STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

June 9, 2022 - 9:03 a.m.
21 South Fruit Street
Suite 10
Concord, NH

RE: DE 21-119
EVERSOURCE ENERGY
Proposed Tariff Amendments to Residential Time-of-Day Rate
[Hearing]

PRESENT: Chairman Daniel C. Goldner, Presiding
Commissioner Carleton Simpson
Commissioner Pradip Chattopadhyay

Tracey Russo, Clerk

APPEARANCES: Reptg. Eversource Energy:
Jessica A. Chiavara, Esq.

Reptg. Residential Ratepayers:
Julianne Desmet, Esq.
(Office of Consumer Advocate)

Reptg. N.H. Department of Energy:
David K. Wiesner, Esq.
Matthew Young, Esq.

COURT REPORTER: SUSAN J. ROBIDAS, NHLCR NO. 44

I N D E X

WITNESS PANEL: EDWARD A. DAVIS
ELIZABETH R. NIXON

I N D E X (CONT'D)

P R O C E E D I N G S

CHAIRMAN GOLDNER: Good morning, everyone. I'm Chairman Goldner. I'm joined today by Commissioner Simpson and Commissioner Chattopadhyay. We're here this morning in Docket 21-119 for a hearing regarding a settlement agreement relative to Eversource Energy's proposed tariff amendments for the residential time-of-day rate.

Let's take appearances, beginning with Eversource.

MS. CHIAVARA: Good morning, Chair and Commissioners. Jessica Chiavara, counsel on behalf of Public Service Company of New Hampshire, doing business as Eversource Energy. Today I have with me Edward Davis, director of rates for Eversource Energy.

CHAIRMAN GOLDNER: Thank you.

Clean Energy New Hampshire.

[No verbal response]

CHAIRMAN GOLDNER: Is not here. Noted.

The Office of Consumer Advocate.

MS. DESMET: Yes. Good morning, Commissioners. Julianne Desmet, staff attorney at the Office of Consumer Advocate. And with me is Ms. Maureen Reno, director of Rate and Market Policy.

CHAIRMAN GOLDNER: And finally, the New Hampshire Department of Energy.

MR. WIESNER: Good morning, Commissioners. David Wiesner, representing the Department of Energy. With me this morning is our witness, Elizabeth Nixon, director of the electric group at the Department. And also to my immediate left is our new hearings examiner and staff attorney, Matt Young, who is working with me this morning.

CHAIRMAN GOLDNER: Okay. Very good.

For preliminary matters, a question for the parties: Do you plan to have the Company and DOE witnesses as a panel or have them testify separately?

MS. CHIAVARA: We were planning on a panel this morning.

CHAIRMAN GOLDNER: Okay. Very good.

Exhibits 1 through 4 have been prefiled and premarked for identification.

Are there any other preliminary matters before we have the witnesses sworn in?

[No verbal response]

CHAIRMAN GOLDNER: No? Let's proceed with the witnesses. If you guys would like to join up front, that would be appreciated. And when you're settled in, Ms. Robidas will please swear in the panel.

(WHEREUPON, ELIZABETH R. NIXON and EDWARD A. DAVIS were duly sworn and cautioned by the Court Reporter.)

CHAIRMAN GOLDNER: Okay. Let's begin with the Company.

Ms. Chiavara, after your witness adopts his testimony, do you plan to ask him to summarize his testimony or go straight to Commissioner questions?

MS. CHIAVARA: We have two brief questions and answers. We'll keep them very

brief.

CHAIRMAN GOLDNER: Okay. Thank you.

Mr. Wiesner.

MR. WIESNER: A couple of brief questions to summarize the Department's position on the settlement.

CHAIRMAN GOLDNER: Okay. Very good, sir. Thank you. So we'll proceed with Ms. Chiavara.

MS. CHIAVARA: Thank you, Chair.

DIRECT EXAMINATION

BY MS. CHIAVARA:

Q. Mr. Davis, could you please state your name and your title and your role at Eversource.

A. (Davis) Yes. I'm Edward Davis. I'm the director of rates for Eversource Energy.

Q. And what are your responsibilities in your role at Eversource?

A. (Davis) I'm responsible for gas and electric rates, rate design, cost of service --

[Court Reporter interrupts.]

A. (Davis) Rate design, cost of service, and administration of our tariffs for gas and

electric for the Eversource companies.
Q. Have you ever testified before this Commission?
A. (Davis) Yes, I have.
Q. Thank you.
Did you file testimony and corresponding attachments as part of the filing on June 15th, 2021, marked as Exhibit 1?
A. (Davis) Yes, I did.
Q. And were the testimony and supporting materials prepared by you or at your direction?
A. (Davis) Yes.
Q. Do you have any changes or updates to make at this time?
A. (Davis) I do not.
Q. So do you adopt your testimony today as written and filed?
A. (Davis) Yes, I do.
Q. Thank you.
Moving to the April 18th rebuttal testimony, did you also file that rebuttal testimony and corresponding attachment on April 18th, 2022, marked as Exhibit 3?

A. (Davis) Yes.
Q. And was that testimony and supporting materials prepared by you or at your direction?
A. (Davis) Yes.
Q. Do you have any changes or updates to make to that testimony?
A. (Davis) I do not.
Q. So do you adopt that testimony today with the -- as it was written and filed?
A. (Davis) Yes, I do.
Q. Fantastic.
Moving to the Settlement Agreement. Are you also familiar with the terms of the Settlement Agreement entered into by the Company that's marked as Exhibit 4 and was filed to this docket on June 2nd, 2022?
A. (Davis) Yes.
Q. And do you believe the terms of the settlement are just and reasonable and in the public interest and would result in just and reasonable rates?
A. (Davis) Yes.
Q. All right. Thank you. So just a couple of

questions.

Mr. Davis, can you briefly explain the intent of the provision in the Settlement Agreement in Docket No. DE 19-057 that required this revision to the Company's residential time-of-day rate?

A. (Davis) Certainly. The intent was to update our time-of-use rate for residential customers to more accurately reflect cost of service now that the utility is no longer on generation and the rates are fully unbundled, as the demands have changed for that service. Updating the rate would also have the benefit of a shorter peak period commensurate with the cost of providing service under the current demand curve, which could encourage more customers to shift their usage to off-peak hours.

The requirements in the Settlement Agreement from Docket 19-057 were that the Company continue to offer a two-period rate, with a peak window of no more than eight hours.

Q. And do you think that the Company's proposal,

as modified by the Settlement Agreement proposed for approval in this docket, accomplishes the purpose of the Settlement Agreement in Docket No. DE 19-057?

A. (Davis) Yes, I think it satisfies the Settlement Agreement from 19-057 and actually goes further.

The proposed rate, we call it "R-OTOD-2," as modified by the Settlement Agreement in this docket, updates the rate in a way that's reflective of the cost to serve these customers. Additionally, the proposed revision to the residential time-of-day rate as represented in the Settlement Agreement not only shortens the peak period over half from the current 13-hour period to 6 hours, but it also reduces the customer charge by approximately half, making the rate more appealing for a greater number of customers to enroll in the rate, while also making it easier for those customers to shift their energy usage to off-peak hours.

Q. Thank you, Mr. Davis.

A. (Davis) You're welcome.

MS. CHIAVARA: That's all I have. Thank you.

CHAIRMAN GOLDNER: Thank you, Ms. Chiavara.

Mr. Wiesner.

MR. WIESNER: Thank you, Mr. Chairman.

DIRECT EXAMINATION

BY MR. WIESNER:

Q. Ms. Nixon, for the record, please state your name and your position with the Department.

A. (Nixon) My name is Elizabeth Nixon. I'm the electric director in the Regulatory Support Division in the New Hampshire Department of Energy.

Q. And have you previously testified before the Commission?

A. (Nixon) Yes, I have.

Q. Did you review and analyze the Company's initial proposal in this proceeding?

A. (Nixon) Yes.

Q. And did you submit prefiled testimony and related attachments marked for identification this morning as Exhibit 2?

A. (Nixon) Yes, I did.
Q. Was that testimony and supporting materials prepared by you or at your direction?
A. (Nixon) Yes, it was.
Q. Now, do you have any corrections or updates to make to that testimony at this time?
A. (Nixon) Yes, I do.

On Page 4 of my testimony, Line 10, I changed the number "11" to "13." And that's referring to the number of peak hours in Eversource's current time-of-day rate. I had mistaken that.

And then we have an appendix -- or one of my appendices or attachments is testimony from Dr. Sergici, and she had referenced it as "11." I'm not modifying her testimony that was filed elsewhere, but I just wanted to point that out as well.

Q. And that was testimony that Dr. Sergici had filed in Docket 20-170; is that correct?
A. (Nixon) That's correct.
Q. Thank you. And with those corrections as noted, do you adopt your testimony for the purposes of this hearing?

A. (Nixon) Yes, I do.
Q. And were you also actively engaged in the technical sessions and settlement negotiations that ultimately resulted in the settlement now pending before the Commission?
A. (Nixon) Yes, I was.
Q. And are you familiar with the terms of the Settlement Agreement entered into by the parties in this docket marked for identification as Exhibit 4?
A. (Nixon) Yes, I do -- I am.
Q. And could you please provide a brief summary of the key settlement terms, from the Department's perspective, and how those settlement terms address and resolve the concerns expressed in your prefiled testimony.
A. (Nixon) Yes. In the settlement, the proposed rate, as Mr. Davis just mentioned, narrows the window for the peak period to six hours; it reduces the customer charge from approximately $32 to $16.50; it moves approximately the $16 from the customer charge to volumetric charges; and it also

commits the Company to explore additional revisions, such as seasonality, a shorter peak period window, greater peak to off-peak ratio, and time-varying generation in connection with this next base rate case. It also obligates the Company to provide education and outreach to the current time-of-use customers and also to other residential customers. We believe this revised rate will provide incentives for participating residential customers to shift load to the off-peak, which would potentially provide lower bills to those customers, as well as provide benefits to the system as a whole by moving load away from the peak periods.

Q. Do you believe, therefore, that the terms of the Settlement Agreement are just and reasonable and in the public interest?

A. (Nixon) Yes, I do.

Q. And they would result in just and reasonable rates, from the Department's perspective?

A. (Nixon) Yes.

Q. Thank you.

MR. WIESNER: I have no further questions under direct examination.

CHAIRMAN GOLDNER: Okay. Thank you, Mr. Wiesner. We'll move Commissioner questions, beginning with Commissioner Simpson.

COMMISSIONER SIMPSON: Thank you, Mr. Chairman.

INTERROGATORIES BY COMMISSIONERS:

BY COMMISSIONER SIMPSON:

Q. And thank you, Ms. Nixon and Mr. Davis, for being here today.

A. (Davis) You're welcome.

Q. So I'd like to start with some questions for Mr. Davis. And I would invite you to point me to wherever you think would be most appropriate, either in the Settlement Agreement or in your prefiled or rebuttal testimonies. But I'd like you to walk me through your process and what you provided in terms of how you did your rate design and the methodology for coming up with the periods for peak and off-peak, and allocation of costs within each of those periods, if you

would.

A. (Davis) Certainly. So our underlying analysis that everything really hinges on is marginal cost analysis, and as well as cost to serve the residential class.

Our current structure, which is what we predicated our final settlement design on, identifies the current time-varying rates for distribution and transmission. So we have examined the cost to provide service and identified those aspects that are time-related, if you will, time-varying. We did that by performing a separate marginal cost study for distribution and a separate marginal cost study for transmission. And the result of those provide -- we basically started with an eight-hour period -- I just want to set the stage there -- and worked our way toward finding the differentiation in marginal cost separately from this process for distribution and for transmission. For costs that varied by time, by working our way through what are the -- what's the concentration of cost depending on the time

period and finding a strong statistical fit between the peak costs for the distribution period and distribution component of service and then transmission component of service. So when you combine -- you do those separately. But you also do those on a combined basis to find the strongest fit and by having iterations that worked on different periods, different hours. And because we used a probability of peak analysis for transmission to accomplish that, we basically looked for a regression, a strong statistical fit, both what's the highest regression that we could get for transmission and distribution separately and also combined. And it turned out that seven hours was the strongest fit. Also it matters which hours you pick. It's not just seven hours, but when does it start and end. So we used that as the basis to come up with marginal cost price differences, if you will. That becomes a basis for designing rates. So having a price difference based on marginal costs allows us to then solve the price, the rates

to meet the revenue requirements targets.

So what I would perhaps -- probably the best way to pivot to the data that articulates that, I would say it's clearly in the Settlement Agreement. And I would direct our attention to Bates Page 47, as well as Bates Page 49. So I'm going to start with Page 49. And that's a summary table, and it provides the results of our marginal cost analyses for both distribution and transmission. So do you have that page?

Q. Yes, I do.

A. (Davis) So I would like to focus on Lines 18 and 19. And there's a column under the "6-Hour" label that says "MC Differential." And what it shows -- we actually performed a full marginal cost analysis for distribution on the entire system. And I just want to point out we have both local costs and system-level costs. And this analysis showed us that there is some time differentiation. It's not a large difference, but particularly at the substation level. And the result of that is we have marginal cost differences

between peak and off-peak of just under half a penny, about .00464 cents per kilowatt hour.

So this is the fundamental basis for designing rates because that tells us when we design the peak and off-peak prices -- and we have a revenue requirement target, so obviously we have an allocated cost study that gives us our residential revenue requirement. But to find out for the costs that are time-differentiated -- and they happen to be volumetric rates, and that's kilowatt hour per residential -- we basically impute this difference between peak and off-peak kilowatt hours, or cents per kilowatt hour to ensure that we have at least that difference between peak and off-peak pricing. And we solve that pricing to equal the designed revenue requirement.

And just so you can read across, there's a rate under the Total column. It's .05196. That's the overall average cents per kilowatt hour we're solving to. So what we're trying to accomplish is a rate that has a difference

of .00464, that when you multiply it times the peak kilowatt hours and the off-peak kilowatt hours, you come back to the 5.196 [sic] cents.

And a similar process using a probability of peak analysis for transmission gave us a marginal cost differential, which we also solved. In that case, the rate we're solving to is .3046. That's in Line 19.

So that's kind of a high-level summary and overall theory of design based on marginal costs. And by doing that, you have cost-reflective rates. Because what it says is during the peak hours I have a higher cost that I want to make sure I reflect in rate design. We still have a total revenue requirement to reconcile to. But if there's load in peak hours versus off-peak, there's a higher price. So the price differential gives us that basis for setting the rates.

Now, where the actual rate design shows up is actually on Bates Page 47. Again, this is the underlying cost data.

And by the way, before I jump away from

Page 49, the actual prices that make up the marginal cost differential on that lower table, so those are the results of our studies.

So then if I pivot over to Bates Page 47, you can see where I have carried over -- and I'm going to focus on Lines 22 and 23 -- carried over those marginal costs.

So the upper section of this Section I provides the determinants of that use. I'm solving for revenue requirements, and I need to solve for the volumetric-related rates. So what I have is a total revenue requirement of $248 million for distribution. But I pull out the customer piece, and I solve -- I want to solve for $78 million revenue requirement. Distribution and transmission is about 94, almost 95 million. Those are my ball case for a rate design, the need to come back to the revenue requirement.

The marginal cost in II in the middle there are, again, price bases for solving time-of-use rates. And the rate design period is actually down below. I'm going to

focus up through Lines 40, just to walk this through.

So earlier I mentioned that we have honed in on a six-hour period. So the residential rate class, if you look at the kilowatt-hour usage for a six-hour period, breaks down to 21 percent peak usage and 79 percent off-peak usage. So Line 34 provides the total kilowatt hours and the peak and off-peak kilowatt hours for the class if you use the six-hour peak window. So we have 647 million kilowatt hours during the peak and 2.5 -- 249 --

[Court Reporter interrupts.]

A. (Davis) All right. I'm going to start over.

My total usage is about 3 million kilowatt hours, okay, 3.144 million kilowatt hours. But that breaks down to 21 percent of that is 646 million kilowatt hours, and that's about 21 percent of the usage of the total kilowatt hours that the residential class utilizes. All right. So --

Q. And these are current.

A. (Davis) These are current. This is an

analysis from our test year. So based on current rates, that's right. So we have billing determinants in current rates. They're derived from our base test year in the rate case. That's actually the basis for our billing determinants. So, yes.

And then so we just need the kilowatt-hour breakdown. Because I need to know when I multiply my off-peak price times the off-peak kilowatt hours and the peak price times the peak kilowatt hours, I get revenue for off-peak and peak. And I add those up, and I get a total revenue. And that has to match the revenue target up above, the 78 million that we showed up top.

Q. And that's because you're designing these rates from the beginning to be revenue-neutral?

A. (Davis) That's correct.

Q. Thank you. Continue.

A. (Davis) Thank you. That's an important point.

CHAIRMAN GOLDNER: If I could just interject --

[Court Reporter interrupts.]

BY CHAIRMAN GOLDNER:

Q. So you have 21 percent of the kilowatt usage is peak. And it says six hours out of the day, so that's a quarter of the day. So how is a quarter of the day only 21 percent peak?

A. (Davis) These are the weekday hours, and usage is very, very high during the weekdays. So --

Q. But that would imply that peak is lower than the average. See what I'm saying?

A. (Davis) Sorry, Mr. Chairman. Could you repeat the question? I kind of missed that.

Q. Sure, sure. So you have -- you're using 1 to 7 p.m., which is six hours in the day.

A. (Davis) Correct.

Q. So that's a quarter of the day. So you would expect in that time period the load to be higher than the average.

A. (Davis) Yes.

Q. Maybe I'm missing something. But the peak load you have at 21 percent out of the total. So I would expect that peak load to be 30 percent or 35 percent to represent a peak

load. Does that make sense?

A. (Davis) Yeah, it's peak -- yeah, I think I understand the question. But in some sense it's a little counterintuitive. But the peak demand might be different than the peak usage because that's the focus of the residential class. So you're looking at all types of residential customers across the board here.

So what's happening is the kilowatt-hour usage, while it's -- if you think about what's peak demand level, that's different than the kilowatt-hour usage during a peak period, and so they're different numbers. I don't have the stat on what the peak kilowatt demand might be relative to average load. But it just turns out, from our analysis of the actual data for this class, that 1 to 7 p.m. weekdays, non-holiday weekdays, if you add up all the kilowatt hours, we get this result. And a deeper dive, I think that's -- and I haven't looked at this in some time. But I will say it's a sample that we used because we don't have meters and a full set of data on the whole class. But it's a

statistically valid sample that we derived this from. And clearly within a given class you'll have usage that's all over the place. You know, some customers may not be using much at all during the day. But from our sample extrapolated out to the entire population, you know, that's the load shape. That's the proportion of total kilowatt-hour usage or consumption as opposed to peak demand level during those hours.

Q. Okay. Yeah, please continue. I may come back to that after other Commissioners' questions. But thank you for that.

A. (Davis) Okay. Thank you. I actually invite those questions because they also may test the data further.

So given that backdrop, you know, with the breakdown of kilowatt hours -- again, this is for rate design purposes -- we are designing a rate so that the pricing for peak and off-peak will have that differential that we mentioned. You know, so I can point you to Lines 38 and 39. We had a marginal cost differential for distribution of .00464

over on the delta price column. And the marginal cost differential we set at 7 cents here. So we did a little bit of rounding. It was actually 6.347 [sic], but we agreed to use 7 cents here. It's still cost-reflective, but we're solving rates.

I want to go back to that first page I mentioned earlier. I had a distribution rate of 5.196 [sic] cents. So let's say it's about 5 cents. And also transmission, we had a total average rate of 3 cents, 3.046 [sic]. So we're solving to get to that same rate on average. But to ensure that we have a peak and off-peak difference of .00464, which is on Line 38, and .07 on Line 39, we solve to meet those total revenue requirements. And that turns out to be in Line 38 for distribution, we end up with a 2.868 [sic] peak rate and a 2.404 [sic] off-peak rate. If we multiply those two prices times the corresponding peak and off-peak kilowatt hours above, we're going to come back to our total revenue, which is way at the top on Line 15 of $78.6 million. Kind

of a bit of baby algebra, really.

And then for transmission, the same process. As I said a minute ago, we have an overall average rate of 3 cents, 3.046 [sic] cents. And that ties to that revenue requirement up above of 94,695,072. To get there, the rates on Line 39 would apply, where we take the 8.572 [sic] cents times the peak kilowatt hours on Line 34, plus the .01572 dollars per kilowatt hour times the 2,498,286,160 on Line 34. When you multiply those out, you're ensuring that you get a 7 cent differential between peak and off-peak, which you come back to the total revenue requirements target up above of 94,695,072.

So that gives us our starting point, and that's kind of the core marginal cost base rate design. So we end up with a peak to off-peak difference, and I'm looking at Line 40 now, of about seven and a half cents, you know, .07464.

Q. Which is basically your peak period is about three times your off-peak period. So, peak to off-peak differential to me would be

roughly three. Is that fair to say?
A. (Davis) Yes, and that's -- you know, that's if you're measuring on just the time-varying rates. But that's right.
Q. How would you -- when you make that statement, how else would you suggest measuring that differential?
A. (Davis) I would still suggest using that. But I actually tend to prefer focusing on the price differential. To me, that's ultimately what translates to the bill impact. But I recognize, and it's very common, to take the total, like if we sum up all the rates. We have other pricing that's not time-differentiated. So if I took these that are time-differentiated, but I also -- and I do have some tables I could point to. But if you sum up -- actually, let's look on Page 48, the very next page. And this is just a table of pricing.
If I were to look at that right-hand column and I focused -- I have a little bit of sort of a gray highlight over the time-varying rates. So if I combine those,

to me that's a way to say what's the price ratio for time-varying rates, you know, if that's a metric that we want to use to describe those. And I tend to use that. I also tend to look at the difference in price. I think that's the most relevant when it comes to what customers see on a bill. However, it's very common to take the sum of all the rates and show a ratio. And so in this table I show, for example, the total peak price. If you sum up all the prices, I have 26.932 [sic] cents for the peak period and 18.194 [sic] for the off-peak. It's a different ratio. And these prices change all the time, so the ratios themselves are going to change. But the underlying time-varying rates, by focusing on that, it keeps you focused on what ratio time-varying rates have. And those reflect what the price difference is.

So there's different ways -- I think it's just like speaking different languages. You know, how do we want to characterize and refer to this. And I don't have a particular

preference, if you will, a bent toward, you know, presenting it in a certain way. It's just when I do this kind of analysis and I try to identify what are the price signals and impacts, I'm looking at the time-varying rates. I mean, every price presents a price signal of some sort. But again, focusing on time-varying, I'm totally willing to speak to it on just time-varying, which is, like you said, the three-to-one ratio, or to look at an overall basis that gives you a different ratio. Those are important. Those are important to recognize how people think and what the implications are. There's a lot of literature. The industry, I think more often than not, uses the total price ratio as a basis. And that certainly was a major part of our discussions and how do we refer to these prices and to price differences and ratios and things of that nature.

Q. Yeah, I think that's helpful. I appreciate that. These three pages are a helpful analysis. And I would agree with you, because in my view, I think customers at the

end of the day, they're going to ask themselves: Do I do my laundry at 3:00 in the afternoon, or do I do it at 9:00 in the evening? And the implications of that, as this table reflects, is roughly 50 percent. You're going to pay 50 percent more to use electricity during that peak period; is that fair to say --

A. (Davis) Yes.

Q. -- as an all-in view?

A. (Davis) Yes, it is. My experience in other jurisdictions -- when I mentioned down on Line 40 on Page 47 we have seven and a half cents, 7.464 [sic], the message there is, the simple message is so you would pay seven and a half cents less if you moved your usage to the off-peak. That's a practical way to present that to customers. At least that's the way I think about it. And I find it useful in dealing with our customers directly.

But the ratios have a -- it's important because you're trying to look at sort of the policy and the economics of it, and you need

metrics to measure it and evaluate that as well.

Q. So if my understanding is correct, it sounds as if you didn't go into this analysis with a predetermined ratio, whether on just the time-varying rates or on the total; is that fair to say?

A. (Davis) That's correct. Yeah, I would say that for sure. But I know that at the end you want to measure that, of course. But I wanted to make sure we had cost-reflective, efficient rates, which is what we did. I mean, using the marginal cost analysis -- and we did a very rigorous analysis here to ensure that we at least started with marginal cost differentials. And then you have to do a second analysis, which I touched on in some respects about this question of what's the right peak period, and not just the duration, but when it occurs. And that was another set of analyses. So you're trying to come up with the most cost-reflective basis to then design the rate. So to go beyond that, at least you're starting with as cost-reflective

and efficient ratemaking as you can. There's assumptions here. And we talked earlier about what's the percentage of peak and off-peak usage and how do we get there. So there's other factors here, you know, that come into play, but starting with those cost-reflective marginal costs and then imputing those into rates the way we have, in a way that tries to optimize and make the rates most efficient, especially if you're talking about, you know, cost of the system, and by having customers respond to load, to the extent they can and will. But, you know, at least we're showing what the cost of the system are. And beyond that, if there's measures to change the rate in some manner to further promote, you know, a particular outcome, you can put that in front of the customers, and that can achieve those kinds of goals. But at the core, at the essence, we have a cost-reflective marginal cost basis on pricing to start.

Q. And it appears that your distribution peaks don't align with the transmission peaks. Is

that true?
A. (Davis) They don't exactly, and especially when looking at it by class. But when you get to the system level, you're less concerned about the class. We're looking at like a substation is going to serve a whole array of customers. And what we did is we looked across all of our substations, over 50 substations. And that is truly at system level. But when we looked at distribution, it's a much wider period at that level compared to transmission. And transmission is different, in the sense that it's built differently. We incur costs on a demand basis. And they happen typically within a pretty wide window. But if you keep narrowing the period, you start to see, well, when do they occur. And those tend to be in a little narrower period than the distribution system.
Q. And statewide, is there one transmission rate that you're billed at?
A. (Davis) Yes. Transmission is billed to, we call it "regional network service customers."

But the NEPOOL transmission tariff bills, I think all utilities in the state are on the same basis, which is a monthly peak demand. It's called a "coincident peak." So there's a particular system peak, and your contribution as a utility to that peak, whatever your demand level is, is the basis for your charge. So as a distribution company, that's an expense. So really we're billed when we incur a demand-related cost in the same way and at the same times as the other utilities in the state.

Q. So New Hampshire statewide is viewed as a single load zone?

A. (Davis) Well, for transmission it's regional. So actually it's a little more -- it cuts across a larger grouping of load because it's a regional network. So New Hampshire is a contributor. You know, it takes load as part of the regional network, and then each utility is part of that. So it's the same charge at the same time, but it applies to your respective peak that occurs within that. It's a lot of through-put, if you will.

There's a total cost. It's billed on a regional basis, and then it translates down to what's your actual peak coincident with the system peak; the greater the regional system, if you would.

Q. Thank you. And you mentioned and walked through a thorough marginal cost analysis.

What about embedded system costs? Have you looked at how these rates might impact those charges?

A. (Davis) Well, actually, that's part of the analysis here. And there's a portion here -- I didn't, you know, go all the way through on Page 47. But there is some supporting material as part of our settlement where I looked at the embedded system, and particularly for residential time-of-day customers. And it kind of hinges on the fact that we have a customer charge of $32 in our current time-of-day rate. Our actual cost is about $33 and some change. So we ran both an embedded and a marginal cost study to determine that.

So we have an approved, you know, rate.

I think it's considered, you know, characterized as a "just and reasonable" rate approved in the rate case at $32. But when you dissect those embedded costs and the marginal costs, that $32 is comprised of a pure customer-related cost. It has nothing to do with usage or demand.

And then there's a fixed cost that's called "local facilities." It has to do more with transformer and services and cost to serve directly these customers individually. That varies by -- that's a function of the customer's needs. It's not a system cost. But we were able to carve that out. So in terms of looking at embedded costs, we have costs of transformers and services, for example, to serve these customers. Meters are unique as well. You know, they're different depending on the sophistication and technology involved, and they're a little different for time-of-use customers than they are for regular residential customers.

So those kinds of costs were examined. And we treat -- and those are treated in the

customer charge. But I was able to move -- we agreed to move a portion of that out as local fixed costs and treat them differently, treat them on a volumetric rate basis. So there you're crossing over from looking at the cost to how you recover that cost and what's an appropriate way to charge it. So structures for residential customers are really just a customer -- two-part: They're customer charge and volumetric rates. And here we're also taking an additional step to say and what's time-varying. So embedded costs, we really only looked at for distribution. That's the only kind of study where we study embedded costs.

The ratemaking for transmission is based on embedded costs that's dealt within FERC. And of course, generation supplies market-based and other components, like SCRC and SBC. Those are more the kind of costs that are really treated differently. They're a set of costs allocated, and the rates are designed to recover those volumetrically.

But the real embedded cost analysis with

a distribution component, we took a very deep dive. And that really was -- we went a little further than a traditional marginal cost study for distribution in our rate case. And that gave us the benefit of being able to find -- it was a big first step to say, okay, we're seeing both substation costs across our system and have some time-varying component, and that's how I got my half a penny in my .00464. So that also entailed looking at both marginal and embedded costs, because at the end of the day I have a total embedded cost of all of my substations. And so my price difference shows the difference in marginal cost if I have to build -- or have to build a new substation or add load to a substation, capacity to meet that incremental capacity. You're still looking at the embedded cost at the end of the day. But you're seeing what does it cost to bring on another substation, you know, on our system. So they kind of go hand-in-hand. But truly, long story short, the embedded cost analysis was part of our analysis for distribution.

Q. And it leads me to question with respect to the methodology for how you took essentially half of that customer charge and you moved it into the volumetric component. It appears that you've allocated of that $16 or so, 90 percent to all hours of the volumetric rate and then 10 percent to the peak. Can you explain that for us?

A. (Davis) Sure. It was a long, thought-out process. First of all, I recognize that for Rate R, our residential class, I have a customer cost which includes cost. It includes fixed costs, local fixed costs, very much -- very similar to Rate R-TOD again for transformers --

[Court Reporter interrupts.]

A. (Davis) So there are those local facilities costs in Rate R which are collected volumetrically. So kind of on a principle basis, I said, first of all, this is whole-house service, so I have to recover all the costs. You know, there's no avoiding that cost. They have to install a transformer and service to meet the

customer's whole-home load. And recognizing that in Rate R we are recovering a portion of our fixed costs, our customer costs volumetrically, I said, well, what can we do here. And I started with spreading them over all kilowatt hours. That's appropriate. It's consistent. And it provides also a bit of parity, if you will. If you're Rate R and you want to consider Rate R-TOD, we kind of looked at what can we do further with the customer charge.

But the 90 percent, I reasoned that roughly 10 percent of that has a relationship to the diversity on the system. And if -- this perhaps goes to the Chairman's question earlier. If a customer is reducing their peak by shifting load, there may be an impact to the size of the transformer or the size of service and things of that nature, that we could provide some kind of a time-varying price signal for that. So we literally looked at what makes up those local fixed costs and tried to get a sense of the diversity of load.

And this class is roughly -- if you add up all the residential peak demands and you look at their diversified demand when they're -- because they don't all peak at the same time. It's about 25 percent, maybe 20 percent, actually. Probably a 20 percent relationship. And then I don't have -- I can't recall the details, but there was a further sort of evaluation of how much of that cost translates down to those local fixed costs. I'm not talking about the system. I'm talking about what these customers needs specifically. And it all came down to about 10 percent. On average, high level, it's a reasoned approach. And I'm saying let's put 10 percent of that into the time-of-use rate. So I carved out 10 percent to be able to support a little more time variation at distribution.

There's no pure study, certainly not from the embedded or the marginal. I mean, the marginal cost study tells us those are local fixed costs. So basically, it was kind of an agreed-upon level that reflects that

thought process that I kind of walked you through at a high level.
Q. So that ultimately gives you a little bit more of a price signal in that peak to off-peak --
A. (Davis) That's correct.
Q. -- analysis for the customer. This is deeper than, I would presume, most customers would go in terms of analyzing their load. But it gives you a little bit higher ratio at the end of the day.
A. (Davis) It does. And I did it as an adder. So I did the pure marginal cost analysis that we talked about a little bit this morning, you know, the price differentials. And our Page 47 then shows how we translated that 10 percent to 90 percent as an adder and then resolved the rate.
Q. Where on --
A. (Davis) On Lines 41 -- I'm sorry -- 42 and 43.
Q. Okay.
A. (Davis) You can see where I added 1.3 [sic] cents to the marginal cost -- to the peak

rate. I had to recalculate it so I could still come back to total revenue requirements. But what I've done is I've spread 90 percent, the Adder 2 in Line 43, across all hours. That's very much on par with what we do for Rate R. And Line 42 is that 10 percent carve-out that we put into the peak period only and just resolve. So the end result is you can see on distribution -- so I'm going to compare Line 38 to Line 47.

Q. Yes.

A. (Davis) The very last column, I went from about a half a penny differential to 1.7 [sic] cents differential. And that was the outcome, and it's part of the settlement. We agreed to do this.

But that's the rationale behind it, super high level. And, you know, that was a way to, like you said, I think provide that additional price signal. And that's kind of how we got there.

Q. And I would expect that the Company would examine over time how successful that

approach has been with respect to recovering your fixed costs via a volumetric component; is that true?

A. (Davis) True. Absolutely true, yeah. That's our intent, yes.

Q. And the outcomes would likely be either you are over-recovering or under-recovering. So in either of those scenarios, what approach might you consider in the future for resolving that question?

A. (Davis) I would let the data inform us a little bit. Particularly, this is sort of experimental in a way, you know. We have committed to explore a number of things, you know, in our next rate case. But this is a little deeper dive than traditionally. I don't know anyone else who's done this, frankly. But this is sort of a move to learn from customers and maybe study further, particularly time-of-day customers.

When we performed our marginal cost analysis, we literally went through every component of our system. And here we would sort of break it down a little further in the

next go-round, if you will, to start to say, so what for this -- we only have fewer than 50 customers on this rate today. So taking a look at that small group will give us some, I don't know if it's anecdotal, but some information. But to then further look at all residential, or services that come into play for residential. So perhaps a little more detailed analysis of services, you know, those local fixed costs, whatever makes those up.

I can tell you, for example, we have very lumpy investments. You know, you don't -- they're not just -- they don't just change incrementally. I have a 25 kVA transformer and a 50 kVA transformer -- so if a customer goes above 25, the next size up is 50. Service sizes are 200 amp, 400 amp, 600 amp. So it's lumpy investments. And so it's almost like a manufacturing and production function. You're looking at capacity of serving. So, service capacity of a service connection, service capacity of a transformer, what's the marginal cost of

that. But when you start to put these price signals in place, you know, there's no real study laid out here. But you want to let the data start to tell a story and see what -- and maybe just observe the data. So it might take a couple -- you know, a longer period of time to first see what the data is showing us and then maybe do a little further, more concentrated study. And this is just one component, obviously, of what makes up our marginal costs, as well as those that vary by time.

So we started at the bulk substation level in the discussion. And part of the discussion would also very much go down to the customer's meter, right at their point of interconnection. And, you know, we did take a look at distribution substations within the system. And so this kind of stuff would need to continue. But as we try this, for example, and try to provide, for example, a better price signal, maybe there's an outcome -- just looking at that alone can steer us in a direction of what do we look at

next. And if we look at the data here and what actually is happening, are we recovering our -- how much revenue are we bringing in for that component of our rate, and how does that compare to the cost that we've now moved into the rate for the local fixed cost, that alone could be a good -- something we'd look at in the very near term. And that's part of what I think we would be doing between now and let's say the next rate case as we analyze costs again.

Q. So is it fair to say that as the Company looks at those "lumpy" costs, as you say, going up a conductor size or needing the next size transformer, that these types of rate options for customers might help mitigate some of those investments?

A. (Davis) They could. And what's really important is, as I said earlier, this is a whole-house rate. So it's unlike an end-use rate, like a water heater, you know, or electric vehicle or any end-use device that you're separately metering, where you can study that explicitly. This is still the

result of sending a price signal, but customers responding. And you don't necessarily know what's driving it behind their meter. But still, yes, the answer is still yes, I think you can learn from that. Where you have a specific end-use device and you're able to measure that, you can see more explicitly what's involved in providing that service.

Q. You had mentioned -- or I believe I heard you say that customers that enroll in this rate would have different metering capabilities. Is that true?

A. (Davis) That's true.

Q. Tell me about that. Tell me how customers that would elect to go on this rate, what different capabilities they would have over your standard R rate.

A. (Davis) First and foremost, we measure the kilowatt hours in the distinct peak periods. So the metering for Rate R is basically measuring kilowatt hours for the whole month. So it's effectively a single value. The meters are the simplest technology, lowest

cost, generally. Meters that can measure and record and provide time-differentiated usage in this case, a little more expensive and different technology, I think those are changing a little, too. But effectively, there's a little higher cost for those meters. That can be accomplished by a so-called "AMR meter," which simply registers the total kilowatt hours during the peak hours, whatever you program into the meter and whatever the programmed-in off-peak hours are. So that is a different capability right there alone. And meters that have that capability are still part of our drive-by system, if you will, to be able to pick up the meter readings once a month. They may also have the ability to record interval data.

We have, for example, survey meters on some of these customers. And that will capture interval data with separate -- obtained separately. It's a separate process. It's not part of the billing process. But that may also be part of the

difference in technology and capabilities of the meter for these kinds of customers. And we also have interval meters on survey meters on our regular residential Rate R customers.

So, but generally the fundamental difference is the additional ability that registers, you know, the electronics and digital capabilities to separately measure the peak and off-peak kilowatt hours. We do have to program the meters for whatever the designated time periods are.

So a big thing now is we would take effectively the same meters we're using today for Rate R-TOD and re-program those. So it's a process of swapping out the meter to the new time periods.

Q. And how often would the Company have collected that data? Is it just over a billing cycle? Van drops by and gets the current read?

A. (Davis) For the peak and off-peak data, yes, that's done as part of the routine monthly billing process.

Q. And once you have that data, is there

interval data within that? So can you see a time stamp at some frequency of when those events occurred?

A. (Davis) My understanding is no, that we separately collect the interval data, if a meter has the recording capability. And, you know, obviously we have to turn -- there's a trigger you have to turn on to enable that as well. But that's done separately. Well, the survey meters, I don't know the frequency. I could find that out, but --

Q. It's not 15-minute or anything like that, though, would you expect?

A. (Davis) I think we're using a 30-minute standard right now for Eversource, yeah. It could be 15-minute.

Q. Can you speak to the Company's vision for the next generation of the metering system and a high-level time frame?

A. (Davis) Not really. I mean, I could speak to it, but I don't know if I'd do it quite justice. I mean, I think that's been addressed elsewhere. But I think, high level, our future is to have -- you know,

move toward AMI and have other capabilities that we don't have today.

Q. And at that time, within a paradigm where you have AMI deployed, would you envision different options for rate designs?

A. (Davis) I can tell you this: Having AMI metering will unlock and enable a lot of other capabilities for advanced rate design.

You know, I filed an advanced rate design in Connecticut, and it hinges on AMI and examples. And it's not a -- there's a lot of possibilities. But examples include critical peak pricing and some of the more conventional advanced rate designs that are in play and have been in play for a number of years. But there's a lot of emerging requirements.

And we certainly have that in New Hampshire for PSNH. I mean, we're about to implement a commercial -- or proposed, you know, the implementation of a commercial electric vehicle time-of-use rate, which is going to have three time periods. Well, having AMI, you know, gives us flexibility

and capabilities that pose different kinds of challenges for the current metering and billing and data collection and all the other process that come into play.

So, yes, I mean, it really does open up a lot of other possibilities. And I would imagine some that have -- are either emerging or haven't been envisioned yet. But I do think that opens up a whole different set of capabilities.

Q. With respect to your business in Connecticut and Massachusetts, would you say that the Company is further ahead in those jurisdictions, or the policy in those jurisdictions is further ahead in terms of enabling time-varying rate design versus New Hampshire? How would you gauge the progress if you look regionally per state?

A. (Davis) Yeah, I don't know if I could do justice with a comparison. But let me -- maybe this would help. For example, in Connecticut, we have sort of a grid mod proceeding that's called "distribution planning." And within that they've had 11

reopeners. And one of those reopeners is an AMI segment. And what I was referring to a moment ago was that we have had extensive discovery and written comments and tech sessions. But we have an order I think pending. I'm not sure if it's an AMI order. But we have filed -- I filed an advanced rate design plan which syncs up with a plan to deploy AMI meters, to put in place systems such as MDM, and a new billing system that can accommodate a whole host of things. It's not just about rate design. But when you introduce AMI, it's a long process. It's capital-intensive. You then have to have data collection, data storage, data management, and then all the billing processes and other processes that are involved. And also AMI ties to the system operational things as well.

But from a rate design perspective -- and it's funny because part of the plan I outlined included conducting marginal cost analyses and getting more data about your system to help prepare and inform the future

rate designs, so that when you have a system in place, everything from the new metering to the data collection, data management and billing, you can then introduce more advanced rate design.

So it's not so much I'm doing a comparison as I'm just saying there's a more defined plan there. And it emulates from a regulatory process, and it's really policy-driven as much as anything else.

And by the way, I mentioned the 11 reopeners because that's also -- that one AMI reopener is integral to all 11 reopeners, the 11th being a full rate design reopener. So we've been delving into all kinds of rate design issues, and those are ongoing. So that's the kind of Connecticut thumbnail view.

Massachusetts has its own grid mod plan, and so we're engaged for different drivers. You know, there's policy drivers and then there's regulatory proceedings that have had phases of grid mod, and within that is rate design. For example, you know, we have on

the table a proposed -- and this is statewide as well as utility-specific -- proposals for a rate design for, like, commercial electric vehicles. There's a particular plan or filing that we made there. It's not a full advanced rate design, certainly not as complex as we have here in New Hampshire with the commercial EV TOU, for example. But it's a step in that direction. So it's on a different path. It's really hard to compare them, though. They're really on their own individual paths. But there's a lot of elements that are common and that, if you look at an individual company, where they're at with their meterings, you look at Eversource and, you know, Unitil is in both Massachusetts and New Hampshire, but you can see what the differences are there based on technologies, billing systems, et cetera.

So I think the AMI, you know, is getting there from different paths in each state. But ultimately they do provide the promise of the ability to do a lot more with rate design. So I find it kind of exciting and

intriguing. And you can look at utilities who have employed AMI and the kinds of things they've done. And even there, there's still a lot of emerging and developing rate designs for lots of purposes. And obviously the electrification and renewable energy market has spurred the need to be looking at a lot of other rate design options. So...

Q. And given that the Company operates in multiple states, it sounds like you have plans filed in at least Connecticut for an AMI deployment.

Would you expect that Public Service Company of New Hampshire would come to this Commission within some horizon with a similar plan?

A. (Davis) I'm not close enough to that to really be able to tell you what -- you know, timing and what specifically might be proposed or how we might approach it. So, I mean, I think it's a good question. I'm just not able to answer that.

Q. Okay. I think this is a good segue into some questions about customer education, given

that data seems incredibly relevant for how you would communicate with customers --

A. (Davis) Yes.

Q. -- and inform them of either changes in the rate design or behavioral changes that they might be able to make to save money, reduce peak demand, reduce emissions regionally.

How does the Company intend to demonstrate to customers the benefits of this rate design and how they might benefit and contribute to the greater system needs through the rate?

A. (Davis) I think the biggest tool we have right now, and it's included in our filing and all the filings you mentioned, but certainly in our Settlement Agreement, are the bill comparisons. And we are looking to work with existing processes and capabilities, you know, looking for, like, not a full marketing campaign, per se. But customer education awareness I think is key to that.

But I think with the existing time-of-day customers, we're going to plan to

do direct outreach to them, direct communication. So it's a small number of customers, but, again, using existing resources. But more importantly, education about, well, here's your current rate. And at least there's assumption -- but obviously you want to refresh on that -- an assumption that these customers have a sense of what time-of-day rates are and what that means in terms of what happens if they move their usage behavior, if you will, and results of the change and when they drop an hour and when they consume. But that communication then needs to include, and I think the bill comparison tells the story, that we are introducing a new rate, Rate R-OTOD-2. It's got a new peak period, and here are the implications.

And I think what's important is whether it's these existing customers -- like I said earlier, there's fewer than 50 of them -- but also our other residential customers may not know what their usage is because they don't have meters and they don't have data to know

what their usage is during the new six-hour period.

So part of that information is, first of all, awareness of time-of-use rates so people understand what -- individual customers understand what time-of-use rates are, or time-of-day, whatever you want to call them; what is going to be implemented by the Company and will be available to customers as an option; and that we're going to provide information that shows the potential for bill savings. You know, if you use your power -- and there's a number of tables in our attachments that talk about if you use 50 percent of usage on -- anywhere from 50 percent to 5 percent. We have a series of different usages. And if a customer can understand the peak period and then when the -- how much of their usage is during that period -- and that's probably a self-assessment after providing enough information and education so customers can understand when they're using appliances and everything else in their home -- that they

can assess that if they're able to determine how much they're using, they can at least have an idea of the bill impact and, further, what the opportunities are for bill savings as a minimum by moving their power to the off-peak period in such a way that they can put more and more of their usage and consumption into the off-peak period.

The current Rate R-TOD customers who are going from a 13-hour period to a 6-hour period pretty much across the board can expect some savings. Now, a big part of that is the customer charge change that we did. It removes a big -- it's a big step change in their total bill; now it's all into the volumetric rates. And so there's a starting point where most customers on the current time-of-day rate will see a bill benefit under the new time-of-day rate. But they may not still know exactly what their usage is during the new peak period, but already they're getting some benefit. And they can further benefit by understanding their usage and moving more of their usage out of that

six-hour period. Doesn't mean they can or what have you. And they may not know exactly what they're using until they have a meter in place and can see how much usage is occurring during the on-peak hours versus off-peak.

But we need to provide as much information about the implications of the new rate structure, particularly the time and the price, and have customers evaluate and make an informed decision on their own on whether they want to be moved to the new time-of-use rate or go to Rate R.

And for Rate R customers, similarly, they don't even have time-of-day rate information at this point so that they could do any kind of an assessment. Again, seeing the bill comparison information, they can say, well, how much of their usage do they think and evaluate in some way -- you know, we'll provide as much tools and information as we can. Customers can self-determine what they think they're using during that peak period. And if they see an opportunity, they could choose to move to the new R-TOD-2 and

again manage that. You know, once you start to see the usage during that peak period and you internalize as a customer, you know, what's driving that, and you determine that you could do things. Maybe you don't -- we used to have a campaign in Connecticut called "Wait 'Til 8" because we had a noon to 8 p.m. peak window. And so the simple thought was: Do your laundry after 8:00. Do your dishes -- you know, any energy-intensive equipment, do it outside the peak period. And that I think resonated with customers. So any of those kinds of messages.

We don't intend to have a full campaign. It be more like using every available channel and resource we can. So there's direct contact and communication and whatever information and resources we can provide to the existing time-of-day customers, and similarly, but without the phone calls to every customer, to inform all the other residential customers of the same opportunity.

Q. For customers that have the upgraded metering

technology for these time-of-use rates, how would they access that data? Is there a means online for them to access it, or is it call customer service and get it sent to them or told to them?

A. (Davis) Yes. Well, customers will always have their bill. But we have from -- I think from our customer experience and customer group there's an online portal. We certainly would have general information on the web and those kinds of things. But each customer can log into their account through a web portal and see that information at any time.

Q. Download an Excel file?

A. (Davis) I don't know the details exactly. But I think there is download capability. I'm just trying to think of my own bill because we're planning to use the same system.

Q. Because when you say they have their bill, I mean, other than kWh, maybe kW and the billing cycle dollar amount, is there really any more discrete information on it?

A. Oh, we have all the usage, not only the

billing determinants you mentioned, but all the pricing broken down.

Q. But I mean in terms of their energy usage --

A. (Davis) There's a --

Q. -- on a time basis.

A. (Davis) Yeah, I'm trying to think out loud here. I think there is certainly a current bill that has that information. I don't recall. But it might be something we would want to internalize and ensure that happens. But the amount of peak versus off-peak usage I think would be important for customers to have on a downloadable basis. So whatever information is available when you log into the portal -- I'm a little over my skis on the details of how this works. But being able to download not only the standard information, but additional peak versus off-peak type of information.

Q. Even I think you mentioned 30 minutes sounds -- you're not sure. So I take that --

A. (Davis) Well, that information, no. That's not typically available because we don't -- we're not billing off of that and we're not

utilizing that in billing. We might have the capability through -- I know we have a system called "EPO," which is a data repository for interval metered data. I just don't know that we have that for survey meters or residential customers, per se. It's typically available for our medium and large C&I, where we use interval metering for billing. And of course suppliers access that data, too. So I don't know. Beyond that, I couldn't tell you.

Q. Okay.

A. (Davis) But I think the takeaway would be to see what information and how extensive information could be made available to these residential customers, so that particularly if they switch to the new time-of-use rate and we start to build month after month, they'll be able to see their actual usage and patterns and relate that to what's driving them individually. And that's the price signal, right. That's the information about the usage and the information about the price associated with, you know, the charges for

their usage and maybe decisions they can make to impact that.

Q. I would say I certainly think the availability of time-of-use rates is an important option for customers. And it sounds like there's some interesting work going on in Connecticut and Massachusetts with respect to smart meter deployment. And I would just encourage the Company to think about plans for New Hampshire with respect to AMI smart meters, et cetera.

A. (Davis) Yeah, and I'm not saying there isn't. It's just I will take that message back.

Q. Understood.

Can you explain how net metering customers might participate in this rate?

A. (Davis) Currently they would not. You know, this would not be available to net metering customers. We don't have the capabilities right now to differentiate and to perform net metering on a time-differentiated basis.

Q. Do you think the character of service for net metering aligns with a time-varying rate structure?

A. (Davis) If I understand your question, net metering customers are typically customers who have solar PV. Their output characteristics and the impact on their purchases from the system, if you will, or draw from the grid are different.
Q. Or export?
A. (Davis) The export, yeah. So starting with production. So the export, exactly. So there's an overlap in terms of ignoring whether or not they have any solar PV; for example, their usage is going to be what it is. By then adding solar PV, it's typically going to run based on the solar cycle, if you will, and it's going to reduce depending on the size of the unit or the array. It will reduce their load from the system. And if they generate more than they need at any instant, they're going to be exporting. So there's the characteristic of the solar PV in terms of how much it produces at any time, and then there's the characteristic of how much of that is exported to the system. That kind of gets customer-specific because it

depends on their individual load shape and total requirements and the level of operation or production from the solar array. I've looked at this a lot, and it's kind of almost seemingly random. I haven't seen -- it's really a function of how the solar array produces energy, how large it is. You know, just the level of radiation, you know, solar radiation, that could vary. You know, things like cloud cover could vary the production. But on average, generally there's a daily cycle, and it's shorter in the winter and longer during the summer. And there will be many more hours of production during the longer days and a likelihood of more output than is needed, therefore exports to the grid. So now you're seeing zero load at times during the day compared to what's otherwise peak-period usage.

So, actually, I would say if you look at one to seven, which is our proposed settlement period, during at least, let's say four hours of that, you might see for the whole year there's going to be an impact on

the peak usage by having solar operating. So their operation will also affect the off-peak because that unit's going to come on earlier in the day during off-peak hours. But during the peak period you're going to see impacts of reduced peak usage because of solar. And then toward the end of that one to seven period, depending on time of year, you may see almost no impact, depending on -- certainly in the dead of the winter, you know, you're going to see very little, if any, solar operation during the latter part of the six-hour period. So there will be peak-hour consumption from the grid during those hours.

But it still matters what the individual customer's load shape is. So your question was about the characteristics. I think the solar period will always have an overlapping period during the six hours and then will vary particularly toward the end of the peak period here. So it will have an impact for individual customers. And let's also not forget that on a bill basis, they get the

benefit of allocating those exports against any kilowatt hours anytime during the month. So you have -- that's the monthly net metering effect. So you kind of lose the time-differentiation element when you get to that point. But clearly, actual operation of a solar PV I would expect would have a major impact on the individual customer's peak-hour usage. So there's some significant overlap I would say during the six-hour period.

Q. So I think I'm asking more generally looking at time-of-day rates as a general matter. Would you agree or disagree that a time-varying structure would provide an option that might be beneficial to net metering, or I should say customer generators, or accurately reflect their characteristics of service?

A. (Davis) Well, first of all, it will affect and effect their character of service. Things like the fixed costs don't change, though, right. And that's kind of the point about they still need a transformer of a certain size. You know, that doesn't -- that

wouldn't be affected, but certainly the system, impact on the system, individual effect on the customer's usage. And when they're drawing power, whether it's kilowatt hours drawn over peaks, it could be peaks on circuits, it could be peaks on -- and this is a whole separate topic obviously we're getting into. So there is an effect there.

While you were talking, I kept thinking about like Hawaii and California, areas where there's more penetration, to the point where there's a double peak. There's actually so much solar and other resources on a system, that the system peak's no longer the peak anymore. And so now you might have a peak before the afternoon and another peak later during the day because you operate so much of these other resources behind the meter, that you're reducing the peak on the grid. And so there's that effect. And that could affect the time periods, you know, the evaluations of that. So it's a set of factors. And we're not there here. That will take time for that effect to come into play.

But as we see certainly in our other jurisdictions, there's a higher level of penetration, particularly in Massachusetts. And I don't know if it's had an effect yet, but it's something to consider, particularly when you're doing your cost analysis and trying to figure out what the time period, or maybe more than two, you know, three. A lot of those jurisdictions I mentioned have three periods. And they might vary a lot. And they might be dynamic. So I think it's going to -- it could in theory at least have an impact. And I think in practical terms, any production behind the meter will have that same effect.

Q. Okay. Thank you.

A. (Davis) I don't know if I quite answered your question because I keep thinking of other things that are important and relevant to add.

Q. That's helpful. The last question I have, it seems that supply is not time-varied in this Settlement Agreement.

A. (Davis) That's correct.

Q. Is that correct?
A. (Davis) That's correct.
Q. Does the Company have the ability to enable customers who enroll on this R-TOD-2 rate to select a competitive supplier that might offer a time-varying product?
A. (Davis) They have the ability to choose a supplier, but we don't have the ability to bill time-varying rates.
Q. So could a customer elect to utilize a competitive supplier who bills separately on time, a time-varying product?
A. (Davis) Absolutely.
Q. And that would be up to that supplier. They could have their own peak and off-peak periods on the supply component?
A. (Davis) Yes. Yes, although I will say they typically still rely on the kilowatt hours that we pass to them. So we'll read the meter. And there's this thing called an "EDI transaction." I don't know a lot about it, but it's our way of taking meter readings and providing it to a supplier. So I would imagine they would want to price it based on,

in this case, the six-hour peak period. But absolutely they could, a customer can take competitive supply. And if it's what we call "partial billing," where the supplier bills the customer directly and they're able to offer a time-varying rate, absolutely.

Q. And the Company doesn't have any plans or desire to offer a default supply product that aligns with these time periods in your R-TOD-2 rate?

A. (Davis) Not in the settlement. We do have a commitment to explore that and bring that forward and address that in the next rate case. And we are implementing that, of course, in a small way for another rate class for electric vehicles. But right now there's an additional cost on the whole process to do that. And we've committed to explore that, so that when we get to the next rate case, among other things, that we're looking at the supply piece as well.

Q. And in the future, if that were on the table, it would seem that a time-varying supply component would increase that peak-to-

off-peak ratio that customers would see from a rate design standpoint. Does that type of product provide benefits or create risks as you design these rates? How do you manage that, or how might you weigh those risks?

A. (Davis) That's a great question. First of all, we're not purchasing 'cause we pass through our supply. For wholesale supply energy service rates, company-supplied, you know, we basically pass through our price of electricity. So what we charge is flat cents per kilowatt hour. That's what our cost is, and that's the price that we would charge. And that's obviously part of our proposal in our settlement here.

The risk part is, if we were to price it differently than what our cost is -- again, pure pass-through -- so if it's cents per kilowatt hour for all hours, that's what we are going to be billed for supplying ES service. If we time-differentiate it, I'm going to bring in different revenues. And the risk is I can be long or short, depending on how customers actually take and use power

during the month during peak and off-peak hours compared to what I have to pay. So the risk is we would have to reconcile that difference. And this is not large number of customers, so it's not a magnitude issue. But it could be, you know.

So the point is our costs are not time-varying, and therefore that risk would be created if we were to do something different. And we do that in Connecticut. We have an imputed peak and off-peak rate price differential for residential customers -- again, a small number of customers on the rate. But that's a little different because we ask suppliers to bid on a peak and off-peak basis. There's still a risk because there's not always going to be a perfect match.

The other thing is the risk also exists for the suppliers themselves, right. So those suppliers that we bill on their behalf, I guess it depends on what the outcome is. If you just pass through their price, it may not give you a big price difference. And

I've said this a couple times in other venues where -- we have a law in Connecticut, for example, where suppliers are required to bid peak and off-peak pricing. And they do. But the price ends up being the same. It's just that was their response. You can't control that. So I don't know that you're getting the objective of a different higher ratio or other objectives like that accomplished through that. If you do, there's those risk items I mentioned. So it's a lot of considerations like that that do come into play.

But I would say for this proposal, you know, we don't have time-varying generation at this point. But we are truly pricing our supply portion of the rate exactly to our costs, you know. Think of it that way.

Q. Thank you. And your comment spurred one final question.

So adoption has been pretty low with your R-TOD rate. So for this second version of the time-of-day rate, it would seem to me that your plan to automatically transfer

customers that are on the R-TOD rate to the R rate and then ask them to re-enroll in this new rate might cause a drop in enrollment in customers that are currently on time-of-day supply. Can you explain why, as a term of the settlement, that was proposed or has been proposed?

A. (Davis) Maybe I left a misunderstanding. Our proposal, our plan, would be to move customers to the new -- existing time-of-day customers to the new time-of-day rate, but give them the option to move to Rate R.

Q. So I'm looking at Page 6 of the settlement, Section D, Discontinuance of R-OTOD. And it says, second sentence, Upon Commission approval of this Settlement Agreement, Eversource shall notify all existing R-OTOD customers that the rate has been discontinued and offer those customers the option to switch to either Rate R or R-OTD-2, with a default switch to Rate R if the customer makes no selection by the applicable deadline.

A. (Davis) Oh, I see. Yeah.

A. (Nixon) I can help with that or have a thought on that. "I think because this is an optional rate, that without their approval -- and I can defer to the Company on this -- that we'd have to go to the default rate and they would have to approve to switch to the optional. But again, I defer to the Company on that, though.

A. (Davis) Yeah, thank you, Ms. Nixon.

Yeah, we thought that through. The optionality, I think that was a factor there.

I guess I also don't expect customers would not elect to go to the new R-OTOD-2. By and large, looking at the bill comparison, for example, I would expect customers would elect to go to the new option, if you think of it that way. But I think that's how we ended up at the default back to Rate R is because R-TOD -- or OTOD is optional. So the existing residential rate, the time-of-day rate, and the new residential time-of-day rate are both optional. And I think it was more of a -- really, I think that was the basis for that.

Now could you repeat the first part of your question, because I think --

A. (Nixon) Can I add to that, actually?

Q. Please.

A. (Nixon) So I think the thought behind this also was that, as Mr. Davis mentioned, they're probably going to do actual outreach to every single customer on this rate. And the hope is that they will actually transfer. But that was just put in as a backstop, that if they don't make a decision in the right time, that they will go back. But again, the hope is they will go because they will see bill savings.

Q. Thank you. And I wouldn't want to imply that that's the right or wrong decision. It somewhat seems like a semantic difference when we say "discontinuance" of R-OTOD versus an "update" to R-TOD, and now we're just adding version two to it. Looks like you have a comment --

A. (Nixon) Again, I mean, we struggled with that as well. But the understanding is that you can't just immediately switch everyone over,

like, you know, if this were approved the next day. So there's got to be some transition period so that you have to have that current rate and then have a new rate. But essentially, this is an update to that current rate, but it had to have a separate name.

Q. Okay. Thank you.

And Ms. Nixon, I would just ask you for your position, the Department's position on the settlement generally. I think we've had a great dialogue with Mr. Davis here.

A. (Nixon) Yeah. As I think I said in the intro questions, we agree with this settlement. We think it's a very much improved rate over their current rate. As I mentioned -- let me look at my testimony and notes here.

Essentially it shifts -- it goes to the shorter peak period, as you have been speaking about. Really, the biggest advantage I think is this customer charge change because I think, just on the face, customers won't even consider that. Because if you have $13 or $32, I mean, right there

you're already paying $20 more on your bill without even having an impact. So I think that's going to have a major impact and may incite more people to switch.

And then the other thing that encouraged us to agree with this settlement was the Company's commitment to explore additional updates to this rate in their next rate case, like the seasonality, because transmission and end distribution, it may vary depending upon seasonality and then may possibly try to get a greater off-peak to peak window if that's possible. And maybe even shorten the peak window. This is, as we've been talking about, a much narrower window so that customers can have the possibility to possibly shift more of their load away from it. But possibly a shorter window would provide for more of that.

And then the other thing is the obligation for the Company to do more outreach and education, and the fact that DOE and OCA would help review that education and the outreach before it's implemented.

Q. How do you envision that process playing out in conjunction with the Office of the Consumer Advocate?
A. (Nixon) You mean the education piece?
Q. Yes.
A. (Nixon) Probably the three parties would meet, have the Company propose something, and we'd review it and critique it and provide any additional comments if we thought it should be revised.
Q. Okay. Thank you, Ms. Nixon. Appreciate that. Thank you, Mr. Davis.

COMMISSIONER SIMPSON: Mr. Chairman, I don't have any further questions. Thank you.

CHAIRMAN GOLDNER: Thank you. Let me suggest a 15-minute break and coming back at five minutes till 11, if that would be acceptable to everyone. That's good? Okay. Let's return at five minutes to 11. Off the record.

(Brief recess was taken at 10:41 a.m, and the hearing resumed at 11:00 a.m.)

CHAIRMAN GOLDNER: Please be

seated. Okay. We'll resume with questions from Commissioner Chattopadhyay.

BY COMMISSIONER CHATTOPADHYAY:

Q. Good morning.

A. (Davis) Good morning.

Q. So I have maybe five or six items to touch on. And the first one is about metering.

So I think you already had quite a bit of back-and-forth with Commissioner Simpson, but I just want to make sure I understand exactly what we are talking about, as far as the metering capabilities are concerned.

So for the OTOD that is currently in place, they need a different meter than what a typical residential customer has.

A. (Davis) That's correct.

Q. Okay. And can you give me a sense of how much those meters cost?

A. (Davis) They're a little bit more -- let me say two things: First, there's been an incumbent number of customers on this rate for many years. And we had the more traditional, pure, they're called "scaler meters," which were not that much more than a

conventional meter. I think they're, I'm trying to recall, on the order of $150 for a traditional, you know, residential Rate R meter versus $250, $300 difference in the actual meter themselves. So that's the capital cost, if you will. But the cost and the technologies have changed. For example, as the meter technologies have been discontinued by manufacturers, the introduction of AMR at one point, the use of survey meters for the same purpose, you know, that have the capability of recording the data but also providing that registered data that I mentioned earlier, you know, to capture the peak and off-peak information. The cost, it's a blend of costs at this point. But nominally that's one of the major differences in the customer charge or the cost between the classes is the meter cost differential. For discussion, I could certainly follow-up. I don't recall the last set of numbers, but let's just say it's on the order of $250 versus $150.

Q. Thank you.

A. (Davis) Subject to check.
Q. Thank you. So let's talk about the other two states. I want to understand, for example, in Connecticut, would you say the interest, like comparing it with New Hampshire -- you have 43 customers right now, if I got it right. Would you say it's pretty much similar in Connecticut; there's not a lot of customers that are interested in OTOD?
A. (Davis) Out of a million customers, we have about 500 customers in Connecticut who take what we call "Rate 7." So it's the equivalent. It's a time-of-day rate for residential customers. So proportionally, it's about the same. It was a rate that had under a hundred customers originally and has been in place with our most recent changes back in around 2005. It's grown to about 500 since then. So it's been a very slow growth. There was an extensive marketing campaign originally, and it didn't result in that many more customers signing up. But we've had a steady growth. So, you know, if you do the math, it's maybe 40 or 50 per year for a

number of years, and then it's kind of tapered off. But we haven't seen much growth recently. But even despite having an extensive marketing campaign, it was surprising that not that many customers switched.

Q. Do you remember or would you know why initially you had less than a hundred customers and then it kept going? I understood that you said it's a slow growth. But what led to that growth? And was it more customers being there, generally speaking, or was something else going on?

A. (Davis) So when we originally introduced this, and I don't remember the exact date, but it was when time-of-day rates were being deployed across all rate classes, either mandatory or optional. And that goes back to the 1990s, if not earlier. For residential, what was a big difference was post-restructuring -- so that happened around 1999, 2000 in Connecticut -- there was a number of rate unbundling, but then we turned our attention to cost-based rates, and a

subset of that was time-based, time-varying rates. So we had a legislative act, called "Act 501" in Connecticut in 2005, which had a number of components that were related to time-of-day rates. So one of them was turned over to processes with a regulator to expand our time-of-use offerings.

So, short story, falling out of all this is that we ended up changing our time-of-use periods. This is a big driver because we had, very much like in New Hampshire now, we owned generation pre-structuring. So we had these long, intermediate cycling generation peaks. They started at 7 a.m. and ended around 8 p.m., as we have here. And after the sale of generation and after dealing with a number of things over a number of years, when we turned our attention to time-varying rates, we looked at each unbundled component of service. But one of the biggest pieces was what is the appropriate time period. So we ended up with looking at the market system and looking at all of our costs, and it was determined that a peak period of 12 noon to

8 p.m. was appropriate. So going to that shorter peak period was a major issue.

Then there's probably some parallels here. But the ability to offer time-of-use rates depends on metering and a lot of other technology enablers. So for residential, we offered the shorter time period. And this was always as an optional rate to standard service. And we also had separate regular use and heating customers.

We also ended up, among a number of the various time-of-use directives, conducting a pilot. So one of the major outcomes was to look at peak versus off-peak, different ratios, price sensitivities, things of that nature. It was a full pilot, very much like what the federal DOE did at the time. And when we had a final order, we not only had the results of that pilot and other work that we did to look at cost-based, time-differentiated rates, but also we had that 12 noon to 8 p.m. kind of window. And it was decided that this was still an optional rate for residential customers. I

don't recall there was much reaction to just having it 12 to 8, but I think that the bubble of additional customers that initially came on resulted from a full campaign and awareness of the 12 to 8. I mentioned earlier the slogan, "Wait 'Til 8," for example, to do your laundry after 8:00 or whatever it might be. And that was a statewide initiative. You know, the other utility in Connecticut also did that. But it didn't seem to -- once we had the initial bump, it didn't seem to carry any further migration in any big way. So we had a bubble, you know, a number of customers signed on. Let's say we went from 100 to maybe 250, maybe 300 customers. And it's really been a slow trickle from there. And there's been various ways to message and communicate with customers. But I can't attribute it to any one thing why it hasn't taken off. It's also been difficult I think because prices vary a lot. Particularly during that time, we were coming out of a long transition period for supply, and then

we had price caps. And suddenly when the transition ended, these are things that are going on in parallel. So, you know, the whole overall environment, prices jumped, you know, to solicitations, and energy supply particularly went very high. And there were other initiatives that came into play. So we were introducing all kinds of other rate changes. So that's sort of the complexities I think that maybe overshadowed any one thing, such as what about time-of-use rates. Well, there was a lot more going on with rates that impacts the bills.

So maybe getting that message through and customers taking advantage of the opportunity -- you know, I'm speculating a little bit because it's hard to know why customers didn't do things without actually surveying and studying them.

Q. It's probably been a while, so you may not recall. But I'm also trying to get a sense of when in Connecticut the period was changed, you know, to what I'm counting as 8 hours rather than 12, 13 previously.

A. (Davis) Correct. Yes. Actually, I apologize. It was actually 16 hours not --
Q. It was sixteen hours --
A. (Davis) 7 a.m. to 11 p.m.
Q. Okay. You're right. So trying to -- do you remember what happened in Connecticut, in terms of the customer charge?
A. (Davis) The customer charge has had a slow, steady increase. I forget the year, but we had a major docket, might have been 2004 or 2005 time frame, where we started to look at cost of service. And there was a major push to align rates exactly with cost of service as closely as possible. And so I don't remember the magnitude of the number, but it had steadily increased in a series of rate cases. It got to a point roughly four or five years ago where we ended up with legislation which changed the method and the approach and put a cap effectively on the customer charge. So that moved it downward. But it had steadily increased $13, $14, $15, in that range. And our costs were north of $25. So all the costs we talked about here

earlier, you know, very similar. The method of cost of service really -- I don't know how much weight it always got, but we always had a very similar approach in valuating allocated or embedded costs. We do not run marginal costs. Since restructuring, we do not run marginal costs. So we didn't have that insight during rate cases to evaluate the customer charge.

Q. Can you just speak a little bit about what is the situation in Massachusetts?

A. (Davis) Regarding customer charge?

Q. No, overall, like for OTOD --

A. (Davis) Yeah.

Q. -- or TOD.

A. (Davis) We actually have gone away from time-of-day rates. We had a -- well, Massachusetts has combined with Western Mass. and Eastern Mass. So we had a merger in 2012. And I came from Northeast Utilities, where Western Massachusetts was part of the NU legacy companies. And Western Mass. actually followed a very similar path to Connecticut; we redefined the time-of use

period to 12 to 8. But the methods and approach to cost of service are different in Massachusetts. So we never really introduced a time-of-day rate for residential.

Q. Okay.

A. (Davis) And so looking at Eastern Mass. after our merger, and I suddenly became involved in, very involved, we had our first rate case there in 20-plus years, maybe many more. So time-of-day rates came up as a topic.

And the problem in Massachusetts, Eastern Mass., is there's such a disparity of rates alone. So that wasn't -- it was one of many topics to address cost of service and rate design. And the point there is now you're looking at combining four operating companies with many, many different rate schedules, time-of-use periods, all over the board. You might have seasonal and non-seasonal, but very few of -- very little of that. Boston rates are a lot different than Cambridge or South Shore. Literally, three different operating companies with a complete different history, and then you

bring in Western Mass. So there's been a very high-level envelope of working on rates, rate consolidation. And things like time-of-use rates have not gotten as much attention. We're really looking more at a more stable and bill continuity approach to changing rates and rate structures.

So aside from the electric vehicle proposal I had touched on earlier, we're not seeing much in terms of time-of-use rates. If there are time-of-use rates within an incumbent utility's, you know, former operating company rate class in a certain service area, then they pretty much are staying the same as they were. And they have that longer peak period as a characteristic in Eastern Mass. In Western Mass. they still have the eight-hour peak period.

Q. So going back to metering again. Just out of curiosity, if we go ahead and did AMI, do you have a sense of what kind of -- like in terms of cost, in terms of time? Because if TOD has to go the next generation, and then if AMI is the approach, I'm trying to get a

sense of what are we really talking about. What kind of costs are we talking about? Again, if it's possible, can you give me a sense of, like, just the meter itself, what that would cost?

A. (Davis) Yeah, I'm not really -- if it's meter cost you're focusing on, I don't know the costs, offhand. There are multiples of the current cost I understand. Let's say for discussion it's $500 or $600 for an AMI kind of meter. Beyond that, it's really order of magnitude, and I couldn't tell you what the numbers are.

Q. At the utility end, you have to also do other stuff to be able to -- so do you have a sense of that cost? If it's no --

A. (Davis) I don't know. I can defer you to things we filed. But I don't know, offhand.

Q. Okay.

A. (Davis) But to your point, I just want to point out that, yes, those other requirements I mentioned earlier, meter data management and other systems and capabilities, are required. I couldn't tell you the cost of

those in particular.
Q. I think it's Exhibit 4. I'm going to go back to Page 47, where we were a while ago. I just want to make sure I'm grasping everything. So can we go there?
A. (Davis) I have that.
Q. Yeah. So first, I would try to -- let's confirm that I get it right.
So, for example, when you moved on to the MC-based Rate Design Step 2, for the Distribution line you have peak; you have 0.065 on Line 47.
A. (Davis) Oh, yes.
Q. Right?
A. (Davis) Yes.
Q. That is essentially -- just confirm whether that is -- if you go to Line 38 --
A. (Davis) Okay.
Q. -- and again you have 0.02868; right?
A. (Davis) Yes.
Q. So you're adding -- first of all, you're adding the cell in Row 43 which comes under Peak. So you're adding .02358 to that. And then you're adding another .01274 to get to

the .065; correct? Just confirm. I'm just trying to get a sense --

A. (Davis) Those are being added, yes.

Q. So I got it right; right?

A. (Davis) Correct.

Q. Yeah. So the -- okay.

So for the off-peak, it's likewise simply going from Row 38 --

[Court Reporter interrupts.]

Q. In Row 38 for Distribution for off-peak, you are looking at 0.02404. And then you're adding only 0.02358 to get to the number. That's what's going on.

A. (Davis) That's correct.

Q. So the other thing that I would mention, and I'm conceptually trying to understand this. You are -- if you go to again those rows, 38 and 39 -- sorry -- 38 and 39, and you look at the delta price, that column, so you have 0.00464 for distribution and then 0.07000 for transmission. Those are coming from your analysis, and you're sort of fixing those numbers and then trying to figure out by changing the rates how you can ensure you

have the revenue that you need.
A. (Davis) Precisely.
Q. So my question to you is: Could you have done it in terms of looking at the ratio rather than the different differentials? So what I mean is, for example, for distribution, could you have used the number that appears in Row 38 for peak and then divided by the number that appears in the same row under off-peak and fix the ratio rather than use the differential, you know -- fix the ratio for both of them, for distribution and transmission, and then proceed and do your calculations differently? You would get somewhat different prices. But is that even possible? That's what I'm asking. So in terms of looking at the marginal cost, you're kind of looking at the ratios.
A. (Davis) It's mathematically possible.
Q. Yes, I'm just asking that.
A. (Davis) Yes. I don't believe that's -- well, it's certainly not the approach we took.
Q. Right.

A. (Davis) But that's certainly mathematically possible.
Q. And is there a overwhelming reason why you chose this approach as opposed to the other one that I just talked about?
A. (Davis) Yes. I wanted to ensure we had the price differential, because that's really the result from our marginal cost analysis that I relied on is what's the difference in price. So maintaining the price differential in performing the math was the principle that I applied in designing to get back to the total average rate and revenue requirement.

I feel that when you use a ratio, it's a distortion away from the pure marginal cost price difference. So I feel that the rigor and work to determine the difference in marginal cost, the price difference, is diffused. It's certainly directionally, you know, higher peak, lower off-peak. But you really lose the benefit of trying to ensure that we've set rates based on the price differential. And I think that's really kind of the essence of -- I feel that the ratio is

not nearly as precise, if not, you know, accurate in terms of reflecting the cost and the analysis that we did. Is it cost-reflective to go by a different approach, such as using a ratio? It still reflects that, but I think it's closer to actual cost and more efficient to try to maintain the price differential.

Q. Thank you. There could be other reasons, too, but I would also point out that when you're comparing the price signals, the approach that I mentioned, there are other reasons that that could be the right approach, too. So, again, I'm not -- I mean, I understand what you did --

A. (Davis) Yeah.

Q. Yeah, so I get that.

A. (Davis) If I could say, I understand that, too. And I think I call that -- I don't know if it's the right term. But everything I said is more of the science of it than the art of the design itself. But then there's the policy reasons and other drivers to then go further and do something different.

Q. Yeah. And that's fine.

I think you also -- do you agree that when you actually implement these rates, the ones that are part of the settlement, the customer's behavior could change, and that could lead to, you know, what you had said, trying to meet the revenue requirement? You might see that it doesn't happen the way you thought it would. I mean, I know the question is we're really talking about 43-plus maybe. I don't know how many more customers, but not a whole lot. So it may not be a whole lot, but later you have to start tweaking it, being more mindful of what behavior do these customers display. And so I --

A. (Davis) Yes.

Q. One question on education outreach. I'm just thinking loud here, but I want to have a back-and-forth.

So there are these residential customers that are not on OTOD, right, and they have a different meter, like very basic meter. How do you tell them that, based on your look at

the residential load curve -- and you don't follow individual customers because that's not how you do it. You have monthly, you know -- you calculate what the usage was over the month.

So what I understood is that the current readers do not have the availability for you to know exactly what they did or what the six hours and the rest of the hours. So you're looking at monthly numbers. But you can -- generally can you get a sense based on the residential load overall how things are panning out during your six hours relative to the 18 hours?

A. (Davis) So earlier I mentioned the survey meters. So we do have at least some analysis, and from a statistically valid sample, which gives us an indication of the class characteristics based on the sample. So that gives us an idea of where customers are on average. And so we know that there's a potential. And it's not going to be for every customer, because relative to the average, some customers might be very much --

their load intensity may very much be in that peak period, or it might be completely off of that. But on average, you come back to that relationship. So I think that's a starting point for us to say we know there's some customers who may by default benefit just by switching without doing anything different. But then it's a matter of if you're on the rate, what can you do in response to that. Is it a benefit? Is it something that a customer can take advantage of? So it's sort of a bit of a dialogue that way to inform a customer what this means, what does -- the time-of-use, time-of-day structure and how does that compare to where you are now. But what happens immediately -- and this is an experience when you have any kind of rate change like this -- is you're giving new information to customers that they may not think about or are aware of. So as a minimum, that's the start. And then -- yeah, so --

Q. So what I would suggest, given the customer charge differential -- and I think it's

roughly $3 something -- one could pitch the information in a way that sort of says the load curve for the residential customers on average, and we have a flyer or a one-pager that explains, okay, if you go this percentage based on that average customer, if you move some of your load away from the six hours to the other hours -- and I'm making up numbers -- 25 percent of your load, then you're definitely going to be able to get more than even the $3 that you're paying more, and it's beneficial to you. It's kind of letting everyone know, being more visible that this is going on. And it's something that I think in New Hampshire we should be doing. That's my --

A. (Davis) Could I then ask -- because I've alluded to the bill comparisons. But those probably are more tools, the entire set of those, for our customer service reps.

But I'm just brainstorming with you a little bit. Are you suggesting, for example, choosing one of the scenarios among those that demonstrates, again, customer charge

difference? And if you have this usage and you're able to move X percent and maybe put some kilowatt hours to that --

Q. Yeah.

A. (Davis) -- 'cause people relate to their -- one thing is you start with, well, what do you use every month and then what's your peak and off-peak relationship.

Q. Yeah.

A. (Davis) So I'm just, again, maybe soliciting some information through your question, because part of what we very strongly intend to do is rely on the analysis we have done that shows the bill impacts and then the possible savings. So am I hearing that --

Q. Yeah. What I'm saying is sometimes the numbers that you provide, your analysis, people don't have time to, you know, delve into it, okay. So you want to have a message that goes to the customer in as simple manner as possible and directly. Not necessarily talking about their own behavior, but I'm talking about in general giving them a sense that if you are able to move your -- you

know, this much of your load away from -- you don't know whether they're doing it. But just to give a sense. If you have less load during the off-peak -- sorry -- the on-peak hours and by this much, then you will be able to make -- you know, that's a deal for you. That's better for you. So that's -- I haven't thought through it fully.

But what I'm trying to flag here is the message needs to be clear, and it should trigger everybody knowing it, okay, you know; otherwise, it's -- you'll keep getting maybe 43 plus 10. So that's my point.

A. (Davis) Thank you very much. Yes, definitely.

Q. So the last question I have is, and I'm just -- I want to know whether you have seen any jurisdiction where time-of-day is mandatory and it's for everyone, all residential customers.

A. (Davis) Oh, for residential.

Q. Maybe all customers. But I'm also thinking of residential, yeah.

A. (Davis) So in Connecticut, we actually made

time-of-day mandatory for all customers, all the way down to if you had a maximum demand of 200 kilowatts, and an optional for all of our small C&I and our residential. That's one data point, one company.

By contrast, oh, I don't know, in Arizona, they had a whole series of rate introductions years ago. And there was a lot of folks, you know, and colleagues folks I work with who consult from time to time and exchange our experiences. And that was another example of it was optional.

I think by and large they tend to be optional. But there seems to be more emphasis and promotion to move to almost, in some cases, I won't say force, but make it more mandatory, or at least something that needs to be put in place. But I can't recall any particular jurisdiction that made it mandatory for residential. But I do believe the Connecticut experience I mentioned has happened in other places, where there's a directive literally ordered to do so, but not without having walked through how you get

there and then discussing what the process should be.

For example, in Connecticut we already had mandatory time-of-day for medium and large C&I back from the 1980s. And part of that was we had different vintage and technology meters to be able to do that. The TMR82-type meters, those were interval meters. We put in place mandatory time-of-use rates. But in the 2005 era I mentioned earlier, we had a directive to do that, but we needed to transition. So we literally worked our way down through the number of customers, and we did it based on a demand threshold. So it went down to 500 kilowatts, and then we went several years like down to 300, 250 and ultimately 200. But that was the pathway to get to the mandatory outcome.

But I don't think, for two reasons, we've seen mandatory go much deeper than that in any jurisdiction I can think of. One is it's expensive. You got to swap out and get more expensive meter technology and billing

processes. There's an education process. It's a much larger number of customers as you move into small C&I, residential. You know, there's usually fewer medium and large C&I customers in any utility than there are the smaller C&I and residential. So it's a larger undertaking.

And there's a lot of other considerations. You know, part of it I think is awareness. Part of it is rate continuity, stability for rates. And there's a lot of other considerations. But I have not seen mandatory residential specifically.

Q. Anything outside the U.S.?

A. (Davis) Boy, great question there, too. I was looking at Europe one time. And I also at one time had a visit from some folks from Japan after the nuclear accident, and they were trying to think about rate design. And I remember discussions about it, but I don't recall it being mandatory. I'd have to do some research.

Q. So I would suggest also take a look at Canada.

A. (Davis) Oh, thank you. Yes.

COMMISSIONER CHATTOPADHYAY: That's it. Thank you.

CHAIRMAN GOLDNER: Okay. I just have a few final clarifying questions. I think everyone can sense that this topic is important and interesting to the Commission. So I suspect some may have thought it would have been a shorter hearing today than it is, but that's because of the level of interest from the Commission.

First, Ms. Desmet, will you be addressing your position, the OCA's position on mandatory TOD for residential in your closing, or could you address that in your closing?

MS. DESMET: I had not thought about mandatory TOD. If it's something that the Commission wishes us to chime in on, I think it would have to be a bigger office discussion and we could file a letter if the Commission wishes. So I would not be prepared on the fly today to answer that.

CHAIRMAN GOLDNER: Okay. Thank

you. Thank you. Yeah, just we would invite comment on that topic, if that's something the OCA would like to weigh in on.

BY CHAIRMAN GOLDNER:

Q. Next question is for Ms. Nixon. On your Bates Page 7, Ms. Nixon, you -- Energy encouraged the Commission to consider allowing small customer generator, net metering customers to opt in to this rate. I believe Mr. Davis highlighted earlier, and I didn't see it in the settlement. But you would say that is -- you would encourage us to consider it, but it's not in this settlement; is that correct?

A. (Nixon) That's correct.

Q. Okay. And that was just part of the negotiated settlement. It was something that you and Energy wanted, but it wasn't workable in the final settlement?

A. (Nixon) Right. It did not, and there's nothing in the settlement related to that.

Q. Okay. Thank you. Okay. Just a moment please.

Okay. So Mr. Davis, I think it was

noted earlier, and it's in the settlement, that currently there's 43 customers that are enrolled in R-OTOD. And I noticed you mentioned in multiple places that you've done a lot of forecasting and modeling. Have you modeled or estimated how many OTOD-2 customers you would expect with this new pricing?

A. (Davis) We've thought about it and tried to see how we could possibly model that. We didn't really come to a conclusion. I would expect an increase, but I'm not sure it would be that large. So we just couldn't come to a conclusion about how we could project that.

Q. Okay. Very good. Thank you.

In Section E of the settlement, Bates Page 6, a question again for Mr. Davis. It looks like there's a robust process for outreach in education.

Is it correct to say that there will be no incremental costs; that is, no outreach education costs charged to R-OTOD-2 customers?

A. (Davis) That's correct.

Q. And in Section G of the settlement, again a question for Mr. Davis, Page 7. It didn't look to me when I read the description that there was consideration for the three-period versus the two-period piece of the next distribution rate case. Is that -- is three-period a consideration for the next distribution rate case?

A. (Davis) It's not an explicit consideration. But I will comment that we are about to implement a three-period electric vehicle time-of-use rate. And I do think we certainly will look at it particularly on that basis because we expect to start having some experience with that.

Q. And your issues are not on the meter side, it's on the back-office processing side?

A. (Davis) No, metering is included because --

[Court Reporter interrupts.]

A. (Davis) Metering is part of that consideration. We need different information. We need interval data to be able to break up usage into more than two time-of-use periods. So that's a major part

of what we need to consider in any three-period offering. And then, of course, the billing. And then there's other aspects, but it does start with the metering.

Q. Okay. Thank you.

I'm just reflecting on Commissioner Chattopadhyay's comment about Canada. I used to live in Europe for a while, and I believe that they have the capability there with the Itron meters and so forth. So it's probably a cost benefit --

[Court Reporter interrupts.]

Q. It's probably a cost benefit trade-up, you know, where these technologies are all existing. It's just a question of what's the benefit versus the cost of the implementation. Is that fair?

A. (Davis) Well, generally I guess I'd agree, yes. But I think the prospect of AMI brings a lot of those, I'd call them "technology enablers." But I think that's part of the bigger picture of your process for what kinds of meters you put in place when you do that. But definitely that comes to play into that

consideration.
Q. Perfect. Thank you.
And just sort of a follow-up on that, and a question to Ms. Desmet earlier. If the Commission were to require, which I'm not suggesting we're doing here, but if the Commission were to require time-of-day rates across the entire New Hampshire base, I just want to understand any obstacles to doing that. I think one is the meters. Your current meters are not ready for that. And new meters, if somebody called you today and their meter broke or it was a new house or something like that, the new meter you're putting in today would not support time-of-day rates; correct?
A. (Davis) New meter for?
Q. Yeah, a new house goes in --
A. (Davis) Oh, oh.
Q. -- a residential house putting in a meter. It would not support a time-of-day rate; right? It would be the low-cost meter for your standard R rate. Would that be correct?
A. (Davis) Well, I would say we would offer --

we would make customers aware of either option. So they could, right at the outset, move right to a time-of-day rate and have that meter in place, or take the conventional Rate R, if you will, and that would be a standard meter installed for that purpose as well.

Q. Because you would be doing that today. You already have an R-TOD rate today.

A. (Davis) That's correct.

Q. And so if maybe a builder's building a new subdivision, you would go to them and say here are your options for a new -- putting in a new meter in a house. Maybe the meter broke or needs replacement. You would have that discussion in some form?

A. (Davis) We would. And I think we would as part of -- I mean, we talked about outreach. But sort of leading in all the way to the front end of that, for any new home, new residential customer, those options should be available at that point. So there's at least a point of awareness.

Q. It would be an interesting topic for your

next rate case, if we're forward-thinking and there's alignment, that time-of-day rates are the future, then what do new meters going into houses and industry and so forth, what does that look like. And folding that into the rate case would be an interesting topic I'll put that out there for folks.

And then the second obstacle, just to kind of complete the question, was, yes, okay, you need new meters to have mandatory time-of-day rates. Then you also have the back-office piece. And we have that in other dockets. And the cost is substantial for Eversource. And I think we understand that position.

If I understood you correctly, Mr. Davis, previously you said there's a lot of work going on in Massachusetts and Connecticut and that that work would be leverageable into New Hampshire if that were to come to pass. Is that fair?

A. (Davis) At a high level, I would expect we would leverage any way we could. That makes sense. It's just a general comment, for

sure.

Q. Yeah. Okay. Thank you. Just a couple more questions.

Let's move back to the famous Page 47 of the settlement. And I think, Mr. Davis, I misunderstood you earlier, and I just wanted to make sure I'm understanding your point.

On Line 34 of Page 47 of the settlement, there's peak and off-peak kilowatt usage. Is that your monthly actual? Or what am I looking at there, Peak and Off-peak, Total Kilowatt Usage? Is that like your monthly load in New Hampshire?

A. (Davis) So thank you. Let me clarify.

That is the -- think about in a rate case when we design rates. We set a test-year number of billing determinants. So these numbers represent for the total residential class their total kilowatt hours and how much of those kilowatt hours for the total class are peak if you set a six-hour peak period.

Q. Okay. No, thank you for the clarification. This is actually where I'm confused, so I

appreciate that we zeroed in on this.

So if I take the total load of, let's just call it 3.14 billion, and we divide that by 4, you know, four six-hour periods, so everything was equal over the course of the day and you had an exactly level load, then you would have 786. That's 3.144 divided by 4. So you'd have 786 million kilowatt hours of usage.

And the reason I'm confused is, how can the peak be 646 if the average load is higher at 786? And I'll just pause there and --

A. (Davis) So I'll try to answer the question. What does the 4 represent again?

Q. You have a six-hour period, from 1 to 7 p.m. So that's one quarter of a day. So 24 hours in a day, a six-hour period --

A. (Davis) Oh, okay.

Q. So I'm just saying if you level-loaded four periods, you would divide 3.144 by 4. That's 786 million. So your level load would be 786. But it says the peak is only 646. How can the peak be lower than the average?

A. (Davis) Because you need to also add the

weekend hours. So those are only the five days of the week.

Q. That's what you were saying.

A. (Davis) Yeah. You know, it's not a big deal, but there's also -- you have to add in the week -- the holidays that are not counted as peak. So those two numbers will get you down to the -- from a high-level macro view, that should make sense relative to the 646. I mean, if you just think about weekends being some 20 percent more or --

Q. Right, right.

A. (Davis) -- then you'll get there.

Q. Then you can get there.

A. (Davis) Yeah.

Q. I see your point. It would be helpful in the future if the five days a week was broken out so we can see the actual profile of the load. You have two engineers and an economist on the Commission. So we like numbers and would appreciate good visibility on what's actually happening. Because when you mesh it in like this, it becomes unhelpful in terms of determining what's going on.

COMMISSIONER SIMPSON: And some graphs.

CHAIRMAN GOLDNER: And some, yes, graphs. Graphs and tables we like, exactly.

COMMISSIONER CHATTOPADHYAY: Maybe even 3D graphs. I'm just kidding.

A. (Davis) I'll just comment that I'm a visual person and taking that feedback, as well as recognizing not just here but in other venues, that's helpful, for example, with the three-period EV time-of-use. I mean, I think we're presenting -- most people are presenting just the numbers like this. But that's helpful input so we can make sure that we have a better kind of breakdown to quickly discern what the various relationships are --

Q. Thank you.

A. (Davis) -- and then the graphics on top of it can be simple enough to summarize that.

Q. Thank you.

A. (Davis) Okay.

Q. So another question for you, Mr. Davis.

On Bates Page 3, you mention that none of the suggested DOE changes have been

analyzed to see if they would motivate a change in energy use. So I'm kind of wondering why Eversource didn't collaborate with the DOE on different scenarios. Why weren't -- why wasn't there the opportunity for the DOE to make some suggestions on that to get thrown into your models?

A. (Davis) I apologize, Chairman. Where are you looking on Page 3?

Q. I'm on Bates 3 of your testimony. I think it was your rebuttal testimony.

A. (Davis) Oh, rebuttal testimony. I'm sorry.

Q. Yeah, I believe that's the case, although my notes are poor on this one. I believe it's Bates 3 of your rebuttal. Yeah. So I'm reading Lines 6, 7, 8 and 9, just so everyone finds it.

None of the suggested changes has been analyzed to see if in practice they would even have the intended effect of motivating a change in customer energy usage will result in any positive bill impact for customers.

So I'm reading this to say that the DOE had no opportunity to fold their ideas into

your models.

A. (Davis) And simply, this is a reaction to suggested enhancements and changes to our proposal. But there was no analysis behind it, unlike what we had built into our proposal. We got -- we received the ask for, like, the topics, and they were more theoretical because there was nothing that demonstrated, first of all, when you make one change, that there's sort of a domino effect in a way, because when you make one change, it's going to affect other moving parts. So it was really just a summary kind of statement about there really was no analysis to help us even begin to understand it.

And as far as folding that into any further work, I think it was more the timing, you know, the timing of when that was received and what we could accomplish in the time available.

Q. Okay. I guess my encouragement in the future would be to engage the parties in that process. I think we might arrive at a better solution. And maybe this is the perfect

solution in this case. But if we have engagement in the modeling process in the different scenarios...

Okay. Next question is again for Mr. Davis.

Is it confusing for your customers to have a whole-house rate and an EV rate that are both, you know, TOD, TOU, whatever you want to call them? Do you find customers are confused by that issue? I mean, I was sort of surprised when I read the filing that there wasn't a single rate for both. And in the explanation, I think I understand better why there isn't at the moment.

But are customers confused, and do you have a plan to sort of consolidate and feather all this into a single rate in perhaps the next rate case, for example?

A. (Davis) So we obviously don't have any customers yet who are separately metered on an electric vehicle time-of-use rate. I expect there will probably be some confusion, but perhaps not. And the reason I say that is, whatever your residential whole-house

rate is, a separately metered electric vehicle time-of-use rate in a way is a special purpose rate. It's intended to be additional to your whole-house service.

So just pictorially, I would imagine a service would come in to meet the whole-house requirements, but there would be a separately metered electric vehicle meter off of that same service. And that's really important because that differentiates the type of service. Just like a water heater. We have separately metered water heaters.

But focusing on time-of-use electric vehicles, I think the focus will be on that meter and charging in a manner that works in accordance with the rate design, the time-of-use characteristics. If the attention is broadened to compare the two, then I think that's where there might be some confusion. But I think it's a little early to know what and how the extent of what the issues are and what they may be. But I think there's going to need to be much more communication with customers not just for

electric vehicle time-of-use option, but service to the whole house, and even just time-of-use in and of itself. And I think that could converge on something common down the road. But it almost begs the question: Why have a separately metered rate? You know, it's sort of a conundrum.

So I think we're just at the beginning of this. And I think that understanding perhaps as many use cases as we can identify as we roll out the electric vehicle time-of-use rate and customers on whatever rate they're on, but particularly if they're on a residential whole-house time-of-use rate, we can start to surface and understand what customers' perceptions are and identify the issues that arise from that.

Q. Okay. And this last is a comment. I think my encouragement -- and I'm just really building on what Commissioner Chattopadhyay and Commissioner Simpson said earlier. Our larger southern neighbors are doing a lot of work in this area. And I think sharing that information with us and helping us understand

what's going on there would be very helpful in terms of our learning and understanding what direction makes sense in the future. So thank you.

Okay. Very good. That concludes the questions. I'll just double-check with Commissioner Chattopadhyay and Commissioner Simpson to see if there's any additional questions. Oh, Commissioner Chattopadhyay, please.

BY COMMISSIONER CHATTOPADHYAY:

Q. Yeah, purely out of curiosity. Let's say there's a customer that's part of net metering. Can that customer choose to be OTOD without the utility knowing, or even if it knows? Like can somebody do that? And, you know, let's not get into the issue of changing what they will get paid or not. That remains exactly what you have for net metering, you know, right now. But I'm just curious whether when you talk about, you know, they don't work together, but -- I'm asking in reality if somebody did what I just described, net metering customer, but I also

want OTOD.
A. (Davis) I think at this point I'd say that's not available at this point. But it's something I think we kind of are on a path to address. I think we clearly have to find a solution for that. So currently I think it's just not available at this point.
Q. Because you know that they're on net metering rates. You would know if they wanted OTOD, that you can tell them, sorry, currently that's not available.
A. (Davis) Basically, yes.
Q. Yeah. Thank you.
COMMISSIONER SIMPSON: I'm all set. I don't have any further questions, Mr. Chairman.
CHAIRMAN GOLDNER: Thank you, Commissioner Simpson, and thank you, Commissioner Chattopadhyay.
So we'll move to redirect. Is there any redirect for your witnesses? Question for Eversource and the Department of Energy.
MS. CHIAVARA: I don't believe I

have any redirect at this time. Thank you.

CHAIRMAN GOLDNER: Okay. Thank you.

MR. WIESNER: And I have no redirect questions for Ms. Nixon.

CHAIRMAN GOLDNER: Okay. Well, thank you both. I'll thank the witnesses today, and the witnesses are released. Thank you very much.

So without objection, we'll strike I.D. in Exhibits 1 through 4 and admit them as exhibits. And there's no record request, so there's no need to hold the record open.

And we'll move to closings, beginning with the consumer advocate, Ms. Desmet.

MS. DESMET: Yes. Thank you. I guess maybe just a clarification question about -- I'm not sure if it would be holding the record open or not. But if we were to submit a letter if the Commission requested OCA input on a mandatory time-of-use rate for ratepayers --

CHAIRMAN GOLDNER: We can. To make

it simple, if you're open to that, we can just hold the record open and make it a record request. And then if a week would be sufficient time, that would be great, just so we can efficiently process the docket.

MS. DESMET: Yes.

CHAIRMAN GOLDNER: Okay. Thank you.

MS. DESMET: So with that squared away, I would just make a brief statement.

From the OCA's perspective, in signing on to this settlement, we believe that it is a good start and resolution from the agreement made by the Company and parties in the DE 19-057 case for the Company to revise its optional time-of-day rate for residential customers. The OCA would just like to highlight a few things in the settlement that were very important to us, from our perspective.

Under the Settlement Agreement in the 2019 case, as you've heard, there was a requirement for an eight-hour peak window. And all parties came together and did better

than that, settling on the six-hour window.

Also what was very important to the OCA and was brought home in this case by the director to my left, Ms. Reno, was concern about the customer charge. And she pointed out during the course of this matter that her belief was that there's no faster way to kill a program than with a high fixed charge.

So the OCA is very pleased again that the parties came together and came up with a solution to greatly reduce this charge.

Also, the OCA is pleased to see additional language included in the customer education regarding social media as opposed to just bill inserts and general outreach. The Company was agreeable to that. So we are very pleased to see that in as well.

Further, the commitment to explore improving the rate in the Company's next distribution rate case to consider the elements -- added elements, such as higher on and off-peak ratio, time-varying generation rates, seasonal rates, and a shorter peak and

on-peak window.

The OCA is hopeful, as you have heard from other witnesses, that they're also hopeful that this modified rate and additional customer outreach will increase this rate's adoption among residential ratepayers. Not only is this advantageous to the system as a whole, it is advantageous to all ratepayers because the additional data will help provide and pave the way for any further tailoring of these advanced rates to benefit the grid and all residential ratepayers.

So with that, the OCA hopes that the Commission adopts the Settlement Agreement, as the resulting rates are just and reasonable and in the public interest. Thank you.

CHAIRMAN GOLDNER: Thank you.

And we'll move to the Department of Energy and Mr. Wiesner.

MR. WIESNER: Thank you, Mr. Chairman.

The Department supports the

settlement reached in this proceeding with Eversource and other parties. The revised optional residential time-of-day rate design reduces the customer charge by almost half and reduces the peak period by one hour, as compared to the Company's original proposal. It also includes a peak to off-peak period rate differential that should further incentivize beneficial load shifting by residential customers. Those are all positive improvements to the rate design, from our perspective.

Moreover, the Company will engage in customer outreach and education to promote further uptake and effective use of this new rate design without incurring significant increases to related administrative costs.

We also believe the proposed transition provisions are reasonable and appropriate under the circumstances.

And we are encouraged that the Company has committed to explore further enhancements to this optional rate design during its next base distribution rate case,

which we anticipate will come along in the next few years. And those further enhancements would include a higher on-peak to off-peak ratio, time-varying generation supply rates, potentially seasonal rates, and a shorter on-peak period window. The Department intends to work actively with the Company and other stakeholders to develop those improvements that should provide benefits both to participating customers and to the system as a whole, including non-participating customers.

I wasn't asked, but I guess I will offer a comment on the thought that time-of-day rates might be made mandatory for residential customers. I think that would be a premature requirement under these circumstances. This docket has focused on limited updates to an optional rate design as committed to by the Company in its last base distribution rate case. I think there's a lot more careful analysis and thought that would have to go into a decision of whether or not to make time-of-day rates --

time-of-use rates in any form mandatory for all residential customers. And I believe that I can offer that that would reflect the position of the Department as a whole, although I haven't checked with anyone.

All that said, the Department believes that the settlement terms you have before you would result in just and reasonable rates, and we urge the Commission to approve them as soon as reasonably practical.

In terms of timing, we believe it would be beneficial to have the modified rate available at the same time as other rate changes go into effect on August 1st. And my understanding is that if an order were issued by July 15th, that that would be possible to at least begin implementing this new modified, updated rate as of August 1st.

And with that, we believe that the result of this settlement would result in just and reasonable rates for the residential customers participating and those not participating in the optional rate design,

and we urge the Commission to approve it.

CHAIRMAN GOLDNER: Thank you, Mr. Wiesner.

First, my apologies for not asking your thoughts on the topic. And if you would like to put anything in the docket along with the OCA, that would of course be welcomed as well. But to clarify, I don't think we're suggesting that here. We're just asking about the thoughts and positions of each of the departments. So that was really the intent.

Okay. Thank you. Any other comments, Mr. Wiesner? Have I --

MR. WIESNER: No, I think that concludes our statement. Thank you.

CHAIRMAN GOLDNER: Okay. Thank you.

And finally we'll move to Eversource. Ms. Chiavara.

MS. CHIAVARA: Thank you. The update to Eversource's residential time-of-day rate presented in the Settlement Agreement for Commission approval reflects

not just compliance by the Company with an obligation arising out of the Settlement Agreement in the Company's last rate case in Docket No. DE 19-057, but also a collaborative effort among the parties to modernize the Company's time-varying rate design to address evolving challenges to the electric grid, while incentivizing customers to adopt behaviors that would address those challenges.

As mentioned in the Settlement Agreement in this matter, this Settlement Agreement in DE 19-057 only had two requirements for the revision to the residential time-of-day rate: That the rate have two periods and that the peak period last no longer than eight hours.

The intent behind the Settlement Agreement was to update the rate to be more reflective of current demand curves and cost to serve customers taking the rate while keeping within the existing rate structures so that the updated rate could be quickly implemented and at minimal incremental cost.

The proposed updated rate in the Settlement Agreement achieves those objectives and goes further to better incentivize greater enrollment in the rate while maintaining fidelity to the cost of service.

The proposed six-hour peak period on non-holiday weekdays is sufficiently cost-reflective of demand and facilitates customers shifting their usage to the off-peak period. By moving nearly half of the customer charge into the volumetric portion of the rate, reducing the customer charge from $32.80 to $16.50, greatly reduces what might otherwise be a deterrent for customers considering switching from general residential Rate R to the residential time-of-day rate. However, the Company was mindful in how it re-apportioned the otherwise fixed costs of the customer charge into the volumetric rate by distributing 90 percent of that portion across all hours and 10 percent into the peak period only. This allocation should generate an appropriate amount of revenue from those taking the

rates, so that any cross-subsidization from other rate classes is minimized or prevented altogether.

Aside from reducing energy usage on the whole, the proposed updated residential time-of-day rate will provide customers with an opportunity to reduce their bills by taking control of their energy consumption by switching their usage behavior to the off-peak period. While customers may not be able to control the price of energy, they do have the ability to manage when they use their energy. And the Company can and will encourage this customer empowerment through education and outreach by integrating these efforts into already available company resources to avoid incurring incremental costs.

By approving the proposed update to the residential time-of-day rate in the Settlement Agreement, the Commission will be enabling an option for residential Eversource customers that has the potential for quantifiable bill savings and result in a

just and reasonable rate.

This rate update is also being proposed at a particularly salient time when prices for all types of energy are increasing sharply. Eversource customers are likely to be impacted by these energy price increases as well when the Company's new default energy service rate takes effect on August 1st.

So as a final matter, and as was referenced by Attorney Wiesner just a moment ago, the Company would respectfully request that, if possible, the Commission issue an order approving this settlement no later than July 15 so the Company can undertake the changes necessary and have sufficient time to make those changes to make the new rate available for customers to enroll starting August 1st. Thank you.

CHAIRMAN GOLDNER: Thank you.

Is there anything else today?

[No verbal response]

CHAIRMAN GOLDNER: No? Okay. I'll thank everyone, particularly our two witnesses today. Thank you. We'll take the

matter under advisement and issue an order.
We are adjourned.
(Hearing concluded at 12:10 p.m.)

C E R T I F I C A T E

I, Susan J. Robidas, a Licensed Shorthand Court Reporter and Notary Public of the State of New Hampshire, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes of these proceedings taken at the place and on the date hereinbefore set forth, to the best of my skill and ability under the conditions present at the time.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action; and further, that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

(ORIGINAL CERTIFICATION FILED WITH PUBLIC UTILITIES COMMISSION)

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Susan J. Robidas, LCR/RPR
Licensed Shorthand Court Reporter
Registered Professional Reporter
N.H. LCR No. 44 (RSA 310-A:173)

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