23          take your time.

24                      REP. OXENHAM: Okay. Thank you very

1 much.

2 I've really been very disappointed  
3 during these proceedings that we've had very  
4 little discussion of battery storage or energy  
5 storage in general. When paired with  
6 distributed generation resources, storage has  
7 the capacity to meet almost every criticism  
8 that has been put forward in these proceedings  
9 by the utilities concerning the value of  
10 distributed generation.

11 Without storage, electricity needs to  
12 be produced, delivered, and consumed nearly  
13 instantaneously across the grid in order to  
14 maintain its balance. This requires extensive  
15 grid infrastructure, including the generation,  
16 transmission, and distribution systems to be  
17 sized to manage the highest peak usage of the  
18 year, despite the fact that electricity demand  
19 varies so significantly across the day and  
20 across the seasons.

21 The need to size all grid  
22 infrastructure to meet the highest peak results  
23 in substantial system inefficiencies,  
24 underutilization of assets, and high costs to

1 ratepayers. Using data from Massachusetts, in  
2 the most recent period 2013 to 2015, the most  
3 expensive 10 percent of hours accounted for  
4 40 percent of total expenditures. That  
5 translates into billions of dollars of  
6 avoidable expenditures, producing emissions and  
7 health consequences, straining equipment, and  
8 burdening ratepayers.

9 Energy storage is the only technology  
10 that can use energy generated during low cost,  
11 off-peak periods to offset load during  
12 expensive peak periods, thereby improving the  
13 overall utilization and the total economics of  
14 the grid itself. When we lower the peaks, we  
15 obviate the need to undertake costly  
16 investments, such as more pipelines or other  
17 high cost, new transmission projects.

18 In closing, my final proposal is that  
19 energy storage technologies be explicitly  
20 included in the parameters of at least one of  
21 the pilots, and within the purview of the Value  
22 of DER study. Thank you very much for your  
23 attention.

24 *[Audience interruption.]*

1                   CHAIRMAN HONIGBERG: Please. I'm  
2                   sorry. Please. Please. It was a rousing tour  
3                   de force.

4                   But I think you recognize, by the  
5                   nature of the very last comment you made that  
6                   it be included in a study, that affordable  
7                   technology for storage isn't out there today.  
8                   And, I mean, the utilities, particularly Mr.  
9                   Fossum and Mr. Sheehan, maybe less so Mr.  
10                  Epler, will confirm that we ask them about  
11                  storage regularly, and what's the state of  
12                  play? Where are things? What's the current  
13                  technology?

14                  At the NECPUC Symposium, that's the  
15                  New England Conference of Public Utilities  
16                  Commissioners, the symposium that's scheduled  
17                  in June, we have a panel that's going to be  
18                  talking about storage with people from  
19                  Massachusetts. One of the companies that's  
20                  been represented here over the course of the  
21                  week is one of the companies that makes storage  
22                  and makes it available for home use. But it's  
23                  really expensive at this point.

24                  You don't disagree with any of that,

1 do you?

2 REP. OXENHAM: I disagree with it  
3 slightly. But you're saying that it simply  
4 isn't available. It is available, and it is  
5 being used. And I agree with you that it's  
6 quite expensive at this point in time.

7 CHAIRMAN HONIGBERG: Yes. To deploy  
8 it --

9 REP. OXENHAM: Uh-huh.

10 CHAIRMAN HONIGBERG: -- in large  
11 scales, it would be colossally expensive in New  
12 England, would it not?

13 REP. OXENHAM: Massachusetts has, I  
14 don't have the figures in front of me, but they  
15 issued a paper last year called "The State of  
16 Charge". And they talk about what they have  
17 done and what they are doing, and their, you  
18 know, their plans to develop.

19 So, again, in terms of the pilot and  
20 the study, I'm asking that, as we go forward,  
21 that we're cognizant --

22 CHAIRMAN HONIGBERG: Yes.

23 REP. OXENHAM: -- that this new  
24 technology is available. And, like the cost of

1 solar, in general, it's going come down  
2 substantially as we invest and bring it  
3 forward.

4 CHAIRMAN HONIGBERG: Well, someone is  
5 going to win a Nobel Prize when they perfect  
6 that, or maybe they're going to win a Nobel  
7 Prize for, you know, one of Dean Kamen's toys  
8 or something like that. I mean, we're not  
9 there today, and I'm not sure that we're going  
10 to be there in a couple of years.

11 But I think, I mean, I asked Mr.  
12 Aalto to be explicit about what he felt we  
13 should do. I think I understood what you said  
14 about what we should do. In your view, having  
15 sat through and listened to all the testimony  
16 and read, --

17 REP. OXENHAM: Right.

18 CHAIRMAN HONIGBERG: -- I'm sure, the  
19 vast majority of what has come through, you  
20 believe we should be sticking with the status  
21 quo, lifting the cap so that it can be as  
22 available as there is demand for it, and  
23 develop good data collection studies and pilots  
24 going forward, one of which would include

1 storage explicitly. So that, whatever this  
2 next interim period is, moves us into something  
3 durable going forward beyond that. Is that  
4 right?

5 REP. OXENHAM: Precisely.

6 CHAIRMAN HONIGBERG: All right.

7 REP. OXENHAM: Thank you very much.

8 CHAIRMAN HONIGBERG: All right.

9 Although there was no one else scheduled to  
10 speak, I know there was another member of the  
11 public, Representative Barry is here, wish to  
12 share his comments with -- unless the parties  
13 have an objection to hearing from  
14 Representative Barry, we'll have him come to  
15 the microphone and share his thoughts.

16 REP. BARRY: Am I live?

17 CHAIRMAN HONIGBERG: Sounds like it.

18 REP. BARRY: The red light? Yes, the  
19 red button is on. I'm good. Thank you.

20 Thank you so much for your  
21 indulgence. I really hadn't expected to speak  
22 today. But I would like to make two points.

23 One, every time the utility has to  
24 pay more than market rate for its electricity,

1           whether it needs it or not, the utility doesn't  
2           get hurt, you and I are the ones who get hurt.  
3           When the smoke settles, that rate goes -- that  
4           cost goes into the rate that we pay. And  
5           businesses don't get hurt, because they're  
6           going to pass it along to their customers. The  
7           church gets it, and we pay the churches for  
8           their electricity when we donate to them. So,  
9           when you think about the economic piece of it,  
10          you and I are the ones, people in this room are  
11          the ones who pay the extra cost. Number one.

12                        Number two. I've heard about the  
13          good jobs, the good-paying jobs in the solar  
14          industry, one side of the ledger. The other  
15          side of the ledger is the jobs that are lost in  
16          the current generation industry. For every new  
17          job you've got in the solar industry, you're  
18          going to lose, I'm not sure if it's one, half  
19          of one or more, but there's another piece of  
20          that equation.

21                        CHAIRMAN HONIGBERG: Are there  
22          studies that you've seen that you're relying on  
23          for the last point that you made?

24                        REP. BARRY: I can find them, if

1           you'd like me to. I have seen --

2                       CHAIRMAN HONIGBERG: I mean, one of  
3           the benefits of having a docket like this open  
4           is that people are going to continue to submit  
5           public comments whether we put a deadline on  
6           them or not, until we issue our order, and then  
7           probably even beyond that.

8                       If you would like to collect and  
9           submit studies that are supportive of what  
10          you've offered us, specifically on the jobs  
11          point, I mean, certainly, you're free to submit  
12          them and make them part of our record.

13                      I don't think I have any other  
14          questions. Was there anything else you wanted  
15          to say?

16                      REP. BARRY: Just those.

17                      CHAIRMAN HONIGBERG: All right.  
18          Well, thank you for coming.

19                      REP. BARRY: Thank you.

20                      CHAIRMAN HONIGBERG: Thank you for  
21          coming, Representative Barry.

22                      All right. I think that's it.  
23          Unless there's someone we haven't heard from  
24          who needs to say something?

1                                    [No verbal response.]

2                                   CHAIRMAN HONIGBERG: All right.

3                                   Then, we're going to be ready to close the  
4                                   public parts of this proceeding. The record  
5                                   will remain open for a few things. The  
6                                   affidavits we were talking about at the  
7                                   beginning of this session today, and also  
8                                   whatever written closings people wish to file,  
9                                   and the deadline for that is a week from  
10                                  Monday. That will be April 10th, is that  
11                                  right?

12                                 Again, I would encourage the parties  
13                                 to coordinate to the greatest extent possible,  
14                                 so that there's not a slew of duplicative  
15                                 filings. I'll remind you that we don't need  
16                                 the procedural history in what you file,  
17                                 because we know what we've done so far and  
18                                 don't need to be reminded of it. Get to your  
19                                 points and make them.

20                                 I think a lot of the questioning and  
21                                 a lot of the open questions, and this is a new  
22                                 point that I didn't say yesterday with respect  
23                                 to these closings, has to do with the  
24                                 parameters, timelines, and subject matter of

1 the studies that need to be done. I don't  
2 think, in fact, I know we don't want to be put  
3 in the position of being back here in a few  
4 months to referee a slew of disputes about what  
5 the studies should look like.

6 So, to the extent that I think  
7 Mr. Faryniarz put it, he used the phrase  
8 "guardrails". If we can get as much  
9 specificity as possible, that will be a good  
10 thing. So, if people want to include some  
11 information on that, that will probably be  
12 helpful to moving us forward.

13 Other than that, I want to thank all  
14 the parties for the work they did.

15 Yes, Mr. Aalto. You have something  
16 you want to say?

17 MR. AALTO: Yes. Just a question on  
18 that last comment. Do you want more comments  
19 on "guardrail" design going forward or --

20 CHAIRMAN HONIGBERG: I guess I would  
21 encourage you, Mr. Aalto, to share your  
22 thoughts with someone who hasn't yet offered  
23 their closings. I'm sure there's a friendly  
24 party out there or two who would be willing to

1 work with you in getting your thoughts in front  
2 of us with respect to the studies.

3 MR. AALTO: Thank you.

4 CHAIRMAN HONIGBERG: I want to thank  
5 all the parties for the hard work they did  
6 getting ready for this. I know that we asked  
7 you to do some things that you're not  
8 necessarily used to doing in proceedings before  
9 us. I know how hard Mr. Wiesner and the rest  
10 of Staff worked. I want to thank them for all  
11 the work that they did, and the experts that  
12 they brought in, and, really, the experts that  
13 all of you brought in, to help us work through  
14 these. It was tremendously credentialed and  
15 impressive people who were as easy speaking to  
16 us in answering your challenging questions, and  
17 our sometimes uninformed questions, with  
18 patience and equanimity that we all really  
19 appreciated.

20 We look forward to your concise,  
21 clear, efficient, post-hearing submissions.  
22 And, following that, we will issue an order as  
23 quickly as we can. And we'll adjourn.

24 ***[Whereupon the hearing was adjourned at 3:25 p.m.]***