STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

12 APR '17 PM1:32

March 29, 2017 - 2:08 p.m.
Concord, New Hampshire

DAY 3
AFTERNOON SESSION ONLY

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 on the Merits)

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)***

CERTIFIED
ORIGINAL TRANSCRIPT

Court Reporter: Susan J. Robidas, NHLCR No. 44

I N D E X

WITNESS: CLIFTON BELOW (cont'd)

WITNESS: STAN FARYNIARZ

E X H I B I T S

AFTERNOON SESSION
(Resumed at 2:08 p.m.)

CHAIRMAN HONIGBERG: I know there's a number of people who want to ask questions of Mr. Below. Did you all agree on an order, or are we just going to work our way around the room? Want to start with the Coalition down to my left? You guys want to go first? Sure. Why not.

MR. EMERSON: I will be asking the questions.

CHAIRMAN HONIGBERG: All right, Mr. Emerson, why don't you proceed.

CROSS-EXAMINATION

BY MR. EMERSON:

Q. Good afternoon, Mr. Below.

A. Good afternoon.

Q. The first series of questions that I wanted to ask you about was if you could describe in a little detail both the goals of the City of Lebanon when it relates to its energy future, and then also some of the specific projects that are entailed in fulfilling those goals.

A. Sure. We have an adopted master plan which functions as our policy and provides -- guides our outcome plans that the city administration uses both for planning and budgeting. And that calls for the city to be a leader in energy efficiency, renewable energy reliance and innovation across municipal, commercial, institutional and residential sectors. So, key outcome is specifically stated as the city rely upon as much local renewable energy as possible. So that's something of the context.

We have been working to inventory our opportunities. We identified that we have a megawatt of landfill gas that's ready for development for electric generation that's already been collected and flared and analyzed, and at least 2 megawatts of good PV sites, and probably as well a bit of hydro, potential for combined heat and power from renewables.

So, our objective I think is to try to both shift to more renewables and to save money in the process and perhaps generate some revenue for the city. Save money just not for the city and the taxpayers, but also for the local residents and businesses.

So, part of our goal is perhaps through using the municipal aggregation statute, which has a purpose of trying to provide opportunities to smaller customers that larger customers may have, to enable access for the city itself, as well as our residents and businesses, to real-time pricing, both as a medium for valuing exports on a temporal basis, as well as giving people the opportunity to access those relatively low prices in real time and enable them to respond to those prices. We've identified that the city has a significant amount of flexible load where we can do load shifting and take advantage of lower price hours with very little investment, because we already have SCADA systems automated for our water treatment, for instance. But we see opportunities to enable that for others as well. So we sort of see this as an opportunity to provide some leadership and some innovation.

I know that the Town of Hanover happens to be a helpful model because they went to -- became a direct market participant and went to real-time pricing a few years back. So they have a history that is rather persuasive, in terms of the value proposition. And the fact is that Dartmouth College is making major new commitments trying to be an energy innovation leader. So there's a lot of potential partnership opportunities for them to help in both sort of potentially help develop, but also help research and analyze and try out various ideas, such as ways to help enable customers to take advantage of load response.

Q. So, I mean, it sounds like there are a lot of different components of the City of Lebanon's plans. But one important part of that is the production of distributed generation, and so the -- well, distributed generation is an important part of that plan.

A. Yes.

Q. And so what happens in this docket is really important to what the value would be to the City of Lebanon of performing or doing such an energy plan.

A. Very much so. And we realize that some people may not want the risk exposure to real-time prices, the volatility. So it's also important to us that net metering work for residents and businesses who just want sort of conventional net metering without real-time pricing, and we also don't want to disadvantage residents or businesses, in terms of unfair cost shifting.

Q. So I guess what I'm wanting to explore a little bit about is this concept that there's obviously the environmental or societal benefits which I'm sure are part of the City of Lebanon's plan. But in addition to that, there is some economic value to the city in following through with these types of plans. And, you know, roughly, who generally are the people who benefit from those types of economic benefits? You've mentioned that since it's the city, it is likely to be taxpayers. So, just -- you also mentioned that there could be businesses and other maybe non-business ratepayers that are also allowed to participate. So this isn't just limited to the municipal --

A. Correct.

Q. -- accounts.

A. Correct.

Q. All right. So those benefits of the system will flow out generally to consumers, whether they're consumers of electricity or just may be general taxpayers of the city of Lebanon.

A. Correct.

Q. So, that sort of model, does that hold true for many other types of, as you say, non-profits which could be serving low-income customers or low-income people, and, you know, maybe educational institutions which are serving students? There are economic benefits that can flow out besides just to the individual ratepayers or generalized group of ratepayers from a robust net metering system.

A. Yes. Yes, we happen to have a lot of non-profits because we're a commercial center for the region. And we see value, both in terms of reducing cost, both short term and long term. But part of the long term is to move in a direction where flexible load can shift to lower-cost hours and thereby sort of improve the asset utilization rate or the capacity factor. You know, if we had a somewhat flatter load profile than the steep curve shape that we have now, in terms of the annual load shape, then over time we will be -- hope to avoid capacity additions, in terms of distribution and transmission to the region, to meet the area's growth by -- and, in effect, lower the cost per kilowatt hour by having the higher capacity utilization rate by having load respond to prices. And part of that is an issue for us because we are a fairly high growth area. We have a very large book of approved development, and continuing pressure for more.

Liberty has recently made major investments in increases in capacity, and that is resulting in a significant distribution rate case. But we have a pretty robust and reliable local distribution grid. But with the amount of housing and office that's scheduled for future development, there's going to be continued pressure to add capacity additions. And I think if we utilize more local renewables and do it in a smart way, including shifting demand and providing price incentives to produce it during the hours that are most valuable, or develop storage in that regard, then I think it'll benefit the whole regional economy.

Q. And so I think I've heard you discuss quite a bit about what might be part of Phase 2 when we get to time-sensitive rates. But I would still imagine that you believe that it's important to have a good value proposition during Phase 1 in the short term, to make sure that the benefits are still available to municipal entities, non-profit entities, educational institutions.

A. Yes. Just for example, the Lebanon Housing Authority has proposed a large PV array on elderly low-income housing on a building called Roger's House next to city hall that's been through the approval process. They just didn't have quite the budget to implement it, but they're hoping to implement it within the next couple years. But their analysis was based on current net metering tariffs. You know, so we hope that there's still a value proposition for them to do that and ultimately help stabilize their long-term costs for operating that senior low-income housing.

Q. So I do want to move on to a different topic.

And this has to do with more generally your experience as a Public Utility Commissioner and ratemaking principles.

So we've had some discussion earlier in the docket about the importance for gradualism and stability when it comes to changes in the rate classes that might avoid rate shock. Do you have -- are these principles of ratemaking that you would agree with, you think are important things to consider when adopting a new regime for net metering?

A. Well, there's certainly principles that merit consideration. And I think in particular, having some predictability or ability to understand where you're going before you go there is important. I sort of temper -- in some ways I think our restructuring statutes suggest that the opportunity for customer choice bears at least as much, if not more weight than the gradualism principle, which is to say that sometimes, you know, when you're sort of shifting the way you do things, you have to make some structural changes that aren't gradual. And we've -- certainly the nature of restructuring in New Hampshire has had elements of that. I think the telecom industry's another example where we went from sort of a traditional design to something that was very -- opened up competition and created opportunities for innovation and savings, but at the same time was perhaps somewhat less predictable or gradual than traditional regulated utilities.

Q. In this case, though, what I think you're referring to is the Phase 2, which is the more innovative stage of this, both settlements. Phase 1 is really a bridge to get us to Phase 2. So I guess the question is aimed more at Phase 2, if there's is some value to being incremental and providing stability while you're shifting, while you're in Phase 2 trying to make determination as to what Phase 2 -- sorry -- as you're transitioning through Phase 1, to make a determination of what Phase 2 will look like.

A. Yes, I agree that -- you know, in particular, I think it would not be productive to make a change that was so significant all at once that it caused a loss of jobs in this industry. I perceive that it's something that should continue to grow as the terms of net metering become more granularly specific rather than more sort of the rough justice as we move to a more refined justice, that we need to -- I have a mixture of impatience. You know, I want to kind of move to the future quickly, maybe because I'm getting old and I've sort of been waiting a long time to get there, on the one hand. On the other hand, you know, I think we need to keep building on the success we've had in New Hampshire, moving towards a more local renewable, distributed resource system.

Q. Yesterday, I believe on the Utility panel, I heard that -- and I'm paraphrasing, so I'm not trying to exactly quote -- that if we anticipate a problem, a cost-shift problem in the future, we should be doing something about it now, even though it's not a problem now.

Is there a ratemaking principle or some guidance that, you know, you would -- you wouldn't make decisions based on lack of evidence in a possible future which is uncertain? You would collect data, try to analyze the data, make appropriate decisions and then make the change that the data supports rather than, like I said earlier, changing something in anticipation that there might be some sort of problem or cost shift in the future.

A.   In general, that sounds reasonable. You know, there is some logic to trying to foresee trends and trying to change the structure so that things are moving in sort of a change in course. But I agree that, you know, in some respects, a gradual change in course is going to be less disruptive than a big change all at once.

Q.   And I guess that sort of flows into the next question, which is: You know, one of the sort of prime directives of this docket of HB 1116 was to investigate whether there were cost shifts. And I think the assumption has always been that the cost shifts are from DG customers to non-DG customers, although, you know, I don't see anything in the law that would actually mean that it was limited to that direction of a cost shift.

But have you seen -- is there any persuasive evidence in this docket? Is there any evidence at all that there is actually a net cost shift happening from DG customers to non-DG customers? And an important term that I used, "net cost shift," because I know that potentially -- and some utilities have shown that there is lost revenue associated with that, and that is some amount. But that doesn't take into account other benefits that could be flowing back to general ratepayers from DG that everybody is benefiting from generally.

Sorry. I'll just remind you of the question. Is there any evidence in the docket that that's the case, that there is a cost shift from -- a net cost shift from DG customers to non-DG customers?

CHAIRMAN HONIGBERG: I find it odd that you would ask a witness or party to this proceeding if there is evidence in the record of something. That's an argument for you to make, an argument for the parties to make. I'm a little surprised that no one objected to that question. I think I might object to the question.

MR. EMERSON: I'm asking him to make an observation about the evidence that's presented since he's a former utility commission and can evaluate evidence as to whether a certain proposition has been --

CHAIRMAN HONIGBERG: Well, I think that's effectively asking him, "So, former Commissioner Below, what would you do? What do you think the state of the evidence is?" How different is that question from the one you just asked?

MR. EMERSON: I don't think it's different, but I guess --

CHAIRMAN HONIGBERG: And I'm not sure it's appropriate to ask a witness who's already testified about what he thinks we should do, to have him do it again, supposedly putting a different hat on. That's a strange way to approach questioning Mr. Below about the City of Lebanon's position, and even as his -- you know, in his very impressive, vast experience here, what he thinks we should do. He's shared that with us.

MR. EMERSON: I will withdraw the question if --

CHAIRMAN HONIGBERG: Maybe you -- anybody want to object to that question?

MR. EMERSON: I will rephrase it.

CHAIRMAN HONIGBERG: Why don't you try that.

BY MR. EMERSON:

Q. Do you believe there is a net cost shift from DG customers to non-DG customers?

A. In the greater scheme of things, if we incorporate sort of all the social cost issues, I'm not -- I'm skeptical whether there's a net cost shift. But for various reasons, you know, as a society we have not made sort of the political decisions to maybe put the full value on carbon, the real cost that might arguably be there. So, you know, sort of net -- I think, you know, the sort of current scheme has a rough justice.

I think the distribution utilities have a legitimate issue with regard to their particular slice of the picture, which is, you know, just very summarily put, you know, when somebody who has net metering can put power onto the system and take it back, back and forth, essentially using the grid like a battery, if they're not paying anything for the use of the distribution system on that one element, there may be some significant cost shift. Is that balanced off against other elements? I tend to think that the balance of evidence indicates that the overall compensation is probably undercompensated. But that's when you, you know, put real full value, for instance, on the cost of carbon emissions and how renewable net metering systems can help displace that.

So, you know, I have some sympathy for the distribution utility position, that there is this somewhat geometric increase in the amount of solar systems going on and they don't have a revenue mechanism that's decoupled. So they're in a situation where the more systems get interconnected under the current scheme, the more they have eroding of sales and revenues, and the more frequently they potentially have to come in for rate cases to make that up, or implement the lost revenue recovery mechanism. And even that, with all the evidence -- and I think there is evidence on both sides of the issue in this docket -- even with all that evidence, I'm not sure that recovery of that lost revenue isn't offset, for instance, by the value that solar produces, in terms of avoiding what would otherwise be higher forward capacity charges, what would otherwise be higher clearing prices on many, many summer afternoons. But unfortunately, there has not been really modeling of exactly what all the amount of solar that's been developed in New England, exactly how much that has produced in savings for all customers, in terms of simply lowering capacity, FCM charges and market clearing prices from what they would otherwise be. I think it's entirely possible that those savings more than offset the lost revenue recovery cost shift that may occur. But that being said, unfortunately, I don't think in this docket we really have all the evidence to come to a definitive conclusion in that a manner.

Q. Okay. Thank you. I guess, so that would mean you do not believe there's an unreasonable or unjust cost shift.

A. In balance overall, I think there's a problem on the distribution rate element in particular. Leave it at that, yeah.

Q. So I did want to talk a little bit about what you had mentioned at the end of your opening statement about the distribution credit being zero and that potentially it wouldn't have a large impact if you had monthly netting. Do you remember that statement right before we broke for lunch?

A. Yes.

Q. So if I understand that, you weren't saying that there's no benefit to the distribution system from distributed energy resources.

A. Correct.

Q. What you're saying is that, in the monthly netting, the difference between imports and exports netted over a month would be minimal.

A. For residential systems that are sized at approximately or less than the total residential load, correct.

Q. Right. So I guess I want to explore that topic a little bit because -- and you -- my reaction when you had said that was: Okay, I get the concept. But it seems like the problem may not be with the fact that you're valuing distribution -- you're providing distribution credit, but it may be -- and this is a future of both settlements -- it has to do with the fact that every month you are converting kilowatt hours into dollar credits, and then by the end of the year both proposals, I believe, say that you'll pay that out at the -- as a cash payment or have the option to receive that as a cash payment; is that correct?

A. Yes.

Q. So, in that mechanism, the combination of those two things would lead to, in certain situations, where you have an oversized project that has a lot of surplus at the end of the year would be getting more than avoided costs because it had already been converted to dollars. You would be getting whatever the component is of the export credit, which is greater than avoided costs.

A. Yes, potentially for up to 100 kW systems.

Q. Okay. Right, for 100 kW systems. But is that -- what I'm seeing in response to that, though, is that maybe you're addressing that problem, but it isn't necessarily a feature of the distribution credit or crediting for distribution? That may be a feature, a difficulty of converting to dollars. But what I see is that what it's doing is it's creating a very different value proposition for a customer that may have the capacity or the ability to build a solar project that is adequately sized for their load versus customers that are interested in net metering that may not have the ability -- meaning a group net metering system where you would have a project that is designed to serve more than one load, multiple loads, whoever are members of the group -- and by nature, that's going to have additional surplus.

A. Yes.

Q. And, you know, what will happen is that they will have a much different value proposition for that type of project than someone who has the ability to essentially build the project on their own and serve their own load. Would you agree with that?

A. Yes. The difference would be a much, if not all, of the distribution value.

Q. Correct. Meaning that -- and since we've talked a bit about moderate- to low-income municipalities, non-profits, group net metering may be the most economic way in which they can participate in a group net metering system, such that, you know, if you're creating -- you're trying to solve this problem that really relates to the crediting or converting of kilowatt hours to dollars at the end of the month, but you're changing the value proposition to address that, what might be a very unique situation where someone has oversized their system so that they have dollars at the end of the year just --

MR. FOSSUM: Mr. Chairman, I'm sorry to interrupt. I really am. I waited. I apologize. I'm not sure where the questions are. This seems like an awful lot of -- it's almost testimony or argument. I'm not certain what question Mr. Below is being asked about his thoughts and opinions.

CHAIRMAN HONIGBERG: I hear you, Mr. Fossum. I was going to make sure that Mr. Below didn't answer whatever question came at the end of Mr. Emerson's run-up there.

I really think it would be more helpful, Mr. Emerson, if you would shorten the questions so that we can follow along with you and Mr. Below can follow along with you without having to process the entire story that you're telling as you go.

MR. EMERSON: Okay.

BY MR. EMERSON:

Q. I guess the question can be a simple one, that the proposal to not provide a distribution credit would have negative effects on the value proposition for customers that are interested in group net metering.

A. Compared to the current system or providing some credit for distribution, that would be true.

Q. And would the same also be true for a customer that is trying to size their system so that it may have exports on a monthly basis, but it's sized to be an annual load, so they don't end up having excess dollars at the end of the year? They're trying to match annual load to production, but it may be lumpy from month to month.

A. Only on the margins. And it looks like if the exports, annual exports are only on the order of 10 to 20 percent of the total production, then we're talking about somewhere on the order of two bucks, three bucks a month difference in the total value proposition for what's probably a $10- to $20,000 investment. It's something on the margins. I don't think it's a particularly -- it doesn't strike me as sort of a pivotal point, a major change in the value proposition.

Q. Do you think, though, that a possible way to address the problem may be in how you account for the excess dollars at the end of the year rather than trying to change the way that systems with significant monthly surplus would be credited?

A. That sounds like it might be administratively difficult. And I personally don't see any -- I wouldn't want to see obstacles -- and when I say "personally," I'm really saying on behalf of the City, in terms of our goals. When we did our solarized efforts, we found that there were a lot of residents and businesses who wanted to put on solar, but they just didn't have appropriate sites for it. And there were other people who had good sites. And if you've got a good site that could produce more than you need, you know, I'd personally like to see a structure that gives incentives and doesn't create barriers for people to oversize. I don't see a problem with oversizing because it helps meet the needs of the folks down the street perhaps.

That being said, I think perhaps a better way to deal with the issue is a size -- you know, maybe have some distribution credit for under 20 kW if you had monthly netting plus some distribution credit. But once you went to 20 to 100, or if they're actually a group net metering or group host situation, you might have some credit, but in that 20 to 100, if you're not a group host, then maybe no distribution credit with monthly netting would make sense, for instance. So that might be a way to, you know, address the issue in both a gradual way that sort of protects the -- moves the current value proposition incrementally slowly, you know, for residential-size systems, but also doesn't perhaps create a significant overcompensation where it doesn't exist now for somewhat larger systems -- which is to say, presently, if a system that was 25 kW produced twice as much as the homeowner or small business needed, right now they -- and they weren't a group host -- they could cash that in, but only in avoided costs. If they were to get the transmission credit plus a portion of the distribution credit, then they're going to -- that's going to be a more attractive proposition to put in a system that's larger. And again, I don't think that's necessarily bad, unless it's potentially creating a locked-in, grandfathered, long-term something that may or may not, but may prove to be a significant cost shift. And that's where we are somewhat lacking in the overall data to come to a definitive conclusion on that question.

Q. Is the Lebanon proposal to do landfill gas, is that proposed to be a net-metered project?

A. Yes, we anticipate that.

Q. So, in this docket we've discussed a lot about solar and the impacts of solar. But I'm sure you have some concerns that whatever program is developed provides reasonable opportunities for all forms of distributed generation and not just solar?

A. Very much so. I mean, solar's dominating the net metering market today. But I think there's other technologies that may emerge as more significant players.

Q. So I know in the Consumer/Utility Coalition proposal, part of their value of DER study proposes to look at the costs of solar, what it takes to develop it and install a project. Generally, is that something that you would do for a competitive industry like solar or other renewable energy generation?

A. No, I think that's more of a throwback to the cost-of-service regulated model. And I don't -- I think it's a lot of time and effort that's not productive or purposeful for the parties or the PUC to try to analyze what this should get, as if it was a regulated monopoly product. I mean, I think we need to set the parameters, the interface with the regulated rates, in way that's as fair as we can get them and move towards more granularity so that specific projects receive more of their specific value rather than sort of an average value. But, you know, if there's certain technologies or certain entrepreneurs that can do that more or less cost-effectively at some level. I think the rest of our business, the details is to their business proposition. The fact that consumers have a choice of who's going to put in their distributed generation system, and they have a choice of the type of technologies, I think that, you know, we should leave the competitive market to offer those options and, you know, whatever profit margins or loss margins occur, as occurs in any competitive market.

Q. So my last couple of questions just have to do with what has been referred to as "instantaneous netting." So, one of the things that I sort of -- I see how it is a component of what is likely to be Phase 2, that you may want to consider something less than monthly netting when it comes to Phase 2. But do you think that its implementation now, in Phase 1, without any other price signals to the consumer or to the DG customer, does that have any benefit or possibly even send a negative price signal towards the customer?

A. I'm sorry. I didn't quite follow you. I lost my focus for a moment.

Q. I'll repeat it.

So essentially what you're doing is, you know, it's been described as an "incremental" step towards price-sensitive rates in the future. But there's no other change besides that in the Consumer/Utility Coalition proposal. That by itself, does that provide any positive rate incentives, or might it even provide a negative rate incentive just by itself?

A. Right. You know, effectively, with a full default service and transmission credit, it is effectively monthly netting, whether -- you know, just because it's a one-to-one. You can even think of it as an annual netting because there's a cash-out or not at the end of the year. Going to that sort of granularity of instantaneous flows is -- I know that it's convenient from a metering point of view because you don't have to have an interval meter, so it's incrementally not that much more expensive than a current meter, and you read it the same way you do now. So in some ways that's convenient, but it doesn't match up with the actual market at wholesale, which is an hourly market at present. It might move to five minutes at some point for load. It's already five minutes for generators. But, you know, I am concerned that it does send sort of a perverse, inappropriate price signal, which is that -- and it's already been referred by other witnesses, that it's sending a price signal that you're better off trying to match your load with your production in real time than what an hourly price signal might send, which is you're better off shifting your load to the low-cost hours which is going to benefit all other customers because it's going to bring down the demand at higher-price hours and bring down those prices. And actually, if you shift load to the low-price hours, including the negative price hours, that's going to help the central generation market. They would love enough load to move to the hours where they go negative, that they don't have to pay to generate power. And that's also going to benefit customers because we're not going to lose central station generation, you know, because they're having to pay to generate power.

MR. EMERSON: I have no more questions.

CHAIRMAN HONIGBERG: Thank you, Mr. Emerson.

Any other party of this Coalition have anything for Mr. Below? Ms.

Birchard.

MS. BIRCHARD: Thank you, Your Honor.

CROSS-EXAMINATION

BY MS. BIRCHARD:

Q. Clifton, I'd like to describe -- can you hear me?

A. Yes.

Q. I'd like to describe two scenarios. Please assume that both scenarios involve homeowners with distributed energy resources who experience load changes. So, in the first scenario, the homemaker who raises two or three kids in her home and then decides to return to work in an office after her children go back to school; in the second scenario, a retired gentleman on a fixed income becomes a widower. As between the two settlement proposals, in your opinion, which would expose these customer-generators to greater risk? The Utility/Consumer Advocate proposal or the Energy Future Coalition proposal?

A. A "risk," in terms of a change in the value proposition to their net-metered system?

Q. The ongoing value. Correct.
A. Okay. I think pretty clearly the Utility/Consumer Proposal, because they would be presumably reducing their load if they've got a solar system, reducing their load by their change in their lifestyle or circumstances, their daytime load, that would be offset in real time. They would see more of a change potentially than they would in the circumstance where they're still getting a significant distribution credit, and/or just the fact of the monthly netting instead of -- monthly netting would sort of obviate -- they should be indifferent to the monthly netting probably because maybe, you know, they're load just shifts around and it doesn't really matter in monthly netting, because we already heard that there's unlikely to be a significant shift between monthly periods.
Q. Thank you. In your opinion, the opinion of the City of Lebanon, or your personal opinion, was an initial position in this proceeding of setting compensation at LMP, locational marginal price, within the zone of

reasonableness?
A. No, not in the overall scheme of things for net metering, no.
Q. Thank you. You stated in your opening statement that you had installed a meter to track load and solar production; is that correct?
A. Yes.
Q. And you can look at minute-to-minute data, and you do so from time to time; is that correct?
A. Yes.
Q. Does your load and production graph look like Exhibit 67?
A. No.
Q. Can you tell me what's different about it?
A. Well, I was just looking at my load shape a few minutes ago, and it's quite jagged. I don't know exactly why, but something's turning on and off at my house. And because it's overcast, my solar production is quite a smooth curve right at the moment.
You know, suffice it to say that, you know, the more granular you have of data -- and, you know, I can look at the last thousand

one-minute reads, which is roughly 16 hours of data right now, and there's -- today there's a very choppy look, a mixture of steps and a mixture of chop to my consumption, and a fairly smooth curve on my solar production. I have looked at it on sunny days with clouds passing. I have to have micro inverters that are less susceptible to the cloud-cover effect. So, sometimes, occasionally the solar looks a little more volatile than the load. But generally my load looks more volatile than the solar production.

Q. Okay. And you're a pretty savvy energy consumer. Would you deem that to be an accurate statement?

A. Sure.

Q. But you're not sure what's responsible for these jagged peaks and valleys in your electricity consumption; is that correct?

A. Correct.

Q. Could you respond to price signals under the Utilities proposal?

A. I think we've tried to make a point of charging our electrical vehicle whenever, you know, the sun's out, make sure we plug it in right when we come home rather than waiting until later in the evening. I think we make more of an effort to run the clothes dryer when it's sunny out than when it's not sunny out, or at night.

Q. And what affect would that have on the overall costs of our electric system, in your opinion?

A. Well, shifting my load onto high demand hours, which, you know, a sunny afternoon often is in the summertime, you know, that would have the effect of making less of my exports available to otherwise decrease the wholesale demand, which has a very small, incremental, upward pressure on the wholesale clearing price from what it would otherwise be.

Q. Thank you. How high a priority do you believe it to be, for purposes of lowering all New Hampshire customer bills, to put DG and non-DG customers, either or both in the state, on a trajectory to time-of-use rates?

A. I think that's very important ultimately for two reasons. One, we have a somewhat dysfunctional wholesale market. And this is sort of Economics 101. To have good price formation and market efficiency, efficient prices meaning, you know, lower prices, you have to have supply and demand, and where those curves meet is where the price clears. But if only generation or sort of large-scale, wholesale --

(Pause in proceedings)

CHAIRMAN HONIGBERG: Do you remember where you were mid-sentence?

MR. BELOW: Not exactly.

BY MR. BELOW:

A. The supply and demand curves. We have a market in which mostly just supply responds to the day-ahead or real-time price signal. If we engaged load in responding to the same price signals, I think we could produce a lot more savings for everyone. And part of that comes from this notion that very high demand hours tends to be very high-price hours. And if we move load away from -- move flexible load away from those high-price hours, people can save money, but more importantly, we change the ratio of energy consumed to the amount of fixed capacity that we have to buy. And ultimately, there's a lot of potential savings there. And of course I put in my testimony the fact that we've seen a 10-percent decline in New Hampshire and in New England in our capacity factor over the last 15 years or so, and the current projections will continue that decline in capacity factors. So we're buying more -- supporting more and more distribution, transmission and generation capacity for fewer kilowatt hours, which means more expensive kilowatt hours. If we can reverse that trend by engaging load in responding to real-time price signals, or anytime variable rates, then that's going to produce value.

And the same thing -- even though there's not a wholesale market, the same thing translates to transmission and distribution because, there again, all of the capacity -- and I would note that in Liberty Utilities' recent marginal cost study in their recent rate case, it's pretty clear that the bulk of marginal costs are capacity-related. So there are savings to be had there, especially in the long run, if we can have a better asset-utilization rate.

Q. Thank you. In your opinion, do data- and value-based rates have the potential to enhance competitive markets in New Hampshire?

A. Yes.

Q. And in your opinion, do data- and value-based rates have the potential to help us -- meaning consumers and the state at large -- make investments that are wiser with our eyes wide open?

A. Yes.

MS. BIRCHARD: That's all my questions. Thank you.

CHAIRMAN HONIGBERG: Going to take a two-minute break and see if we can get Commissioner Scott back on the line. Don't move.

(Pause in proceedings)

CHAIRMAN HONIGBERG: All right. Mr. Fossum, you wanted to proceed?

MR. FOSSUM: Thank you. I have just very few questions.

CROSS-EXAMINATION

BY MR. FOSSUM:

Q. Mr. Below, in your opening remarks, you spent some time discussing potential impact on competitive suppliers. Do you remember those remarks?

A. Yes.

Q. Are there any competitive electric suppliers participating in this docket?

A. Within the definition of "competitive electric supplier," I don't think so. Freedom Energy Logistics has an affiliate that's a competitive supplier, I believe, or two.

Q. Do you think it is -- does lack of participation indicate anything to you about their interests in serving net-metered customers, or net metering generally?

A. Yeah, I think that it's not barely on their radar screen, apparently, or it's certainly not worth spending time to deploy paid personnel to participate in this proceeding.

Q. Switching now to -- you had made a number of remarks about potential tax consequences during your opening remarks. Referring to, I guess the term we've been using, the "instantaneous netting" or a "buy/sell" model, to your knowledge, is there anyplace in the country where such a model is being employed presently?

A. I have the impression that -- well, the Co-op right here in New Hampshire is using instantaneous metering, if you want to call it that, or bidirectional no netting. I was looking at all of their language in their -- or at least some of their language. They're very clear in terms of structuring it as a credit. And I think that they are in fact -- it appears, because they are self-supplying their default service load, that they're using it to offset the load that they have to acquire for their default service customers. So it appears that they are treating it as an offsetting netting for the customer and offsetting netting for themselves as the default service suppliers.

Q. And are you aware of any places outside of New Hampshire that are doing it?

A. I've heard of places where they're considering things like that. You know, I think Hawaii has something like it. There's something pending in Arizona. Those are the two that come to the top of my head. I guess I don't really know specifics of other states.

Q. Well, I guess the reason for me asking is, to the best of your knowledge, in any of those places where they're either doing it or are contemplating it, has there been any tax-related impact to customers that you're aware of?

A. Not that I'm aware of, no.

Q. And my last question is a follow-up to a question you answered from Mr. Emerson.

Do you recall he asked you a question about whether it's worth the time to look at the cost of installing solar panels, the cost to installers and customers? Do you remember that question?

A. Yes.

Q. And your response, if I remember correctly, was basically, no, it's not worth their time.

A. Right.

Q. Isn't one of the purposes of this docket to determine what rate of compensation is necessary to ensure that customers have a reasonable opportunity to install distributed generation?

A. I don't really read it that way, per se. It does -- certainly there's the continuance of reasonable opportunities for customers to invest in and interconnect self-generation and receive their compensation. But to my mind, the opportunity gets created by the regulatory and rate structure for that. It's not so much a function of the profitability, or lack thereof, of the industry itself. I mean, clearly we're still at fairly low penetration rates in New Hampshire. So I don't think this is something that's wildly lucrative for customers or installers at this point.

Q. Be that as it may, I guess my question is: Wouldn't knowing the cost of one of these systems help inform what level of compensation is necessary to ensure that customers have reasonable opportunities to participate?

A. Not especially, because I think that's sort of a dynamic question. And the type of system -- and installers are going to have quite different, quite possibly different cost structures. You know, I know that, for instance, you know, tracking systems versus fixed-panel systems have significantly different costs.

But, you know, I don't think we're trying to design a rate structure to try to get a particular path for development based on the cost of the competitive market; rather, we're trying to create a structure that sends appropriate price signals all the way around and is fair to people on both sides. And if it works out that what is fair either makes it uneconomic or much more economic, that's almost beside the point. The question is getting the structure so that it is fair to the utilities and the customers, sort of independently of what the economics of a particular technology at a particular point in time are, and then either the technologies will fit the economic opportunity or not. And, you know, there's external policies that say, "We want to give you additional incentive for this, such as the federal tax credit." For instance, just because the federal tax credit goes away doesn't mean we should necessarily, as a matter of rate design, make up for that to keep the economics the same for installers.

MR. FOSSUM: Thank you. That's all I have.

CHAIRMAN HONIGBERG: Who's next? Mr. Sheehan?

MR. SHEEHAN: Thank you.

CROSS-EXAMINATION

BY MR. SHEEHAN:

Q. Mr. Below, I just have a couple questions about the pilot program that you discussed with Ms. Tebbetts yesterday.

A. Yes.

Q. Will the City's pilot include a municipal aggregation program where the City will become the NEPOOL-direct participant and will look to sign up net-metered customers to receive real-time pricing for energy service -- basically, be acting as a third-party supplier providing real-time pricing?

A. Essentially, that's how we are conceiving it at the moment. The Town of Hanover, which is already a NEPOOL participant, has expressed interest through their manager and public works director and their energy committee in collaborating with the City. RSA 353-E specifically provides for municipalities to do this jointly. So there is the possibility that we may not become a NEPOOL participant if we can use Hanover's account. But we may well do that on our own as well.

Q. And if this is the case, will this require the participants to be billed only for energy service by the City rather than by Liberty, so that the City can bill real-time prices?

(Court Reporter inquiry)

CHAIRMAN HONIGBERG: Mr. Sheehan, if you could move the microphone closer, that would help.

MR. SHEEHAN: Sure.

A. Yes. You know, we've talked -- I've talked with Ms. Tebbetts, that, you know, Liberty doesn't have the ability to do that. And we don't expect that, you know, they would try to develop that ability. So we would expect, for the energy component, that the municipal

aggregation, or somebody we contract with, would be responsible for billing the energy component.
Q. And so would the customers receive real-time pricing credit from the City for the exported power?
A. Yes.
Q. If that's so, and if the Commission approves the Energy Future Coalition's proposal, do you believe you can get participants to sign up for real-time pricing if the customers are being paid full default service for exports rather than the real-time credit that you would be offering?
A. Yes.
Q. You think you could?
A. Yes, and I'll be happy to explain why.
Q. Sure.
A. First of all, I think that there's going to be significant interest from the potential energy savings -- for the cost savings from accessing real-time prices. But more significantly, I think that having those prices, there's the opportunity for customers, or the city, at city

sites, to provide systems that could actually produce at higher-than-average price hours, such that even -- you know, when you sell, there has to be some mark-up to cover RPS compliance costs, as well as billing and administration. But even with those adders, tentatively looking at this, it looks like people could actually get, you know, more than the average price for their production and pay less than the average price for what they consume. So they could actually end up better than one-to-one that just the default service credit would give. So I think that is a potential attraction.

The other attraction -- I've already had a number of people say "Sign me up." People that can't put in PV at their home site are very interested in the concept of maybe buying, for instance, a 5-kW tracker that could be on a city site, and that's how they could -- you know, essentially, if they own it and they're taking it remotely, they'll get compensated for real time when it goes out, and they'll pay real time plus a retail adder when they consume. But again, you know, tracking, particularly in my own analysis for the year that I presented in my direct testimony, tracking systems were producing at between 120 and 144 percent of the average load-weighted average real-time price all around. So there's a significant margin there that consumers could actually end up better off, compared to, say, a group host situation.

Q. Thank you. That's all I have.

CHAIRMAN HONIGBERG: Who else from that group? Mr. Kreis.

MR. KREIS: Thank you, Mr. Chairman. I remembered to turn my microphone on.

CROSS-EXAMINATION

BY MR. KREIS:

Q. Good afternoon, Councilor Below.

A. Good afternoon.

Q. I want to make sure I understand your position completely. I have heard you offer up a lengthy set of critiques of the Consumer/Utility proposal. I'm wondering if you could just help me by explaining in about a hundred words or less what it is you don't like about the Energy Future Coalition proposal. Why shouldn't the Commission just stamp that "approved"?

A. One point was the 75-percent and 50-percent distribution credit on monthly exports. In considering it for someone who's sizing the system to meet their own load, with the very limited data we have, it looks like they may be able to achieve on the order of 75 percent or more, certainly probably more than 50 percent of distribution credit offset just by virtue of the monthly netting. That additional 50 or 75 percent may be excessive and unnecessary. And perhaps there could be a slight unintentional effect of, you know, if that -- once we have the data, if that proves to be somewhat excessive compensation, then you could end up with a situation where you have a number of systems that could develop -- that are developed specifically for the purpose of creating cash value to be cashed out at the end of the year, that could be grandfathered for a long period of time that we'd be locked into. So that's probably my biggest concern with that proposal.

CHAIRMAN HONIGBERG: That was about 120.

MR. BELOW: Okay.

MR. KREIS: Still, though, he did a really good job I thought. Sorry about the editorial.

BY MR. KREIS:

Q. Did you finish your answer?

A. Well, just, you know, there's more detail in the Utility/Consumer Proposal and a number of areas that aren't there in the other proposal that -- so I think that's sort of a weakness of the other proposal. But by drawing from both, that could be reconciled.

Q. I understand. I want to ask about House Bill 1116. You're familiar with House Bill 1116, which is Chapter 31 of the New Hampshire laws of 2016; correct?

A. Yes.

Q. You participated in the legislative hearings and work sessions that led to the passage of that bill?

A. Yes.

Q. So you're familiar with its specific language, and you probably have some personal subjective views about what the intent of that language is. Would that be a fair statement?
A. That's fair.
Q. In House Bill 1116, it says, and I quote, "In developing such alternative tariffs and any limitations in their availability" -- and let me just say parenthetically, that's the purpose of this docket, according to the legislature -- now reading again, "the Commission shall consider... an avoidance of unjust and unreasonable cost shifting."
A. Yes.
Q. What does that phrase "avoidance of unjust and unreasonable cost shifting" mean to you, given your experience both as a legislator and a utility commissioner?
A. Well, the conditions of unreasonable and just indicate that some cost shifting may be occurring. And I think that's sort of the nature of the many rough justices that exist with regulated rates. But we want to avoid a structure that unfairly, unjustly creates

shifting of costs between consumers, customer-generators, utilities. You know, you want to have a balance of benefits and costs that are, you know, proportional to the customer's situation and ultimately their cost causation.

Q. So is a -- hypothetically, is a lack of hard evidence about present-day unjust and unreasonable cost shifting, does that mean the Commission can or should just ignore that issue and wait for some future proof that there's unjust and unreasonable cost shifting?

A. No. I think they have to -- they and we -- or they have to make their best judgment based on the available evidence as to sort of the probability of whether there may or may not be a significant cost shift, and if that's unreasonable or not.

Q. You would agree with me that commissioners make those probability-related judgments all the time about future events; do they not?

A. All the time.

Q. Maybe not all the time, but often.

I want to make sure that I understand the pilot proposal that is the subject of your original testimony.

My first question is: To what extent are you asking the Commission to approve that pilot project in the present proceeding?

A. That's a good question, because I did sort of ask for that in my direct testimony.

At this point, I'm sort of looking for the Commission to provide some encouragement that I can take back to the rest of the City. You know, I've already been encouraged by Liberty, the fact that they've indicated that they're quite willing to work with us and try to work through these fairly challenging and complex issue, because the reality is nobody has been able to deploy a significant amount of interval metering to enable this kind of option for customers. So it's no small undertaking.

So, essentially, I expect that with some encouragement, we'll go ahead and try to work through those things, and if there's a pilot task force set up, work in that context. But we have a certain timetable that we'd like to move ahead of pace on, and with the hope, you know, with the expectation that we'd need to come back to the Commission either as an extension of this proceeding or perhaps a new docket. I don't really want to start from scratch. But, you know, we may have to come back to address some tariff, some pilot tariffs, some possible rule waivers or rule changes, although that's sort of generic to this whole docket. The current rules don't fit anything that's likely to come out of this proceeding, so there's going to have to be work there.

Q. You mentioned a timetable. Do you have an anticipated start of the pilot?

A. In general, we are -- the City happens to have entered into a two-year, fixed-price contract with a competitive supplier a while back. Those prices run out in November. So we're contemplating possibly moving to real-time pricing at that point. We don't expect that the aggregation would be ready to launch at that point. But we'd like to launch it possibly, you know, roughly a year from now. Early next spring is when we might like to be signing folks up and beginning to offer the service. And in that time frame, we expect our own landfill gas project to get constructed, hopefully next year, and potentially some of the solar projects, so that we can actually offer some actual net metering opportunities not just for the City, but also for other customers, because in a fairly short period of time we could be producing more than the City itself needs to consume. And so we'd be looking for customers, essentially in the form of community net metering, to absorb all that production and also create opportunities for a number of -- we just had a very strong vote to change our zoning throughout the community that in effect allows for communities to get scaled solar throughout all the districts. So we've kind of set the regulatory structure that enables this at a local level.

Q. Your testimony mentions RSA 53 -- or your testimony mentions Section 6 of RSA 53-E, which is the statute that refers to electric aggregation plans. That's the statute under which the City intends to proceed?

A. Correct.

Q. Is it the City's position that, if it proceeds under RSA 53-E, it requires Commission approval before moving forward?

A. Not strictly speaking, I don't believe.

Q. So is it the City's position that it doesn't need Commission approval?

A. To initiate a municipal aggregation?

Q. Yes.

A. Correct.

Q. RSA 53 -- well, the second paragraph of RSA 53-E:6 -- that is to say, Section 6 of Chapter 53-E -- says, "The plan," meaning the municipal aggregation plan, "shall provide universal access." How does what you are planning provide universal access?

A. Well, the convenient feature for us is that only Liberty serves in Lebanon. So if we can work out our issues with Liberty, then, when we roll this out as required by the statute, once we adopt a plan -- and because we're a city, we don't have to go to a town meeting; we can do it through the city council -- we would be sending a letter to every resident and business. The statute doesn't exactly provide for where we get the addresses of all utility customers, but maybe -- but it does expect that we would open it up to any, it appears, to any resident or ratepayer perhaps within the city, so that this would go beyond -- you know, obviously, this would be more than just a net metering pilot. There's aspects where we would need, you know, Commission approval to do certain aspects of this, in all likelihood. But the idea would be that it would be open to any citizen. They wouldn't have to participate in net metering to join the aggregation. And I'm assuming the parameters of the plan would be that we're offering real-time pricing.

Q. And I think when you were talking about the letter that would go out to all the citizens of Lebanon, you were referring to the explicit requirement to that effect in Section 7 of the statute; yes?

A. Yes.

Q. Who's going to write that letter?

A. I haven't crossed that bridge. We did authorize the creation of a full-time energy facilities coordinator for the City, and the City administration is preparing to put that position out to hire. So we will hopefully have somebody on board to help on all of these projects.

CHAIRMAN HONIGBERG: Mr. Kreis, I'm feeling a little dense. Where are we going with this?

MR. KREIS: We're about to go somewhere else.

CHAIRMAN HONIGBERG: All rightie then.

MR. KREIS: I'm good at reading the room.

BY MR. KREIS:

Q. I think the -- actually, I have just one more question. I have to ask about this.

Your testimony talks about a pilot that runs through 2040. That is, by my math, 23 years. Isn't that a long time for a Commission-approved pilot project?

A. It is. I think the key elements of this are going to be the metering question, as well as the question of transmission credit for actual avoided marginal costs for transmission, where we can actually -- a meter coincident of DG with -- net-metered DG with monthly peak, coincident peaks on which the wholesale transmission charges are based. So the statute allows for either time- or size-limited pilots. This would be somewhat time-limited. But more importantly, it would be size-limited by the nature of the number of municipalities, initially probably just Lebanon and maybe Hanover, that might participate in this. But at some level it goes beyond a pilot to perhaps trying to be a pioneer.

But I think the real point is if we are able to figure out a way to get the interval metering in place and the transmission credit tariff and so forth, we have -- and enough participants -- we sort of have a test bed to do additional pilot work.

I've already had a brief conversation with Liberty about a way that we could pilot a time-variant distribution rate, but hold Liberty whole, in terms of what they would otherwise get from revenue from our customer base, and do it through our use with interval meters. And I think, particularly Dartmouth's potential participation and involvement, you know, helps provide it to be a potentially useful sort of research test bed for how -- enabling people to, you know, respond to prices, analyze what's going on and so forth. Plus, being big users themselves could end up coming into the fold of being part of a larger effort to develop local renewable resources.

Q. It would be tempting to go on about this, but I won't.

I want to move over to a subject that Mr. Fossum raised with you, and I wanted to ask you a few more questions about it. It has to do with tax issues.

If I understood your testimony correctly, you are concerned that at least the Consumer/Utility proposal raises the possibility that customers could incur taxable income and/or lose the investment credit that they would otherwise receive under the Internal Revenue Code; is that a fair statement?

A. Fair enough, yes.

Q. You are not an attorney; correct?
A. Correct.
Q. And you are not a CPA?
A. Correct.
Q. You mentioned in your testimony that you've prepared over 100 tax returns in your life. Are those tax returns that you have prepared for clients or others who have hired you to do their tax work for you -- for them?
A. Some of both. I did spend part of a tax season working for my uncle who had a tax-return preparation business, and I prepared many returns there. But in subsequent years, I've also continued to prepare business tax returns for businesses that I'm involved in, where I also do all the accrual-based, double-entry bookkeeping. And none of them have ever been subject to audit that I know of.
Q. That's good.
You offered into evidence Exhibit 66 as an analysis that the Commission might consider of some of these issues. Do you have that exhibit in front of you?
A. I do.

Q. Who's Kayci Hines, the author of the exhibit?
A. Well, there's a footnote on the front page that gives a little bit of information about her.
Q. Well, you mentioned that you spoke with her. Where did you reach her?
A. I Googled her name and I got a phone number and I called up and left a message and she tracked down my e-mail and e-mailed me. So we didn't actually end up speaking, but we e-mailed back and forth.

CHAIRMAN HONIGBERG: Mr. Kreis, I've let you go a little ways here, but you know this is a topic, as you acknowledged, that Mr. Fossum covered. I had understood there was some informal ground rule that attorneys on the same side of this wouldn't duplicate topics. Do you feel like we're going to give undue weight to former Representative/Senator/ Commissioner/current Councilor Below/not a lawyer's opinion about federal income tax law?

MR. KREIS: No. But what I am concerned about is that you might give undue weight to a law student note that was written by a law student, who now works at a law firm in New York City, not practicing tax law, written under the supervision of a gentleman who is currently the policy advisor to the California Solar Energy Industries Association --

CHAIRMAN HONIGBERG: And edited by a law student, as we established earlier.

MR. KREIS: And edited by a law student. So that is sort of by way of a mini offer of proof. Now, I have the author's little mini bio from her law firm in New York City that I can introduce into evidence, or I can ask the Commission to take administrative notice of the facts that I just rattled off, or I can ask Commissioner Below about them. It's up to you, of course.

CHAIRMAN HONIGBERG: Well, I guess the more general point is that I understood that there was a ground rule that counsel on the same side wouldn't cover the same material twice, and we are covering an area that Mr. Fossum dealt with a little bit. And I understand that there's more, certainly more that could be done with this. I'll let you follow this down if you want to introduce that exhibit and ask Mr. Below a few more questions. You may proceed.

MR. KREIS: Well, let me try it this way.

CHAIRMAN HONIGBERG: We have a lot of people who can help you distribute things. Mr. Aslin is raring to go, right next to you.

MR. KREIS: Okay. Great. We can do it that way.

(Mr. Kreis distributing documents.)

MR. BUXTON: Mr. Chairman.

CHAIRMAN HONIGBERG: Mr. Buxton.

MR. BUXTON: Would it be appropriate, Your Honor, for the record to note that that criticism was by a law professor?

CHAIRMAN HONIGBERG: Oh, always.

MR. KREIS: So I just handed a piece of paper to Commissioner Below that ought to be marked as an exhibit, but I don't know what the next number is.

CHAIRMAN HONIGBERG: Eighty-seven.

(Exhibit 87 marked for identification.)

BY MR. KREIS:

Q. Okay. Directing your attention to what has been marked as Exhibit 87, Commissioner Below, and asking you to accept my representation to you that it is information that I downloaded earlier today from the Worldwide Web, from the web site of the New York City law firm of Windels, Marx, Lane & Mittendorf, LLP, what do we know about the author of Exhibit 66's, Attorney Kayci Hines?

Well, let me ask you this: Did she write the article that you're relying on while she was a law student?

A. This appears to say that.

Q. And is she practicing tax law now?

A. Well, it says the practice includes business, but not specifically tax, no.

Q. So she isn't representing herself as an expert on tax matters for hire to clients in New York.

A. No. I don't know.

Q. Fair enough.

MR. KREIS: Mr. Chairman, those are all my questions for Commissioner Below.

I would move the admission of exhibit -- I've forgotten the number now --

CHAIRMAN HONIGBERG: Eighty-seven.

MR. KREIS: -- 87.

CHAIRMAN HONIGBERG: All right. Without objection, we'll strike the I.D. of 87. It's a full exhibit.

(Exhibit 87 admitted.)

CHAIRMAN HONIGBERG: And when Ms. Hines Googles herself, she will have no idea this was going to happen.

MR. KREIS: She'll be moving to New Hampshire, I'm sure. She's a celebrity here now.

CHAIRMAN HONIGBERG: All right.

MR. KREIS: Of course, Mr. Fossum will have to decide if she can pass the bar exam.

CHAIRMAN HONIGBERG: Mr. Aalto, do you have a questions for Mr. Below?

MR. AALTO: A few brief ones.

CHAIRMAN HONIGBERG: Find a microphone, please. Looks like next to Mr. Sheehan.

MR. AALTO: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. AALTO:

Q. Mr. Below, I thank you very much for your testimony. I found it very instructive and a source for more work to be done in the future.

An area of concern was your assessment of distribution value, or lack thereof. If I as a customer reduced my load by one kilowatt hour, I reduce the amount of generation, transmission, distribution to get the power to my neighborhood, and I don't pay anything for the power that I didn't use. If I export a kilowatt hour, my neighbor uses it. Except for the transmission of a few hundred feet to my neighbor's house, the system behaves exactly the same as the deferred kilowatt hour that I didn't buy by saving it. And it would seem that your sense is that there is an unjustifiable transfer -- let me back up a bit.

If I'm given a credit of that full value of that kilowatt hour that my neighbor paid to the utility, who did not provide that service, then your sense is that the distribution portion of that is perhaps unfairly being paid to me and is in fact unfairly ending on the other customers. Why is that any different from the same kilowatt hour that I just saved by turning out the light when I left the room? Why shouldn't I be paying a distribution charge, because the effect is exactly the same?

A. I don't see that it's exactly the same. It's going through the utility meter and out to the street and using some poles and wires and maybe a transformer to provide energy somewhere else. I mean, just to take it to an extreme, let's say we just had -- let's say the City of Lebanon had enough distributed generation to power the whole city all the time, combined with storage and such. We'd still need a distribution grid to power -- to move that power around.

Q. Would the payment for that by -- would the generator then essentially assume a hundred-percent responsibility for paying for it, which would happen under those conditions, or would that be divided 50/50 between the buyers and the sellers? I guess what I'm trying to get at is currently the distribution

charges are the same whether the power is coming from Canada or next door.
A. That seems to be true.
Q. Then the question would be: Should there be perhaps a difference in price between how far it travels, where it is on the system or something like that; or, as I think you pointed out, as the voltage or the loading on a wire changes, perhaps the price should be different to the buyer? Perhaps a credit should be there also in exactly the same way that the credits are there for displacing generation on a sort of market basis is what I hear you asking for, but not for distribution.
A. Maybe theoretically. But, you know, as a practical matter, it's difficult to make all the measurements and calculations and billing to get that granular.
Q. I guess the main thing that I'm looking for, I think you might have mentioned it earlier, perhaps if the amount of power is small, then we could have a higher credit for distribution displacement, and if it's really large, it would be a lot smaller. Would something like

that --

A. I think there's some logic to that. And in fact, both the current and the proposed rate structures, or at least some of them, proposed that, in that greater than 100 kW is treated differently than smaller than.

MR. AALTO: I think that's all I have. Again, thank you very much.

CHAIRMAN HONIGBERG: Anyone else before I turn it over to Mr. Wiesner?

[No verbal response]

CHAIRMAN HONIGBERG: Mr. Wiesner, you may proceed.

MR. WEISNER: Thank you, Mr. Chairman I just have a few clarifying questions.

CROSS-EXAMINATION

BY MR. WIESNER:

Q. I just want to go back up to your testimony earlier, before we broke.

Is it your testimony that monthly netting results in a greater or lesser quantity of exports than instantaneous netting?

A. Less. By its nature, I think the longer periods you net over, the less, you know, the less churn or difference you're going to have between imports and exports.

Q. And does that depend on the type of metering? If the metering is the same for both monthly netting or instantaneous netting bill treatment, let's say, does that affect the quantity of the exports?

A. I'm not sure I understand your question.

Q. If a bidirectional meter is recording imports and exports, isn't monthly netting really just a bill credit calculation?

A. It's certainly -- you could certainly do monthly netting, as apparently Eversource is now doing with bidirectional meters. Just by taking the amount of imports, less exports, you've got either net imports or net exports for the month.

Q. So was your reference previously to monthly netting based on a different type of metering technology, such as running backwards?

(Court Reporter inquiry)

A. No. I think what I was trying to refer to as monthly netting is, since that's the billing period for the customer, and functionally the billing and reconciliation for the supplier load, obligations and wholesale, even though they pay more frequently, that monthly netting, whether done with an instantaneous meter or a meter that runs backwards and forwards, that just gives you the net for the month. Those are essentially the same concept in alignment with the PURPA definition of net metering.

Q. Okay. Thank you. And you testified at some length about retail/wholesale load obligation allocation issues, in particular with respect to competitive suppliers participating in that net metering. And my question is whether that analysis is affected by whether the crediting is done based on monthly netting or instantaneous netting.

A. Well, that would certainly affect it. The Utility/Consumer Coalition proposal would seemingly create perhaps very different apparent retail sales and apparent retail load requirements for competitive -- for default service or competitive supplier, potentially because they would be -- with instantaneous metering they would simply be getting the revenue or ascribe the kilowatt hours of sales for all instantaneous imports to the customer without any offsetting from exports; whereas, if you did monthly netting, then that would be greatly reduced. Their sales -- before even figuring out what their monthly sales or revenue from that customer were, you have already subtracted out the kilowatt hours. Or you could do it on a dollar basis. But the point would be that they would be less apparent sales, less apparent kilowatt-hour sales, and less, potentially less apparent wholesale obligation. But that gets obscured by the fact that all of the exports somehow end up in the load-adjustment factor between retail and wholesale and in a way that's not proportioned to each supplier based on their customer base, but rather the benefit of reduced wholesale procurement, load requirements. It gets -- as was testified to yesterday by Mr. Davis and Mr. Labrecque, it gets socialized to all suppliers uniformly, with the possible exception of settlement-only generators, which might be handled differently somehow.

Q. Thank you. Given the issue that you've described regarding retail/wholesale load obligation allocation, do you have a sense of what the magnitude of that issue represents in terms of dollars? Are we looking at tens of thousands of dollars? Hundreds of thousands? Millions?

A. I don't have a sense of that, in part because I have -- except for my one data point, which I have no idea how representative that is of other potential net-metered situations, I just really don't have any idea how differently instantaneous metering could be from monthly netting, except that it appears that it might be quite significant from my few data points. And that would have to scale to all the additional new net metering systems that are added over time until, you know, things changed. You know, I just have a sense that it could become a problem. But we don't really have a sense of it because we can't quantify it at this point.

Q. Okay. Thank you.

And there was some discussion earlier

about value-based rates and value-based rate designs. Can you explain your understanding in that context of who the value accrues to, whether it's customer-generators, other customers, society as a whole?

A. I think the notion of value-based rates suggests that the product, which is the power from net-metered systems when it's exported, should be -- the compensation for that, the credit for that in an offsetting situation should be based on the value that it is providing, such as in avoiding, you know, various costs.

There is, I think predicated in Senate Bill 1116, and in general New Hampshire legislative policy, the notion that we want to make changes and enable these things in a way that hopefully provides some benefit to all customers. And I think ultimately that is fair. And at some level that's why I'm not too terribly concerned about trying to precisely quantify the sort of "but for" case of what would markets have cleared at, the energy markets and the forward capacity market, what would they have been but for all the solar that's put in the region. I think that's probably a very significant number. There's some evidence in my testimony that points to the fact that those may be very significant numbers. I think they should be recognized. But ultimately some of that value should accrue to the benefit of all ratepayers. Although, you know, a significant portion of that value should also go to those who cause that benefit to be created, which is why I think it's ultimately important even for larger systems to recognize that if they actually turn down the meter at the wholesale transmission point and reduce transmission charges from what they would otherwise be, that there be some credit for that, where that doesn't now exist, for instance, for over a 100 kW systems.

Q. So, both at market price you described, as well as the transmission cost-allocation effect should be considered in a value of DER study --

A. Yes.

Q. -- is that what I understand?

A. Yeah.

MR. WEISNER: No further questions. Thank you.

CHAIRMAN HONIGBERG: Commissioner Bailey.

INTERROGATORIES BY CMSR. BAILEY:

Q. Good afternoon.

A. Good afternoon.

Q. As an energy-savvy customer that you are, assume you don't have a rooftop solar system right now and you're looking at investing in a rooftop solar system, and we have approved -- and the Utility/Consumer proposal is in effect.

A. Okay.

Q. Can you give me an estimate of how likely you would be to invest in solar under those terms?

A. Well, I'd certainly want a sense of how much of my load was going to be offset.

Q. Can you figure that out?

A. No, not without the meters that I've put in, which if I didn't have a system I wouldn't have done that.

Q. Yeah.

A. No, I'd really be puzzled by that, in part because I don't -- if I didn't have a system, I wouldn't know, you know, exactly what's going on, on a moment-to-moment, instantaneous basis with the PV production, much less when my load occurs and how that's going to add up over the course of the year. It's hard to get anything more than a very rough sense. And if there was some range of experience, that to me would be very helpful if they could say, well, you know, a hundred other customers, this is the average and, you know, this is the range that people tend to consume in real time. Then, at least I would have a handle. Because I did, you know, work on the numbers, look at the payback period. I looked at the assumptions. And I think many savvy people would. You know, it's a pretty big choice, a pretty big decision to invest, even with prices coming down. It's still a big investment. It's like buying a car. And so, you know, it takes a while -- it took me a number of years before I was ready to make that leap.

Q. And do you think that the analysis would be easier if we had approved the Coalition's proposal?

A. With the monthly?
Q. Yes.
A. Yes, because all of the sort of projections that I've seen for solar systems typically show it by month. Here's what it's projected to produce every month. And there's lots of places online where you can get that. You know, you can go to the PVWatts that is referenced at the PUC and put in your own numbers and run it, and it gives you the monthly totals. And you've got your -- you can get your bill history from the utility and know what you've consumed over each month. So you could look at that and say, Well, what's my monthly net going to be? And if I, you know, put in a different tilt system because it's in my back yard, you know, what's that effect going to be? You know, you can really analyze those things and come to some comfort that, you know, the payback is really going to be, you know, 12 years or 14 years or whatever.
Q. Do you think the solar industry, if we approve the Utility model -- or proposal could come up with some kind of modeling that, you know, asks

you questions like: Do you work during the day? Do you have a hot water heater that's electric or gas? I mean, could they come up with some model to help customers figure out, although it wouldn't be as precise?

A.   If there was already a database they could go to of experience so that they could correlate, you know, when you do your laundry, with how much that results in instantaneous offsetting of PV production.

But part of the problem here is that utilities have the metered data, although they don't have it on an instantaneous basis. But with the bidirectional meters, for instance, that Eversource has now, if they also had the production data, you could evaluate that. But right now, neither party has both sets of data. And through this process, even with all the discovery, which included a lot of spreadsheets with a lot of data, that data never came out. And I'm not sure -- I'm not even sure if it's available except on a customer-by-customer basis. But it could be collected and understood.

Q. But that would only work for sometime in the future?

A. Right. There has to be a deliberate effort to collect that data and make it available for analysis.

Q. Okay. Thank you.

CHAIRMAN HONIGBERG: I have no questions, Mr. Below. This would normally be the time when a witness would be redirected by his or her counsel. In light of the answers that you have given to the questions that folks have been asking you, is there anything you feel you want to clarify or follow up on, understanding that you're going to have another crack at summing up?

MR. BELOW: No, I don't believe so. Thank you.

CHAIRMAN HONIGBERG: All right. Let's go off the record.

(Discussion off the record)

(WHEREUPON, STAN FARYNIARZ was duly sworn and cautioned by the Court Reporter.)

CHAIRMAN HONIGBERG: Mr. Wiesner.

DIRECT EXAMINATION

BY MR. WIESNER:

Q. Mr. Faryniarz, for the record, would you please state your name, title and affiliation.

A. Stan Faryniarz. I'm a principal consultant with Daymark Energy Advisors headquartered out of Boston, Mass.

Q. And was Daymark engaged to provide consulting services to Commission Staff in connection with this proceeding?

A. It was.

Q. And did you file prefiled rebuttal testimony in this proceedings which has been premarked as Exhibit No. 65?

A. I did.

Q. Was that testimony prepared by you or under your direction?

A. It was.

Q. And do you have any changes or corrections to that testimony?

A. I have one.

Q. Please describe that change.

A. On Page 29 of my testimony, which I believe is Bates 30, Line No. 6, there's a reference to the 1990s. I would like to change that to the 1980s.

Q. You may be the only person who wants to go back to the '80s.

And with that correction, if I asked you the same questions today, would you provide the same answers?

A. I would.

MR. WEISNER: Mr. Chairman, I move that Exhibit 65 be entered into the record of this docket.

CHAIRMAN HONIGBERG: Without objection, that's now a full exhibit.

(Exhibit 65 admitted.)

BY MR. WIESNER:

Q. Mr. Faryniarz, could you please provide a brief overview of your rebuttal testimony and provide some summary comments regarding the two settlements that have been filed in this case.

A. Good afternoon, parties, counselors and Commissioners. My firm and I entered this case on behalf of the Commission Staff in August of 2016. Working with Staff, I came to understand the parties, who have been represented by smart, committed people who, it is my contention, acted in good faith in this process. The Commission can take some comfort that it has the benefit in this proceeding of a robust group of experts, many with national or multistate experience. Of course, with that experience comes disparate viewpoints on many subjects.

I was asked to prepare rebuttal testimony for Staff with two overriding priorities: Identify the strengths and weaknesses in direct testimonies filed by the parties at the outset, from a neutral position, with the intent to help develop an appropriate record that spoke to the House Bill 1116 requirements.

The rebuttal testimony I submitted is intended to assist the Commission in creating the next phase of New Hampshire's net energy metering program. In reviewing the direct testimonies of the parties, I found that, while no party got it all right, neither did any party get it all wrong. My rebuttal testimony addressed the cost and benefits of distributed generation, cost shifting between customers, tariff and rate design issues, potential pilot programs, and data collection to inform future net metering tariff revisions and refinements.

The rebuttal was drafted in recognition of the following: A) there is currently a relatively low penetration of DG in New Hampshire, and consequently there is not yet an unreasonable cost shift or lost revenue problem compared to other non-distributed generation influences; B) the record on benefits and costs of distributed generation to the distribution and transmission systems of the utilities, consumption and export patterns for NEM customers, and how DG could be integrated to lower system costs is insufficient to create at this time a final NEM tariff; and C) the ratemaking principle of gradualism suggests incremental reforms -- for instance, taking the system benefits charge and stranded costs, also referred to as "non-bypassable charges," out of grid export compensation and conversion of kilowatt-hour banking to monthly monetary credits.

Staff has recognized that significant

additional data collection from more advanced metering data on T&D system benefits and costs of DG integration, potential pilot programs and studies, such as we and others have recommended, would all help to better develop a record for establishing a more durable NEM tariff. However, a bridge is needed to get to that point and allow those pilots and studies to bear fruit. Our recommendations for such studies were intended to inform future Commission decisions on the construct of future DG rate design to ensure proper price signals and adherence to ratemaking principles.

I am pleased to report that the two competing settlement proposals filed with the Commission and discussed this week overlap in more areas than not, and both are consistent on many points with Staff's rebuttal recommendations. It is important to recognize the good faith shown by two competing sets of parties, as it is clear they have moved from more extreme initial positions. The settlement process resulted in some substantial progress in developing a subsequent tariff for the next phase of New Hampshire's NEM program and guidance in charting a path forward.

Finally, allow me to express my gratitude to the Commission and Staff in allowing me to appear before you today.

MR. WEISNER: The witness is available for cross-examination.

CHAIRMAN HONIGBERG: Is there any agreement as to who's going first?

MR. EMERSON: I'm going to go first from --

CHAIRMAN HONIGBERG: Mr. Emerson.

MR. EMERSON: And I do have a series of exhibits to propose, and they're all in the binder. They're EFC Exhibits 157 through 166, and they're all discovery responses.

CMSR. BAILEY: Did you say 157 through 166, or 157 and 166?

MR. EMERSON: Through.

CHAIRMAN HONIGBERG: Do you anticipate using all of them? That's 10, I think.

MR. EMERSON: Yes. Essentially what they are is just clarification as to what should be included in the studies.

CHAIRMAN HONIGBERG: Okay. So we want to mark them as the next 10 exhibits because you're going to use all 10 of them?

MR. EMERSON: Yeah. And I actually don't intend to ask many questions. I figured it would save time just to enter them into the record and --

CHAIRMAN HONIGBERG: As long as you make sure he gets a set and make sure that he authenticates them for us so there's some basis for us to admit them into the record as full exhibits.

MR. EMERSON: Okay. So we're going to go 88 through 97.

MR. EMERSON: Actually, it includes 156 as well. I'm sorry. I said -- it starts at 156.

CHAIRMAN HONIGBERG: Okay. So it's --

MR. EMERSON: It's 11 exhibits, 156 through 166.

(Exhibit 88-98 marked for identification.)

CHAIRMAN HONIGBERG: Mr. Emerson, I

think you can proceed.

MR. EMERSON: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. EMERSON:

Q. Good afternoon.

A. Good afternoon.

Q. I just have just a few questions. It won't take long. I first just wanted to discuss a little bit about your testimony and your recommendations for the value of DER study that would be conducted in anticipation of Phase 2.

I think in your testimony some of the characteristics of the study you mentioned should be -- it should address marginal cost concepts; is that correct?

A. That's correct. Long-term marginal cost concepts.

Q. So you anticipated my next question. So your recommendation is for long term.

A. That's correct.

Q. We had some discussion yesterday about what the difference between short term and long term would be. What is your meaning by the use of "long term"?

A. Well, let me start by suggesting an economist would define "long term" as "that period in which all costs, including capital costs, are variable and could be altered by decisions made now." With that said, there's clearly a difference of opinion on the term of such studies. Utilities seem to have a shorter, more limited view of the value of DER study horizon, while the Energy Futures Coalition group appears to be in favor of a much longer term of up to 25 years. I have a few comments about that gap.

The short term may miss the opportunity for DER to be constructive in avoiding or deferring the investments beyond that horizon, mostly because much of the transmission and distribution plant is already embedded and couldn't necessarily be avoided by distributed generation.

Too long a term is problematic for a number of reasons, most prominently because of technological changes during that period of time and exogenous market reforms and other forces that influence or alter the input factors and production. And the other problem with the ultra long-term approach is it severally discounts the out-year effects in present-value calculations.

I think, finally, I'd like to state we need to remember that planning itself is a cyclical process. No one study is going to ensure we get it right for the long term. So, revisitation of items like export credit, valuation, location, valuation of DER is never inevitable.

Q. I think you also said in your testimony that in these studies it would be okay to include the cost and benefits of externalities, so long as you're not double-counting those costs or benefits; is that correct?

A. I suggested the Commission could consider them, to the extent that they're documentable and not double-counted through some other valuation technique.

Q. And I think I heard you say that the study should also include a locational element, especially for costs and benefits to the

distribution system?
A. That's correct.
Q. Thank you. Do you have before you what have been --
MR. EMERSON: Remind me what the exhibit numbers are?
CHAIRMAN HONIGBERG: Starting with 88 up through 98 I think.
BY MR. EMERSON:
Q. Okay. Do you have before you what have been marked as Exhibits 88 through 98?
A. I haven't been able to go through them all, but I believe I have them, since you supplied them and are about to ask me questions about them.
Q. Yes. Do you recognize those as your responses to discovery questions in this docket?
A. I do.
Q. And are they addressing questions about what you would recommend to be components of the various studies that would take place prior to Phase 2?
A. That's my recollection, yes.
MR. EMERSON: So I would move the admission of Exhibits 88 through 98.

CHAIRMAN HONIGBERG: Seeing no objection, we'll strike the I.D. Those are full exhibits.

(Exhibit 88-98 admitted.)

BY MR. EMERSON:

Q. Just a quick question on Page 42 of your testimony. This is, at least on the version I have, it's actually Bates stamped 43, and it's Line 1. Starts on Line 1. And you say it's -- I'll let you get there first.

A. I believe I'm there.

Q. Okay. You say, "A seemingly extreme position is that there are no avoided cost benefits of DG on the distribution system, only costs from additional wear and tear on equipment due to reverse power flows." Could you elaborate a little bit on why you characterize that as "a seemingly extreme position"?

A. Well, I think that the record created, including up to the last couple of days, suggests that the distributed generation could in fact potentially avoid late-year or later-year distribution system investments. It has potentially the effect of helping to utilize more fully the distribution system. So I think those are a couple of good examples why I believe it's somewhat extreme to suggest there are no benefits, at least without further study. I'm not here suggesting that ultimately the conclusion of Phase 1 and the outcome of Phase 2 is that it's decided that there are no distribution system benefits. But to prejudge it seems extreme.

Q. Okay. Thank you.

So, lastly, I just wanted to discuss in your prefiled testimony, and this is -- I think there's a reference to it on Bates Stamp Page 109, at the bottom -- you discuss the National Association of Regulatory Utility Commissioners tariff manual on DER. And I think -- well, I'll let you get to the page. But you're familiar with that manual?

A. I am.

Q. And you've relied on it in a number of instances in your testimony to help guide decision-making in this docket?

A. It appears to be a resource upon which the Commission could rely.

MR. EMERSON: So I would move that the Commission take administrative notice of the tariff manual.

CHAIRMAN HONIGBERG: Mr. Fossum.

MR. FOSSUM: I haven't looked at the administrative notice rule in a few days, but I'm not certain that that's a document of which the Commission can take administrative notice.

MR. EMERSON: I could respond with my -- I am relying on 203.27(a)(4), that "The Commission shall take administrative notice when a party presents one or more of the following: Codes or standards that have been adopted by an agency of the United States, of New Hampshire or of another state, or by a nationally recognized organization or associated," which I would imagine NARUC falls under that definition. And these are guidelines for how a regulatory commission could approach dealing with the issues in this docket and one which the Staff's expert has relied on.

CHAIRMAN HONIGBERG: Mr. Wiesner.

MR. WEISNER: I think that's an

appropriate interpretation. We don't object to the administrative notice.

CHAIRMAN HONIGBERG: Mr. Fossum.

MR. FOSSUM: My only question -- I believe it's a draft manual is all. I don't believe that it's a code or standard that has been adopted. And feel free to correct me if I'm wrong, but I do understand that to be a draft document.

CHAIRMAN HONIGBERG: Mr. Faryniarz, what can you tell us about the document referenced at the bottom of Bates 109 of your testimony?

WITNESS FARYNIARZ: My understanding, Mr. Chair, is that it started as a draft, but there's now a final version of that manual. And my further understanding is the differences between the draft and the final were substantial due to stakeholder comments.

CHAIRMAN HONIGBERG: Do you know if it's gone through the NARUC process of being adopted formally?

WITNESS FARYNIARZ: I can't speak to that, Mr. Chair.

CHAIRMAN HONIGBERG: Hmm.

WITNESS FARYNIARZ: I recollect a press article I read --

CHAIRMAN HONIGBERG: I'm not sure that does it for me.

WITNESS FARYNIARZ: Okay.

MR. KREIS: Mr. Chairman.

CHAIRMAN HONIGBERG: Mr. Kreis.

MR. KREIS: Mr. Chairman, I have access to the Web here in the hearing room.

CHAIRMAN HONIGBERG: Technology is a wonderful thing.

MR. KREIS: It surely is. NARUC did issue a press release on November 10th that says, "The National Association of Regulatory Utility Commissioners has released a final publication of its manual," and then gives the title. The manual was an undertaking of NARUC Staff Subcommittee on Rate Design. So I think it might turn on whether you think the NARUC Staff Subcommittee on Rate Design is a body whose work the Commission can take administrative notice pursuant to the rule Mr. Emerson quoted. The OCA has no objection to do whatever determinations you want to make.

CHAIRMAN HONIGBERG: Well, NARUC process usually goes through subcommittees that then make recommendations to the full body, and then the full body votes at one of its meetings whether to adopt whatever it is the subcommittees have recommended. So it wouldn't --

MR. KREIS: Well, sorry to interrupt, but just reading on in that press release, "The NARUC Board of Directors will take up a motion to formally accept the manual on Tuesday, November 15, during the annual meeting." I wasn't at the annual meeting. Maybe one of you remembers.

MS. BOYD: I have an article from November 17th that says --

(Court Reporter inquiry)

CHAIRMAN HONIGBERG: Who's talking? Okay. Ms. Boyd.

MS. BOYD: "NARUC formally adopted a manual this week on the compensation of DER."

MR. WEISNER: Mr. Chairman, my understanding is that what is attached --

excerpts of that manual are attached to Mr. Faryniarz's testimony and that that is the final version, not a draft version.

CHAIRMAN HONIGBERG: All right.

MR. EMERSON: And that is fine by me.

CHAIRMAN HONIGBERG: All right. Then we will take administrative notice of the manual. Interestingly, our board member -- there is a NARUC board member who is a member of the Commission. He's listening on the phone, but kind of a one-way communication.

MR. EMERSON: That was the last question that I had. So we can move on to the next.

CHAIRMAN HONIGBERG: All right. Thank you, Mr. Emerson.

Who else had questions over here? Ms. Birchard.

MS. BIRCHARD: Thank you, Commissioners and Mr. Faryniarz. I have just a few questions.

CROSS-EXAMINATION

BY MS. BIRCHARD:

Q. First, in your opinion, do you have any concerns that the nature of the Utility/OCA proposal might lead to constraints on this Commission's authority at some point in the future, in light of the QF-related issues raised by Mr. Below earlier today?

A. I'm not an attorney, and I have not had a decent chance to absorb Mr. Below's testimony on the PURPA issues. Further, I have not been able to match that and process understanding with the Utility/Consumer Coalition proposal.

Q. Thank you. Regarding the Utility/OCA recommendation for instantaneous netting, in your opinion, would that recommendation put New Hampshire -- place New Hampshire as an outlier among the states regarding netting?

A. Well, my understanding of what other states are doing has been largely informed by testimony over the last couple of days. And if the Energy Future Coalition witnesses are to be taken at their word, particularly as I recall Mr. Phelps, most states, probably the predominant majority of them, are still using monthly netting in terms of how net metering is actually implemented.

Q. Thank you. Mr. Faryniarz, in your opinion, which of the two proposals before the Commission today better ensures the opportunity for small customers to choose interconnected self-generation in accordance with PURPA's declaration of purpose in the state?
A. I'm sorry. In recognition of what?
Q. Trying to avoid reading the statutory citation, but it's LEEPA 362-A:1, Declaration of Purpose, I believe. Are you familiar with the requirement for a reasonable opportunity for small customers to choose interconnected self-generation?
A. I'm familiar with that requirement. I'm not an attorney. I couldn't offer an opinion of how well either proposal comports with that statute.

MS. BIRCHARD: That's all my questions. Thank you very much.

CHAIRMAN HONIGBERG: I've forgotten. Did anyone in the Utility/Ratepayer Coalition have questions for Mr. Faryniarz?

[No verbal response]

CHAIRMAN HONIGBERG: All right.

Seeing none, I believe -- Representative Oxenham or Mr. Aalto, did you have questions for Mr. Faryniarz?

MR. AALTO: None for me. Thank you.

MS. OXENHAM: I thought I did, but I think it was answered by other testimony. Thank you very much.

CHAIRMAN HONIGBERG: That's wonderful when that happens, isn't it?

Mr. Below, do you have any questions for Mr. Faryniarz?

MR. BELOW: No questions. Thank you.

CHAIRMAN HONIGBERG: Anybody else before -- yes, Representative Oxenham, you've changed your mind.

MS. OXENHAM: Rather than a question, I would just like to commend the expert. I read his testimony with great interest and found it balanced and very, very helpful in summing the procedure. I just wanted to issue that thanks.

CHAIRMAN HONIGBERG: If I'm not mistaken, Representative, you actually did that in a public hearing of your committee; did you not?

MS. OXENHAM: As a matter of fact, I did.

CHAIRMAN HONIGBERG: I was there quite a few times before your committee this year, and I heard you do that.

All right. I think, then, Commissioner Bailey, do you have questions for Mr. Faryniarz?

CMSR. BAILEY: I'll give it a shot.

INTERROGATORIES BY CMSR. BAILEY:

Q. Can you point out the strengths and weaknesses of each of the proposals?

A. Well, it's important to note how much they overlap, again, not just with each other, but with Staff's recommendations. And I think the strengths are in where they overlap. And that runs the gamut from everything from an agreement that data is lacking, that pilots should be done. There is a mechanism to try to address RECs management from these distributed generation facilities.

There is -- well, so, first of all, let me just say in the areas of overlap, I find almost all of those proposals to be strengths of the two proposals. We do believe -- let me just say before that, these were developed in settlement negotiations I can't disclose. But as I indicated earlier, the parties made good-faith attempts to move off of their initial positions.

Now, with that said, I mentioned earlier that one of the key principles of the Staff review and my review was the ratemaking principle of gradualism. And I do believe one proposal has more in the way of merit on that score.

Q. Can you identify which one that is?

A. That would be the Energy Future Coalition proposal.

The other area that I consider to be a key lens through which Staff evaluated both proposals is the extent to which they convey appropriate, clear, efficient price signals to all system participants, ratepayers, the utilities, and even solar developers. And I think my judgment on the two proposals would be rendered through that lens of how well they meet the gradualism principle and how well the price signals are actually conveyed.

Q. And which proposal meets the second point, the clear, efficient price signals? Which is better?

A. The Energy Future Coalition proposal, which for now suggests maintaining monthly netting, does, in my view, because as an economist or an analyst, ratemaking analyst, I would want to make sure that the price signal effect recognizes that the netting period quite likely ought to follow or be commensurate with the rate period. So at this point, we have a flat rate. The only -- I don't believe either proposal sends a great price signal to customer-generators. But the netting period of a monthly look at net production seems to be more consistent with the rates we have in place currently.

Q. So what you're saying is that the Energy Future Coalition proposal to net the production over a month is better than -- I mean, I think that the Utility proposal is netting the monetary credits over a month.

A. Hmm-hmm.
Q. But that's not what you mean by "netting over a month"? You mean you're specifically talking about netting the production?
A. Yes. So we're -- if we were to go overnight, as Mr. Below would like, and to study in his pilot real-time pricing, then a more real-time netting regime would be consistent with the price-signaling criteria I mentioned earlier.
Q. And do you have an opinion about whether distribution costs should be credited at some amount or zero?
A. Well, the principle of gradualism comes into play there. Moving overnight from close to full retail net metering, which by definition means 100-percent distribution credit, to zero would be less consistent with the principle of gradualism than a movement, say to 50 percent of the distribution credit. So my opinion is, given the principle of gradualism, that that type of -- that proposal makes more sense.
Q. Okay. As an economist, do you have -- can you give me a period of years that a good incremental, long-run incremental marginal cost

study should cover it? Is it 25 years? Is it 15 years? I think you think it's more than five.

A. Yes. I think the planning horizon ought to focus really on system planning as opposed to the needs of either customer-generators or solar developers. And it's my understanding that the least-cost plans in New Hampshire that the utilities prepare take look at a horizon in the range of approximately 10 years. So, again, with my earlier commentary on what might be too short a period of time and what might be too long a period of time, I think myself and Staff would be much more comfortable with something in that range that allows for the potential to recognize or view avoided distribution or transmission investments beyond a shorter-term horizon, but it doesn't end up being so long that so many other influences like technological changes, like market changes or other factors, including potentially distributed generation technology change, and we're left with a lot more speculation and potential to get it wrong with such a long-term horizon. And I think the witnesses for the Utility Coalition, particularly Mr. Harrington, but others, identified some of the ways in which we've gotten it wrong in the past.

Q. Can you explain to me how the -- well, you don't need to explain it to me.

Do you think that predicting the cost of energy out 10 years is -- we're sure to get it wrong, like Mr. Harrington said?

A. If you did a point forecast, absolutely, given I've been there before.

Q. A what kind of forecast?

A. A point forecast, without a range. My firm and other economists would be loathed to do that, however, and instead would attempt to do something more along the lines of a simulation of how energy prices could behave over that period, oftentimes informed by how they've behaved over a past period of approximately equal amounts of time.

Q. But you think it could be done to give us information if we are only looking out 10 years. That would be useful in determining what these avoided costs might be.

A. It could. But what would be key are the assumptions. For instance, does carbon enter the picture as a price determinant, say through federal legislation or not? Do additional regulations on fracking affect natural gas prices? Those are the kinds of things that are -- they're not imponderable, but they're certainly something that suggests you should look at these things through simulations and, you know, allowing for the potential for influences like that to affect energy prices.

Q. And that's why you would update the study periodically, to make sure that the longer you look out, the less time you keep that study -- the results of the study in place?

A. Absolutely, Commissioner.

Q. Okay. Thank you very much.

INTERROGATORIES BY CHAIRMAN HONIGBERG:

Q. Mr. Faryniarz, I just have a couple of things I want to touch on. One is to pick up the issue of the distribution, credit for the distribution charge.

Roughly what percentage of a bill does the distribution portion represent?

A. Well, I'm going on memory, Mr. Chair. As I remember from the composition of full retail rate distribution, on average over the three utilities, represents maybe 4 or so cents out of 17 cents. So if you were to translate that into, you know, an average bill, it would look something like that range.

Q. And there are also non-bypassable charges. They make up a portion of the bill. Do you recall roughly how much the non-bypassable charges make up?

A. Yes, a pretty small fraction. Something like half a cent out of a full retail rate of 16, 17 cents.

Q. And the other rate elements that are in the full retail rate are unchanged by the Coalition proposal, as I recall; is that right?

A. Could you clarify which coalition proposal you're referring to?

Q. Actually both, I think.

A. Yes, I believe they both overlap in that area.

Q. So your concern about moving gradually on what is a portion of the bill is still enough, even though it is less than a quarter, or around a quarter of a total bill? You feel that going from 100 percent to zero of a quarter is too much to be consistent with the gradualism concept?

A. Well, that is a determination that you ultimately get to make, you as the Commissioners. Let's face it, the record here, we don't know whether the proper distribution credit is zero percent or 100 percent. The record in this docket would be insufficient to make that determination. So, something in the range of 50 percent might minimize the error or the regrets going forward into, you know, Phase 1, and then let's get it right in Phase 2.

Q. Well, that's a different concern than the gradualism concern. That's try to minimize the damage we might do by getting it wrong, isn't it?

A. Yes, sir.

Q. Do you feel comfortable that, at this point, based on what you know and what you've heard and what you've read and your own work, that zero probably is not the right answer?

Certainly Monday's panel felt very strongly that zero is not the right answer.

A. Well, again, the time horizon weighs heavily here on a determination like that. If you have embedded distribution investment that takes care of the utility system needs over the next five years, and you're not going to avoid any of that with DG resources, then you would come to the conclusion, potentially, that there is zero distribution credit. If you go out far enough, and you could identify certain circuits, substations, other elements of the distribution system where potentially investments could be either deferred or avoided entirely, you may come to a different conclusion about that.

Q. It's your view that we shouldn't be looking just five years out, though.

A. Correct.

Q. All right. That's helpful. Thank you.

I've got -- I guess I'll express a concern and then ask a question. I'm concerned about whether we have enough information in the record from the parties to tell us how to direct them in developing their studies going forward. I think, based on what I've heard, we probably have enough to decide what pilots should be run. We've heard a lot of specificity about those. And I think people have a pretty good handle on the types of things they want to engage in pilots on. But in terms of the overall studies of the systems, I'm a little concerned about what we heard yesterday and the day before in inviting further litigation about what studies need to be done.

Do you feel, based on what you've read and heard, that you know most of what we would want to learn from studies going forward?

A. That's a tough question, Mr. Chair.

Q. I was afraid of that.

A. Yeah, first of all, not just me, but I believe Staff shares your concern, particularly with regards to the components of the time horizon of how granular and the location specific of a value of DER study. It's clear that the arguments are not over.

Q. I do want to be fair to the parties. I mean, I think that each of them has in their own minds what they think will work. But this is an area where there's not a perfect overlap; is there not? You agree with me there's not a perfect overlap there?

A. I would agree.

Q. And I take it, then, that you, and speaking for Staff, are also concerned that if we issue something general to direct the parties to work together and work with Staff on developing study criteria, we'll be back here in a few months deciding what the study should be?

A. Potentially. And I think this is where the Commission will have to deliberate on how -- what kind of rails or guideposts they put on any order they issue. For instance, they could put in deadlines. They could suggest that, while the stakeholders work it out and provide recommendations, that the Commission itself may direct such a study, or hire a consultant directly that would perform the study in order to keep the process fair and objective. So I think, you know, your concern is quite clearly shared by Staff. And the parties have a slog still to go here.

Q. Do you agree with the assessment I introduced the question with, that we probably know enough about the pilots that the parties feel is appropriate?

A. Yes. And I would observe that the grid mod docket presents another opportunity for some of the pilots that have been proposed. For example, the Futures Coalition's Smart Home Pilot, that looks interesting and may not be appropriate in a net metering context.

Q. And then circling back to the studies, are there studies that you can think of that the parties have proposed that are "shovel-ready," as it were, that we have enough specificity with what's been proposed that we could say yes to the study that's identified in Paragraph 13 of someone's proposal?

A. I can't say that, Mr. Chair.

Q. Okay. I think that's all I have. I thank you for the work you've done on this, and thank Staff for the work all of them have done on this.

Mr. Wiesner, do you have any further

questions for Mr. Faryniarz?

MR. WEISNER: No further questions, Mr. Chairman.

CHAIRMAN HONIGBERG: All rightie then. Let's go off the record for a sec.

(Discussion off the record)

CHAIRMAN HONIGBERG: We're back on the record. Mr. Wiesner, why don't you recap where we are with the exhibits.

MR. WEISNER: Just looking at the exhibit list, there's a long list of exhibits which were premarked, and this consists primarily of the prefiled testimony of various parties. I believe they were all entered into evidence, except for those for which we are waiting for affidavits to be submitted by witnesses who did not appear during the hearing; and in particular, those witnesses are: Dr. Overcast -- we had his affidavit; Mr. Johnson of Eversource, whose affidavit requires correction, as I understand it; and then there's James Bride and Richard Normand, who are witnesses for New Hampshire Sustainable Energy Association; and OCA witnesses, Lon

Huber and Elizabeth Doherty.

I will also note that Attorney Buxton has indicated that a number of exhibits we had premarked, I believe yesterday, which were discovery responses from Unitil, were not actually referenced in testimony and so should not be entered into evidence. And those are numbers 74 through 80.

And on further review, we are also deciding that the two exhibit numbers which we had reserved for affidavits of absent witnesses, and those are numbers 68 and 69, which have been reserved for Dr. Overcast and Mr. Johnson, that those affidavits will not be entered into the record. So those numbers -- those premarked numbers will not be used for that purpose. And I believe the only other question that we had was with respect to Exhibit 72, and I think Mr. Hinchman may have a request to make for you.

CHAIRMAN HONIGBERG: Mr. Hinchman.

MR. HINCHMAN: Mr. Chairman, I move the Commission take record notice of the "Grid Modernization in New Hampshire Report to the

New Hampshire Public Service Commission," Grid Mod Working Group final report in Docket IR 15-296.

CHAIRMAN HONIGBERG: Please tell me that the final report refers to us as the "New Hampshire Public Utilities Commission."

MR. HINCHMAN: I think that's one of the corrections they made in the final report.

CHAIRMAN HONIGBERG: I'm getting some confirmation that it is. So we will take administrative notice of that filing.

MR. KREIS: So, Mr. Chairman.

CHAIRMAN HONIGBERG: Mr. Kreis.

MR. KREIS: Just so I'm clear, with respect to the Exhibit 17, which is the direct testimony of Witness Huber, who, the Commission can take administrative notice, is currently on his honeymoon, sitting on a beach in Cabo --

CHAIRMAN HONIGBERG: I think we need to see the pictures.

MR. KREIS: I will be happy to provide them if you would like to reserve an exhibit number for them.

So with respect to that exhibit

and Exhibit 18, which is the direct testimony of Witness Elizabeth Doherty, who is not on a beach somewhere, and Exhibit 44, which is the rebuttal testimony of Mr. Huber, the OCA requests that those three exhibits be entered into evidence as full exhibits. And as I understand it, the answer I'm getting back from the bench is we will do that as long as you furniture affidavits from those witnesses that adopt those filings as sworn testimony.

CHAIRMAN HONIGBERG: That was my understanding of the agreement of the parties as to how we were going to deal with that. So, yes, when the affidavits come in, we will strike the I.D. on those exhibits, and also the others from the witnesses whose affidavits are not yet in.

MR. KREIS: Fabulous.

CHAIRMAN HONIGBERG: All right. Any other business we need to transact before we break for the day?

[No verbal response]

CHAIRMAN HONIGBERG: All right. We'll come back tomorrow at 2:00. The first order of business will be public comment, and then those parties that want to do oral closings will do it at that time.

All right. Thank you all very much. We'll see you tomorrow.

(Whereupon the Hearing for the Afternoon Session was adjourned at 5:11 p.m.)

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