STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

January 28, 2022 - 9:06 a.m. DAY 2
21 South Fruit Street MORNING SESSION
Suite 10 ONLY
Concord, New Hampshire

[Hearing also conducted via Webex]

RE: DE 20-170
ELECTRIC DISTRIBUTION UTILITIES
ELECTRIC VEHICLE TIME OF USE RATES

PRESENT: Chairman Daniel C.Goldner, Presiding
Commissioner Pradip K. Chattopadhyay
Special Commissioner F. Anne Ross

Doreen Borden, Clerk
Corrine Lemay, PUC Hybrid Hearing Host

APPEARANCES: Reptg. Eversource Energy
Jessica Chiavara, Esq.

Reptg. Unitil Energy Systems, Inc.:
Patrick H. Taylor, Esq.

Reptg. Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Liberties:
Michael J. Sheehan, Esq.

Court Reporter: Susan J. Robidas, NH LCR No. 44

APPEARANCES (CONT'D)

Reptg. Conservation Law Foundation:
Nicholas A. Krakoff, Esq.

Reptg. ChargePoint, Inc.:
Nikhil Vijaykar, Esq. (Keyes & Fox)

Reptg. Clean Energy NH:
Chris Skoglund, Dir./Energy Transition

Reptg. City of Lebanon:
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Reptg. NH Dept. of Environ.Services:
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Reptg. Residential Ratepayers:
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Brian D. Buckley, Esq.
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I N D E X

WITNESS PANEL: EDWARD A. DAVIS
DENNIS E. MOORE
BRIAN J. RICE
KEVIN BOUGHAN

E X H I B I T S

P R O C E E D I N G S

CHAIRMAN GOLDNER: Okay. Good morning, everyone. Here again is Chairman Goldner, joined by Special Commissioner Ross and Commissioner Chattopadhyay. We're here this morning in Docket DE 20-170 for a second day of hearings regarding the electric vehicle time-of-use rates, which include the Liberty/Unitil Settlement Agreement and an Eversource proposal. We plan to continue to follow the schedule from the DOE, dated 1/24/22, and written closings.

Is there anyone here today that did not enter an appearance on Day 1?

[No verbal response]

CHAIRMAN GOLDNER: Okay. Mr. Buckley looks different today, but we won't make him enter a second appearance.

So moving on to preliminary matters, are there any preliminary matters before we have the witnesses sworn in?

MS. CHIAVARA: Chairman Goldner, I'd like to make a couple notes regarding the Eversource witness panel that we're about to hear from.

CHAIRMAN GOLDNER: Okay. Very good.

MS. CHIAVARA: Thank you. So Michael Goldman was a witness that did prefile initial testimony. He's no longer with Eversource. But Brian Rice, who is a witness on this docket already, will be adopting Mr. Goldman's part of the testimony, and we will address that on the stand when he's sworn in.

We also have an additional Eversource member here today, Kevin Boughan. Mr. Boughan is not a witness in this docket, but in Exhibit 13, filed by the Department of Energy, there are a number of data requests from different dockets to which Mr. Boughan is a witness, so we have him available should he need to speak to any of those. So we were going to swear him in as well.

CHAIRMAN GOLDNER: Okay. Any objections? No.

[No verbal response]

CHAIRMAN GOLDNER: Seeing none,

we'll proceed as recommended.

MS. CHIAVARA: Sorry. I have one more thing. Regarding Eversource, Eversource Exhibit 11, we caught a correction, a calculation error in that exhibit. I filed with the clerk's office at about 8:00 this morning a redlined corrected exhibit. Mr. Davis will also be addressing that on the stand. So he will go through a narrative correction of that. But there should also be the corrected exhibit that was also distributed this morning.

CHAIRMAN GOLDNER: Okay. Very good.

MR. TAYLOR: Commissioner --

CHAIRMAN GOLDNER: Go ahead.

MR. TAYLOR: Sorry. This is Patrick Taylor from Unitil. I had one note regarding exhibits as well.

At Tuesday's hearing, our witness, John Taylor, walked through some corrections to Table 7 of Page 26 of his rebuttal testimony, and the Commissioners had requested that we file a corrected version of that page. So yesterday we did file a corrected version of the page, both a replacement page, but I also filed a copy of the corrected page as Hearings Exhibit 26. And I believe that is the next available number. So I just wanted to note that on the record in case any other hearing exhibits are marked today, that we did snatch up 26 already.

(The document, as described, was herewith premarked as Exhibit 26 for identification.)

CHAIRMAN GOLDNER: Okay. Thank you. I do have some -- I'll take an opportunity at the lunch break to sort some things out with the clerk relative to what I think are two Exhibits 25 as well. But we can come back to this by the end of the day to sort it out.

And Mr. Taylor, the first exhibit you were referring to was which exhibit?

MR. TAYLOR: So the exhibit that I was referring to -- well, on the stand on Tuesday, John Taylor had made a correction to his rebuttal testimony, which is marked as Hearings Exhibit 12 in uncorrected form. We then submitted a corrected Page 26 of that testimony, and I submitted that as a separate hearing exhibit, Hearing Exhibit 26.

CHAIRMAN GOLDNER: Perfect. Thank you. Thank you. I didn't catch the first exhibit, No. 12. So thank you.

Okay. Anything else? We've heard from Unitil and Eversource. Anyone else?

MR. VIJAYKAR: Chairman Goldner, this is Nikhil Vijaykar, counsel for ChargePoint. Just one preliminary matter, if I might.

During Tuesday's evidentiary hearing, Commissioner Chattopadhyay, you might, recall, in questioning of our witness, asked us to prepare an analysis of payback periods under various scenarios. And as I understand it, my client, including a couple of different people at the client, have been working expeditiously to try to pull this together and, you know, intend to have the analysis that we described and were asked to provide ready. With that said, my understanding is that it is going to be a challenge to get this done by today, as we had -- as we had been asked to do. We're going to be -- you know, the clients are going to be working to get this done as soon as possible and to the Commission. But again, you know, the effort here is to make sure that all the numbers going into the analysis are representative and defensible. So we want to get you the best analysis possible, but I did want to let the Commission know that it is possible that it won't be -- we won't be able to get you the analysis today.

CHAIRMAN GOLDNER: Okay. Thank you, Mr. Vijaykar, for that update. Thank you. Mr. Vijaykar, just as an estimate, if it's not -- if it doesn't come today, would you have an estimate of when that would be available?

MR. VIJAYKAR: That's a fair question, Chairman Goldner. I've tried to figure out the answer to that. I believe that Tuesday would be a reasonable deadline or a reasonable guess of when we would be able to get the Commission something.

CHAIRMAN GOLDNER: Okay.

MR. VIJAYKAR: That's sort of my best estimate based on my conversations with my client.

CHAIRMAN GOLDNER: Thank you.

Anyone else?

[No verbal response]

CHAIRMAN GOLDNER: Okay. Now seeing none, we'll move on to the swearing of the witnesses.

Ms. Robidas, would you please swear in the Eversource panel of witnesses.

(WHEREUPON, EDWARD A. DAVIS DENNIS E. MOORE, BRIAN J. RICE, KEVIN BOUGHAN were duly sworn and cautioned by the Court Reporter.)

EDWARD A. DAVIS, SWORN

DENNIS E. MOORE, SWORN

BRIAN J. RICE, SWORN

KEVIN BOUGHAN, SWORN

CHAIRMAN GOLDNER: Okay. We'll

move to direct examination. I'll recognize Ms. Chiavara.

MS. CHIAVARA: Thank you, Chair. I'd like to begin with Mr. Ed Davis.

DIRECT EXAMINATION

BY MS. CHIAVARA:

Q. Mr. Davis, can you please state your name and the title of your role at Eversource.

A. (Davis) Yes. My name is Edward A. Davis, and I am the director of rates for Eversource Energy Services Company, including -- or on behalf of Public Service of New Hampshire today.

Q. And what are the responsibilities of your role with the Company?

A. (Davis) I provide rate- and tariff-related services to the operating companies of Eversource Energy.

Q. And 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 3, and a supplement to the Eversource residential time-of-use rate filed on June 23rd, 2021, which was marked as Exhibit 5?
A. (Davis) Yes.
Q. And were the testimony and supporting materials prepared by you or at your direction?
A. (Davis) Yes, they were.
Q. Do you have any changes or updates to make at this time?
A. (Davis) No.
Q. And do you adopt your testimony today as it was written and filed?
A. (Davis) Yes.
Q. Thank you. Now turning to rebuttal testimony. Did you also file rebuttal testimony and a corresponding attachment on December 10th, 2021, which was marked as Exhibit 11?
A. (Davis) Yes.
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 to that testimony at this time?

A. (Davis) I do. In my rebuttal testimony, on Bates Page 18 of Exhibit 11, I explained that the Company estimated the illustrative time-of-use rate for high-demand draw applications proposed ideally in its testimony would collect, at most, approximately 40 percent of the distribution and transmission revenue that would be generated under the demand charge alternative proposed by the Company in Docket No. 21-078. The Company omitted the customer charges when estimating the revenue of the illustrative time-of-use rate proposed by DOE.

As a result, the testimony should be corrected to state that the rate proposed by DOE would collect, at most, approximately 59 percent of the distribution and transmission revenue that the demand charge alternative proposed by the Company would produce at low levels of station utilization. Nothing changes there but the percentage of revenue estimated to be recovered by the DOE rate.

Accordingly, I'm also providing a revised Exhibit EAD Rebuttal-1, which is Bates Page 23 of Exhibit 11, in support of this update.

Q. And these corrections were all filed as of this morning as part of a corrected Exhibit 11; correct?

A. (Davis) That's correct.

Q. So do you adopt that testimony today with the corrections you've just described?

A. (Davis) I do.

Q. Thank you.

Now turning to Mr. Moore. Mr. Moore, please state your name and the title of your role at Eversource.

[connectivity issue]

A. (Moore) Good morning. My name is Mr. Dennis Moore. I'm the director of IT Enterprise Business Solutions at Eversource Energy Service Company.

Q. And Mr. Moore, what are the responsibilities of your role at Eversource?

[Court Reporter interrupts.]
Q. So Mr. Moore, what are the responsibilities of your role at Eversource?
A. (Moore) I've worked with Eversource Energy for 31 years, developing, implementing and maintaining Enterprise Business Solutions.
Q. And have you ever testified before this Commission?
A. (Moore) Yes.
Q. Did you file testimony and corresponding attachments as part of the filing on June 15th, 2021, marked as Exhibit 4?
A. (Moore) Yes.
Q. Were the testimony and supporting materials prepared by you or at your direction?
A. (Moore) Yes.
Q. Do you have any changes or updates to make at this time?
A. (Moore) No.
Q. And do you adopt your testimony today as it was written and filed?
A. (Moore) Yes, I do.
Q. Did you also file rebuttal testimony on December 10th, 2021, marked as Exhibit 11?

A. (Moore) Yes.
Q. Was that testimony prepared by you or at your direction?
A. (Moore) Yes, it was.
Q. And do you have any changes or updates to make to that testimony at this time?
A. (Moore) No, not at this time.
Q. So do you adopt that testimony today as it was written and filed?
A. (Moore) Yes, I do.
Q. Thank you very much.
Turning to Brian Rice. Mr. Rice, please state your name and title of your role at Eversource.
A. (Rice) My name is Brian Rice. My position has been manager of regulatory projects at Eversource Energy Service Company.
Q. And what are the responsibilities of your role at Eversource?
A. (Rice) Well, I manage enterprise-wide regulatory initiatives across Eversource Energy's operating companies, including Public Service Company of New Hampshire.
Q. And have you ever testified before this

Commission?

A. (Rice) Yes.

Q. Did you file testimony and corresponding attachments as part of the filing on June 15th, 2021, marked as Exhibit 4?

A. (Rice) Yes.

Q. Were the testimony and supporting materials prepared by you or at your direction?

A. (Rice) Yes.

Q. Do you have any changes or updates to make at this time?

A. (Rice) Yes. I am also adopting the testimony of Michael Goldman, filed jointly along with my own. Mr. Goldman is no longer with Eversource, but I'm directly familiar with Eversource's managed charging proposal, which was the substance of Mr. Goldman's testimony.

Q. Do you adopt your testimony today along with the changes you just mentioned?

A. (Rice) Yes.

Q. Did you also file rebuttal testimony on December 10th, 2021, marked as Exhibit 11?

A. (Rice) Yes.

Q. And was that testimony and supporting

materials prepared by you or at your direction?
A. (Rice) Yes.
Q. Do you have any changes or updates to make to that testimony at this time?
A. (Rice) No.
Q. So do you adopt the testimony today as it was written and filed?
A. (Rice) Yes.
Q. Thank you.
Turning to Kevin Boughan. Mr. Boughan, please state your name and the title of your role at Eversource.
A. (Boughan) My name is Kevin Boughan, and my position is manager of research and business development at Eversource Energy Service Company. And in that position I provide service to the operating companies of Eversource Energy, including the Company.
Q. And what are the responsibilities of your role at Eversource?
A. (Boughan) I am responsible for development strategies, including the development of EV-charging programs across Eversource

Energy.

Q. Have you ever testified before this Commission?

A. (Boughan) No.

Q. And did you file testimony in this docket?

A. (Boughan) No, but the Department of Energy submitted discovery from Docket No. 21-078, in which I am a witness. And I'm the witness of record on some of the responses submitted as Exhibit 13 in this proceeding.

Q. And were the responses within Exhibit 13, where you are listed as a witness, prepared by you or at your direction?

A. (Boughan) Yes, they were.

Q. Thank you very much.

So for my first question is for Mr. Rice. Mr. Rice, could you briefly explain why Eversource is not recommending the three-period residential EV time-of-use rate it proposed in the Company's June 15th filing?

A. (Rice) Yes. Eversource is really interested in opportunities to best serve EV customers and encourage them to charge their vehicles -- [connectivity issue]

[Court Reporter interrupts.]

A. (Rice) Eversource is very interested in opportunities to best serve EV customers and encourage them to charge their vehicles in ways that minimize costs for the electric power system. The Company just doesn't believe that a separately-metered residential EV time-of-use rate is the best way for it to do that in the near term. Eversource would incur meaningful costs to modify current systems to make a three-period EV time-of-use rate available to customers, but individual customers wouldn't necessarily save much on their bills from the rate. Eversource estimated that a typical EV customer could save less than a dollar per month by enrolling in a separate EV rate. So it's possible that few customers would actually enroll in the rate after the Company spends money to make the option available. Eversource believes there are lower cost approaches that may be more successful in the near term and is also optimistic that there will be better opportunities to provide EV rates in the future when company systems are updated and there are potentially more EV customers that would be interested in time-of-use rate options.

These considerations aren't unique to New Hampshire. Eversource has evaluated implementation of residential EV time-of-use rates elsewhere in New England, and EV rate options have been investigated by utility commissions in Connecticut and Massachusetts. These states have explicit EV adoption goals, but regulators haven't found it necessary for utilities to spend money to make separately-metered EV residential rates available at this time. These states are pursuing other near-term approaches to serve EV customers while still remaining open to launching residential EV rates in the future. The Company believes that's a sensible approach for New Hampshire to follow as well at this time.

Q. Eversource also proposed a managed charging program in the June 15th filing. Is the

Company recommending that proposal at this time?

A. (Rice) If the Commission wants to provide options to EV customers in the near term that encourages them to shift charging activity, eversource believes that managed charging is a better solution. Eversource has launched EV managed charging programs elsewhere in New England, and those programs are being expanded. The Company would be pleased to offer similar options to New Hampshire customers. Managed charging solutions can be implemented in a fairly short time period without the need for additional metering or costly upgrades to enterprise IT systems.

Q. Thank you.

Mr. Davis, have any residential EV time-of-use rates been proposed as an alternative to Eversource's three-period proposal? You're on mute, Ed.

A. (Davis) Yes. The Department of Energy, through its consultant, Brattle Group, has recommended in its testimony a two-period time-of-use rate for Eversource to adopt.

Q. And does the Company agree with this recommendation?

A. (Davis) No, it does not. The Department's recommendation includes time-varying components for all parts of the rate -- what I mean by that is the generation and transmission and distribution components. That would require modifications to our enterprise billing systems, which is costly and time-consuming, and would vary depending on the change that would ultimately be required to the systems in question.

Additionally, Eversource has not seen any analysis from the Department or its consultant that demonstrates that customers would see any meaningful savings, which means there will still likely be few or no customers that would enroll in the rate. Without sufficient added value to customers that would result in sufficient customer enrollment, the customer [sic] does not see a justification for investing time and effort funded by customers to implement such a rate.

Q. Mr. Davis, is there a rate similar to the rate that the Department proposed in its testimony that the Company has offered in lieu of the Department's proposal?

A. (Davis) Yes. In our rebuttal testimony, I discussed rate alternatives that could more readily be relied upon to develop and implement a form of time-of-use rate, including adaptation of a rate from the Company's Connecticut affiliate, which is Rate 7. That's a residential time-of-day rate. However, instead of three rate components being time-varying in that rate, all of the generation and transmission components would be time-varying from its adoption and used for the Company's New Hampshire residential customers. Because of this being already offered by the Company's affiliate, it would still require time and cost to implement, but not to the same extent of system modifications that the Department's recommendation rate design would.

Alternatively, the Company's proposed modified residential time-of-day rate, designated rate R-OTOD-2, which is being considered in Docket DE 21-119, would theoretically be applied or could be theoretically applied as a separate EV time-of-use rate at a lower cost as a version of the residential time-of-day rate that's already being offered by the Company.

The Company's residential time-of-day rate is also a two-component time-varying rate; however, analysis and consideration of that rate are ongoing. And they're part of that separate docket, and of course they're not complete. So the proposed modified rate suitability for application as a residential time-of-day rate has not been adequately considered or analyzed at this time.

Q. Thank you. In your opinion, is there added value to making all three rate components time-varying as opposed to the two components currently offered in either Rate 7 or the residential time-of-day rate you just described?

A. (Davis) Not really, no. There is no analysis to support that there would be any real measurable, additional savings to a customer taking the rate. To the extent that price signals are a benefit or priority to this Commission, having two time-varying components sends a price signal to customers comparable to a rate with all three components being time-varying.

Q. And does the Company recommend the implementation of even a two-period time-of-use residential EV rate at this time?

A. (Davis) Not at this time. The Company still doesn't see sufficient value in implementing a time-of-use rate in the near term in New Hampshire, as there would still only be minimal savings, which would not be expected to motivate customer behavior to adopt the rate. While few customers would be taking the rate, the cost of implementation of the rate would still be borne by all customers. So at this time, even an adopted Rate 7 structure does not appear to the Company to be a reasonable rate to implement; though, of all the residential time-of-use rates being discussed here today, for Eversource to potentially implement a structural copy of

Rate 7 appears to be the most reasonable. And for that reason, the Company would recommend that, if the Commission were to order Eversource to implement the residential EV time-of-use rate, that it chooses such a design as appropriate for the Company.

Q. Thank you. The next question is for Mr. Moore.

Mr. Moore, Mr. Davis referenced modifications to enterprise billing systems that would make implementation of these time-of-use rates costly and requires a substantial amount of time and labor.

Can you explain why this is the case and if there will be any upcoming changes to these systems that would remove this cost barrier for future implementation of time-of-use rates?

A. (Moore) Eversource has historically sought to minimize the enterprise IT costs ultimately that are borne by our customers by utilizing standard solutions and minimizing the use of our -- maximizing the use of our current systems and capabilities to defer those types of costs. The existing enterprise systems, they were implemented, you know, nearly 15 years ago. And in those early times, the companies were still -- these systems are still effective and still providing service, but there was less interest back then on these types of rate structures that varied with the three-period time-of-use rates. And those prior investments were made so that these standard business solutions weren't necessarily designed for these types of rate structures. So even now we have structures with more advanced rates emerging in the industry and through most utilities throughout the country to serve under these fixed rate structures.

The cost to modify these billing systems and rate structures can be high because we implement them not only on the base system, but it's across enterprise systems, given the complexity of our delivery, which sometimes includes third-party supply. As a result, the process requires a good deal of work for our internal company staff, both our personnel and contractors.

Eversource does recognize, you know, the trend towards these complex rates and will continue to grow and expect that expanding billing capabilities are the future investment that's in the best interest of our customers. Eversource has already begun sort of that journey as we're replacing older billing systems in our affiliates, and we expect, you know, that trend to actually go throughout the enterprise, including New Hampshire, and ultimately moving us on a common, more capable billing system in the future. This should pave a way for a lower cost implementation of these types of rates in the future, as we're discussing today. But seeing how the Company plans to upgrade these systems in the future here in the normal course of doing our business, investments like structuring a complex EV rate at this time may not be the best alternative for our customers, as it may be rendered obsolete, or we have to replicate that work on the other side of a new billing system implementation.

So in the next several years, we expect the system will be, you know, modernized and in better capability to handle these types of rates at a much more reasonable cost and obviously delivering that capability faster.

As I mentioned, any of these types of costs are borne by our ratepayers, and they incur these costs. And we ultimately want to minimize the entire footprint as we look at, you know, value to delivery with any new system that may ultimately be replaced if we're doing it in our current legacy system. So for those reasons, we do somewhat see the Company going through a more complex EV rate structure may be problematic.

Q. Thank you, Mr. Moore.

Mr. Davis, I'd like to discuss a particular kind of commercial customer and user, the high-demand draw EV charging station.

As discussed by the Department of Energy on Tuesday, Order No. 26,394 from Docket IR 20-004, provided guidance regarding EV rates to be developed, which prompted the opening of this docket. That order stated that electric vehicle time-of-use rates are an appropriate rate design for residential and commercial customers and that a separate proceeding to adjudicate the merits of various proposals from each utility is warranted.

Did Eversource propose such a commercial time-of-use rate in this docket?

A. (Davis) Not in this docket, no. Eversource has ultimately tried to put forward solutions that the Company believes best meet the needs of the New Hampshire EV market at this time, and we're going to do that through multiple dockets. And that's what we're actually doing. Eversource agreed to propose a commercial EV charging rate that provides an alternative to demand charges as part of a settlement approved by the Commission in its last rate case. The EV Charging Infrastructure Commission created by Senate Bill 517 identified demand charges as a barrier that needed to be addressed, and we know other stakeholders believe that as well. So the Company has sought to address those barriers with its proposal currently under review in Docket DE 21-078.

The language in Order 26,394 also didn't foreclose other approaches to rate design. The order states that time-of-use structures are appropriate for EV charging. And the Company agrees time-of-use rates can be appropriate. However, the order ultimately described a starting point and provided an opportunity to review actual proposals as the next step in this docket. The Company worked within that guidance and also considered parallel EV activities as it tried to come up with what it believed were the best proposals to put forward to the Commission. Given that the Company has already proposed the commercial EV rate designed to meet the near-term needs of the market, the Company didn't believe it would be efficient to also ask the Commission and the parties to review a commercial EV time-of-use rate in this docket that would serve a redundant purpose to the demand charge alternative rate being considered in DE 21-078.

Q. Thank you. The Department of Energy's consultant, Dr. Sergici, in her testimony, recommended a commercial time-of-use rate for Eversource to adopt. Do you agree with this recommendation, and could you please explain your reasoning?

A. (Davis) I don't believe that Dr. Sergici's commercial time-of-use rate should be adopted at this time. Dr. Sergici used a class average profile for Rate GV to design her proposed commercial time-of-use rate. But the type of customer this rate and Eversource's demand charge alternative rate are designed for, the commercial electric vehicle charging station, has a drastically different utilization profile than the class average for Rate GV. And to be clear, the design of Rate GV reflects a 55 percent load factor. While Eversource's Rate GV is the rate that EV commercial charging stations would use, their usage does not fit the average customer taking this rate. As I stated in rebuttal testimony, by using the Rate GV rate class average, Dr. Sergici's proposal -- proposed commercial EV time-of-use rate would risk higher cross-subsidization by other customers to cover the lack of revenue that would be generated by any commercial EV charging stations taking this rate. What's more, the current state of development of the New Hampshire EV market does not support offering a commercial time-of-use rate for EVs. A commercial EV time-of-use rate does not sufficiently address what has been identified as a priority market barrier for DC fast-charging stations, that of demand charges.

Q. Thank you. You just mentioned cross-subsidization by other customers to compensate for the lack of revenue generated by the Department of Energy's proposed commercial time-of-use rate. Dr. Sergici has testified that Eversource's demand charge alternative would also create cross-subsidization between customer classes.

While the demand charge alternative is not being considered in this docket, could you provide a brief response regarding any cross-subsidization that would be created by the Company's demand charge alternative.

A. (Davis) Sure. Eversource was directed in the Settlement Agreement from its distribution rate case to design a rate that specifically provides an alternative to demand charges which have been identified by EV commercial charging station customers to be the most significant barrier to market entry. The demand charge alternative that the Company designed eliminates demand charges in favor of a higher volumetric rate. To address subsidies, we designed the rate such that we had parity at a reasoned 10 percent utilization level based on demand, such that early market adoption where utilization may be less than but growing to 10 percent would not have a demand charge to deal with. It is true that we used the utilization level of 10 percent as the target that achieves revenue neutrality. And charging stations that have a lower utilization will generate less revenue than that of Rate GV customers.

But there are two things to keep in mind. First, Eversource was directed to address this parity to market entry so that more EV charging stations could open in New Hampshire, and this rate does exactly that.

Second, I've done an analysis that compared side by side Dr. Sergici's commercial time-of-use rate proposed by her testimony with Eversource's demand charge alternative rate. And as I've attested to in rebuttal testimony, the Eversource demand charge alternative creates less cross-subsidization than Dr. Sergici's time-of-use rate.

Q. And finally, Mr. Davis, do you believe that the Commission should order Eversource to implement either residential or commercial time-of-use rates at this time?

A. (Davis) No. Eversource agrees that time-of-use rates can be appropriate for EV charging under the right conditions. The Company just doesn't believe that there is a supportive business case for the implementation at this time. The Company believes there are better alternatives to provide EV customers in the near term, in advance of potentially offering EV time-of-use rates in the future.

Q. Thank you very much to all the witnesses.

MS. CHIAVARA: That is all I have for direct examination. Thank you.

CHAIRMAN GOLDNER: Thank you. Just a moment.

(Commissioners confer off the record.)

CHAIRMAN GOLDNER: Okay. Very good. We'll start cross-examination, beginning with Liberty Utilities. And I'll recognize Mr. Sheehan.

MR. SHEEHAN: No questions for these witnesses. Thank you.

CHAIRMAN GOLDNER: Thank you. We'll move to Unitil, and I'll recognize Mr. Taylor.

MR. TAYLOR: Thank you, Commissioners. I have no questions for these witnesses.

CHAIRMAN GOLDNER: Thank you. We'll move to Clean Energy New Hampshire, and I'll recognize Mr. Skoglund.

MR. SKOGLUND: Thank you, Commissioners. Clean Energy New Hampshire has no questions at this time.

CHAIRMAN GOLDNER: Thank you. And we'll move to ChargePoint, and I'll recognize Mr. Vijaykar.

MR. VIJAYKAR: Thank you, Chairman Goldner. ChargePoint has no questions for these witnesses.

CHAIRMAN GOLDNER: Thank you. We'll move to the Conservation Law Foundation, and I'll recognize Mr. Krakoff.

MR. KRAKOFF: Thank you, Chairman. Just a few questions for Eversource's witnesses.

CROSS-EXAMINATION

BY MR. KRAKOFF:

Q. I just had a question about the rebuttal testimony, specifically Bates 20. Just let me know once you find that page.

A. (Rice) I'm at Page 20. I don't know if that question was directed to myself or another witness.

Q. I'm sorry. I didn't quite hear you, Brian -- Mr. Rice.

A. (Rice) I'm at Page 20.

Q. Okay. And Mr. Davis and Mr. Moore --

A. (Davis) Yes.

Q. I think it's likely to be for Mr. Davis, but it's really for any of the witnesses.

My question's about Lines 8 through 14. I'll just read what was written in rebuttal. It says Eversource is concerned that introducing much higher rates for charging during peak periods would make it more difficult for charging station owners to anticipate operating costs in a way that would provide needed confidence in the financial results of the charging station operations. Furthermore, even if end-user charging rates were aligned with TOU rate structures, such higher rates would be punitive to EV customers who have little discretion to select the time at which it is necessary for them to use high-demand draw at

DCFC charging facilities.

Could you just explain to me what you meant by the second sentence in that paragraph, please.

A. (Rice) You mean even if end-use charging rates were aligned with time-of-use rate structures, such high rates would be punitive to EV customers?

Q. Correct. Yes, that sentence.

A. (Rice) Yeah. So, again, I think what we're thinking about here is the DC fast-charging application. Our understanding is this is an application that will probably be used very occasionally by most EV drivers. But when they need to use a DC fast-charging station, they will very much need to use it. For a lot of driving needs, EV customers are going to be able to charge at home. That's a unique benefit of having an EV; you basically have a gas station at your home. But in those instances where an EV driver needs to travel further beyond the range supported by a single charge, they really need access to a DC fast charger to do that effectively and without a lot of disruption that would ultimately deter a lot of people from owning an EV. So this is a pretty critical application to be available to encourage further adoption of EVs. But as I've explained, it's the type of application that isn't very discretionary. If EV customers were kind of concerned about, you know, what the rate might be and when they might happen to use a DC fast-charging station in the course of their road trip, we'd be concerned that that would be a deterrent to those customers from purchasing EVs.

Q. Okay. So based on your testimony, I think it'd be fair to say that users of DCFC charging stations have limited ability to shift charging time to other periods. Would that be a correct statement?

A. (Rice) In most cases we believe that's correct, for the use of DC fast-charging stations, yes.

Q. Okay. And was that one of the reasons why you did not design a commercial time-of-use rate that would apply to charging stations?

A. (Rice) I think that's part of it. And Ed may be able to respond.

I think what we'd be concerned about is that, if we try to take the approach of having a time-of-use rate while also minimizing cross-subsidization, as Mr. Davis noted, the illustrative time-of-use rates initially proposed by Dr. Sergici in initial testimony weren't high enough to mitigate potential cost-subsidization. So to get to generate revenue that was closer to Rate GV, those rates would have to be higher, and that would mean the peak rate could be quite high and might rise to the level that it would be a deterrent if that was passed on to retail EV customers.

A. (Davis) I could add that that's correct. There would be a sort of compounding effect by having the higher volumetric rate, when particularly under this scenario, as Mr. Rice described, the demand charge really is the fundamental barrier that we were addressing in our design. But when you recognize also having a higher peak period, particularly when there's non-discretionary load, you know, that adds to that effect of a higher and perceptively punitive effect of the rate.

MR. KRAKOFF: Thank you very much. I have no further questions for Eversource witnesses.

CHAIRMAN GOLDNER: Thank you. Then we'll move to the City of Lebanon and Mr. Below.

[No verbal response]

CHAIRMAN GOLDNER: Okay. We'll move to the Department of Environmental Services. Ms. Ohler.

MS. OHLER: Thank you. I have no questions.

CHAIRMAN GOLDNER: And we'll move to New England Convenience Store and Energy Marketers Association. Mr. Moran. I don't see Mr. Moran.

[No verbal response]

CHAIRMAN GOLDNER: Okay. We'll move to the Office of Consumer Advocate, Ms. Desmet.

MS. DESMET: Thank you, Mr.

Chairman. I had discussed previously with Attorney Buckley possibly following him, if that pleases the Commission.

CHAIRMAN GOLDNER: Okay. Thank you.

And we'll move to the New Hampshire Department of Energy, and I'll recognize Mr. Buckley.

MR. BUCKLEY: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. BUCKLEY:

Q. So I think that we will start with rebuttal testimony of Mr. Davis.

And so we just heard some corrections before that rebuttal testimony, Mr. Davis, where you had suggested that your observed 40 percent of revenues that the DOE testimony would have recovered compared to the demand charge alternative rate proposed by Eversource in its other docket would be raised to 60 percent of compared revenues after you factor in the customer charge; is that correct?

A. (Davis) That is correct. Approximately 60 percent, yes.

Q. And so would that percent of compared revenues raise even further under the -- if Eversource were to embrace a rate similar to that proposed in the settlement proposal, where there is the addition of a half-demand charge?

A. (Davis) Well, that design really hasn't been developed. But in concept, if you modify the rate design, there could be differences compared to the analysis reflected in rebuttal testimony. Certainly could be higher or lower, depending on a number of factors.

Q. Is it likely to be higher or lower if we're simply adding a demand charge, half a demand charge?

A. (Davis) Depends on the price level not only for that demand charge, but also the volumetric rates as well.

Q. Would you have reason to believe that Eversource's rate, if it were to embrace a rate similar to that described in the settlement, would not approach the revenue-neutrality levels described in the settlement for the other two utilities?

A. (Davis) At the design point or at a given usage point?

Q. At the 5 percent utilization point that exists for Facility No. 1 in Attachment B that we talked about yesterday.

A. (Davis) Certainly based on my understanding, certainly of what was developed, presented earlier in this docket, I would expect that -- I would not expect to not be -- that's a double negative there. I would expect that it would probably be higher. Less of a difference, if you will.

Q. Okay. That's helpful.

All right. If I could ask you to turn to Exhibit 3 -- that's your testimony -- Bates Page 3. And so that page, to me, seems like a good summary of exactly the rate that -- the residential rate that Eversource developed responsive to the Commission's directives in the order closing the investigation that preceded this proceeding.

Is that accurate?
A. (Davis) Yes. In terms of the pricing for those components of service, yes.
Q. And to me, that looks like a well-designed rate, maybe with a qualifier here or there, consistent with the various directives in the Commission's previous order, you know, based on cost causation, focus on marginal costs, the three-period time-varying distribution, transmission and generation. Is that accurate?
A. (Davis) Yeah, I believe you see it that way. And I certainly believe that's reflective of all those factors, yes.
Q. Now, I mentioned the one small caveat, from my perspective, or a few qualifiers. And so I want to move to one aspect of the rate that is at least discussed in the testimony, if not proposed for implementation, and that is the customer charge. So at -- it looks like the customer charge here is proposed for $16.50; is that correct?
A. (Davis) That's correct.
Q. And so if I could ask you to turn to

Exhibit 13, Bates Page 11.

A. (Davis) Triangulating a lot of documents here, but hang on.

Q. Certainly.

A. (Davis) Okay. Bates 11 you mentioned?

Q. Yes.

A. (Davis) Okay. I have that.

Q. And so this isn't actually a data response or any sworn-to document, but it is in fact a rate schedule I believe; is that correct?

A. (Davis) This is a summary of rates in effect as of August 1st of 2020, and it includes residential and a small general service rate or pricing under the various rate structures for the rate classes and the subclasses shown on that page.

Q. And would you agree that this is -- well, would you believe me if I told you that this is a document that has been borrowed from a another docket in this proceeding, some sort of a rate change, and could be something that, if the Commission so chose, they could take administrative notice of because it's something that's been filed by Eversource in a different docket before them?

A. (Davis) If this is on the record and is a published document, it certainly appears to be reflective of the actual pricing as I described in effect at the time.

Q. Great.

A. (Davis) So certainly I think it would reflect any -- again, this is a summary. But it certainly, I would expect, would match what's approved by the Commission in our tariffs, again, in effect at that time.

Q. And so we mentioned the customer charge of $16.50 as proposed -- or as discussed in your testimony. How does that compare to the customer charge for a standard residential customer as observed in this rate schedule?

A. (Davis) For a regular-use customer, we have -- okay. Standard on this schedule, $16.50 is higher than the customer charge in the standard rate.

Q. And can you explain to me the basis for that difference?

A. (Davis) $13.81 is the customer charge in the standard rate for a residential customer, and

that is the rate approved in our settlement in Docket DE 19-057. The basis of that, in spite of cost of service indicating a higher cost, was reached through settlement.
Q. And so your justification for those two rates differing is that one is a settled rate and one reflects the marginal cost of serving the customer?
A. (Davis) No, not -- well, partially. But more importantly, the customer charge -- again, first of all, the true basis is ultimately settlement. The cost of service -- and let's recognize this standard rate is for what I'll refer to "whole house service" -- in other words, all the costs to provide service to a residential customer are part of the overall accounting or embedded or allocated cost of service for this class. And there are pure customer costs, there are local facilities costs, and there are demand-related costs, all associated with the cost of providing service to this rate class. And by application of rate design principles, all consideration and ultimately deciding on how

and where those costs are recovered -- and what I mean by that is whether they're through a customer charge or a volumetric rate. And I'm just going to focus on the distribution rates in this case. I presume that's what you're focusing on. But each of these rates are designated to be recovered in a certain way based on the approved allocation of revenue requirements and cost of service for these classes.

The customer charge, $13.81, does not reflect the full cost of service to this class for customer-related and local facilities costs under the distribution system. They reflect a portion of that that is designated as fixed and charged monthly. Any differences are spread and recovered from the volumetric rate. And for a standard residential Rate R customer on this table, any cost not recovered through the fixed customer charge of $13.81 is spread and included as part of the 4.508 cents in the volumetric rate.

So, again, what's really critical here

is that ultimately the cost of providing service to this class, being what it is, the agreement and settlement to set the customer charge was agreed to be $13.81.

Q. Okay. Can you tell me about the controlled water heating rate also on the schedule?

A. (Davis) What would you like to know?

Q. Does that rate -- I see that rate includes a meter charge.

A. (Davis) It does.

Q. And can you tell me what might make up -- why that meter charge might be different from the residential customer meter charge?

A. (Davis) There's two primary reasons. First of all, let's recognize that controlled water heating is really complementary to the service to the whole house, meaning a service comes in to provide service to the residential customer, and there's a split service, meaning we're not adding an additional transformer, maybe using the same primary service into the home. But we split that service and put a simpler, less expensive meter to capture that split-off service, if you will, to provide electricity to specifically water heating load, again, at the same residence. But rather than include the water heating within the whole house rate, it is recognized as a separate service, again, still from the same main transformer and service to that home.

Q. In your discussion, was that --

A. (Davis) So the costs -- I apologize. I just want to finish.

So the costs are simply lower for providing service to that, to the water heating service for residential customers.

Q. In your description of the split service and how it makes the costs simply lower, wouldn't that also apply to a separately-metered electric vehicle rate?

A. (Davis) It could. On that same schedule, down below we have Rate R-OTOD. And for example, there you're seeing a customer charge of $32.08. But that is a separate, really, whole house service. However, if one were to look at, for example, the water heating rate -- again, you're really splitting the service to the whole home. So when you started this line of questioning, you had me focused on the $16.50 per month charge. And I note that in Exhibit 5 we also flag a point -- and I'll just say it here, that the $16.50 rate design and the pricing that is recognized in Exhibit 3, Bates 3, that you referred to earlier, are all predicated on a split service again to the same -- to a residential customer.

So, for example, in that standard rate, if you're a residential customer, and analogous to the water heating, if you were to separately meter, split the service and separately meter service to an electric vehicle charger, the meter cost reflected in the $16.50 is required. There's a cost -- there's a meter that needs to be added and cost of that meter, which is more costly and more complex because it's a time-of-day meter. But it's certainly included in the $16.50.

You're assuming, as with water heating, that the customer is not going to incur a higher cost or cause that entire service to that home to drive a higher cost to serve that home, meaning, for example, they wouldn't need a larger transformer if they weren't adding their additional six or seven-plus kilowatt load to the load of the whole home. All right.

Q. Right. It assumes that --

A. (Davis) That's where other pricing comes into play. So if they were to -- there's additional costs that would be incurred. And the rate design on Bates 3 of Exhibit 11 -- I'm sorry, Exhibit 3, we have factored in the amount of costs for local facilities into the mid-peak and peak rates, assuming that customers would charge off-peak and they would not incur a larger demand. But if they did, what I've done is taken additional costs above the $16.50 and spread those into the volumetric rate.

Q. Okay. So returning to the split-service idea. The water heating rate itself you said is lower to some degree because there is that split service. And I think you also said that the electric vehicle rate would share a similar split service and not have additional line-related costs if it were charging off-peak primarily.

Can you tell me a little bit about the meter for the controlled water heating rate? Where is it located?

A. (Davis) So, first, just back to finish your statement just a moment ago, and I'll jump right to your question. But it's an assumption that a customer would, as a condition of the proposed rate, that they would be on a split service. I just want to make that point, to make sure it's clear.

Where is the meter located? I believe, my understanding is it's located adjacent to or along with the existing home meter at the premise, you know, the customer's premise.

Q. Does the Company have some meters that are located inside a customer's premises?

A. (Davis) I don't know factually, but I would assume they may. I can certainly check on that and get an answer for that.

Q. I think your assumption is probably fine for our purposes today.

And so as we're looking at this $13.81 customer charge for residential customers, the 16, I think, 80 proposed customer charge for residential time-of-use rate EV customers, and the $8.58 customer charge that is currently for the so-called "split-service" controlled water heating customers and their meter, how does that compare to the rates observed in Attachment A for both Unitil, and I think Liberty as well, of the settlement? So that's Exhibit 24, Bates page...

A. (Davis) What is the Bates page?

Q. I think we're at Bates Page 16.

A. (Davis) All right. You just want me to read what's on this page?

Q. Sure.

A. (Davis) Bates Page 16. You mentioned what? Both Liberty and Unitil?

Q. Yes, their customer charges.

A. (Davis) Okay. So those customer charges are lower.

Q. And so would you agree --

A. (Davis) It depends. You mentioned three different rates. I think you mentioned $16.80, but I think you meant $16.50. But regardless, relative to the water heating rate, they're lower and higher for Unitil and Liberty respectively, and they're both lower -- those two rates on Bates 16 are lower than all the other rates that you mentioned.

Q. And so just to add a little more color into what's in those customer charges, or what the basis is for those customer charges, would you agree with me, subject to check, that that $5.26 customer charge for Unitil represents only the carrying costs associated with the additional meter and --

A. (Davis) I have no insight into the basis for those charges.

Q. So we do not have the testimony of John Taylor as an exhibit in this docket, though it is much of the analysis that underpins the Unitil time-of-use rates. It is included along with their proposal within DE 21-030. And if you were to look at -- and that's at

Tab 6. If you were to look at Bates Page 1,408 of that, you would see exactly that. That represents only the carrying costs associated with the additional meter. I'm not asking you to do that. I'm just observing here.

And then I would also ask, are you aware that the customer charge for Liberty's separately-metered residential EV time-of-use rate, which you've just observed is $11.35 a month, represents the monthly revenue requirement for the meter of $6.62 plus the cellular data cost to read the meter for each month of $5?

A. (Davis) I'm not aware of that. I'm just looking at the prices that you asked me to look at. And if they're facts that you're identifying, I have to take them at face value that they are what you say they are.

Q. Okay. Now if I could ask you to move to Exhibit 3, Bates Page 9, starting at Line 11.

A. (Davis) I apologize. Which Bates page again?

Q. Bates Page 9 I think it is.

A. (Davis) Nine? Okay.

Okay. And which line again?

Q. Line 11, I believe.

A. (Davis) The question?

Q. So it looks here like you discuss the bill savings under the Eversource-modeled TOU rate as compared to the regular residential rate which is presented in more detail at Attachment EAD-4; is that correct?

A. (Davis) That's correct.

Q. And the bill savings you calculated here, does it rely at all on cost savings associated with gasoline versus the cost of electricity?

A. (Davis) This is strictly a rates and bill impact.

Q. So it does not.

A. (Davis) This design does not rely on that.

Q. Okay. Great. If you could turn now to Bates 15, Line 12 in that same exhibit.

A. (Davis) Correct.

Q. And what are we looking at here, this overall page?

A. (Davis) Well, this says this page is to illustrate or evaluate -- illustrate the net savings for either a battery or plug-in hybrid electric vehicle, you know, given the assumed kilowatt hours per charging in a given month, and further, how much of that could be considered charging at home. So there's an assumption of 80 percent here, how many kilowatt hours would the customer be charging at home.

So, for example, the battery electric vehicle 2021 at-home charging kilowatt hours is assumed to be 260 kilowatt hours. So that would be our starting point. And then we are illustrating what the savings would be for that customer charging for that month when you compare the off-peak rate to the residential Rate R rate. So the flat rate versus the off-peak rate, how much lower would the bill be, or what are the savings that are presented as positive values, $7.93, $4.71, $4.16, totaling $16.81.

So, again, just to keep in mind, you're comparing what they would pay if they just charged using their regular standard rate, as you referred to earlier, versus having a three-period time-of-use rate, with the off-peak rates listed down on Lines 31 through 33, and how much additional -- how much lower would their bill be comparatively on those off-peak rates. And then because it's a separately-metered rate, you have to -- there's an additional customer charge because you're adding a meter. And the rate includes $16.50, as shown on Line 20.

So while you might have -- again, this is best case, if the customer charged all of their usage off-peak --

Q. So I want to ask you about a certain --

A. (Davis) Did you want me to finish?

Q. -- at least one of the assumptions in here.

A. (Davis) Did you want me to finish?

Q. Sure.

A. (Davis) Okay. So all the savings volumetrically, if they charged entirely off-peak, is $16.81, offset by the need for an additional meter and additional customer charge nets out to a net savings of 31 cents. Sorry. I just had to finish that. I wanted to make sure we had a complete explanation to

answer your question of what we're looking at.
Q. No, that's helpful.
So I want to ask you about one of the assumptions in here, and that relates to the total monthly charging. And that was estimated by the Company at 325 kilowatt hours; is that correct?
A. (Davis) That's correct.
Q. Can you tell me where that figure comes from?
A. (Davis) I received -- we had a projection, just an estimate, of what a customer with a battery electric vehicle would charge if they were using the vehicle regularly. I did rely on information from Mr. Boughan to -- actually, that's a number I actually did receive from our internal evaluation of what that type of vehicle would utilize in a given month. So, sorry. Long story short, it's our internal estimate of what such a vehicle would charge typically in 2021.
Q. And Mr. Boughan, this was an estimate you provided?
A. (Boughan) That's correct. It's based on an

average EV efficiency, an average number of miles drived. In this case, we used 12,000 or 12,500. I need to check. One of the two. But it's based on the average New Hampshire driver drives in a year, based on Federal Highway Association numbers. So there's a set of assumptions, but it's a derived number, a calculated number.
Q. Okay. That's very helpful. And so I was trying to back my way into this number to figure out how many miles per month are assumed, and you just told me that it's around 1200 or so.
A. (Boughan) It would be 12,000 miles per year.
Q. Oh, okay. So about 1,000 miles a month or so.
A. (Boughan) Correct.
Q. And so can you tell me how far it is from Nashua to Boston, or Manchester to Boston?
A. (Boughan) Not without looking it up, no.
Q. Would you agree, subject to check, that if you Googled it, it's about 50 miles?
A. (Boughan) Sure. Yes.
Q. And so if you took that 50 miles one way,

that would result in about 100 miles a day. And if you worked, let's say five days a week commuting from Nashua to Boston, that brings us to about 2,000 miles a month; is that correct?

A. (Boughan) Essentially.

Q. And for a customer who commutes from Nashua to Boston, or Manchester to Boston, what would their bill savings look like compared to the 31 cents that was modeled by the Company?

A. (Davis) As you increase the kilowatt hours and depending on how much home charging occurs?

Q. Correct.

A. (Davis) Then the higher the volume, the greater the savings, the net savings.

Q. And so if we were to assume that that 2,000-mile-a-month ratepayer is charging at home every night for its regular commute -- so you've got that approximate 300 and -- well, not 325. Would we essentially be able to take that $16.81 and double it? Would that customer have closer to, let's say round numbers, $17 a month or $20 a month in bill savings if we were to assume they were charging every night at their home?

A. (Davis) If it's truly 20 percent. I mean, again, that scenario, higher usage would -- could double it. Depends on whether they charge on the way, at work, et cetera. But any use case is going to be different. So if you have a higher volume of home charging -- again, we're talking about that service to the home -- then of course the economics will be higher or lower, depending whether there's more or less usage.

Q. And if Eversource were to adopt the method used by Unitil for determining a customer charge that is including only the carrying costs associated with a separate meter and the customer charge, that number would be even higher than the $17, $20 a month, ballpark; is that correct? Might be 25 --

A. (Davis) I don't know. First of all, our costs are different. Second, I don't think those costs would be spread over all or just -- I think it would include spreading costs over the off-peak. You have to be careful. So I don't know if I would agree with that or disagree.

But you have to recognize two things first. You have to look at Eversource's specific costs, regardless of method or methodology, whatever you want to refer to it as, for setting the customer charge. But to the extent costs are recovered through the volumetric rate in one or more of the time periods, clearly -- and this is certainly true with the standard rate and water heating and any other rate. If we have fixed costs that need to be recovered, and they, for some reason, aren't included in the customer charge, they would have to be spread over the volumetric rate because that's the structure typically for residential. And that's certainly the structure we're referring to here. And I don't think you can just push it all into the -- out of the off-peak. It's fixed costs that have to be recovered. So I would not advocate a design that does two things: Reduces what's truly a fixed monthly cost and then further avoids recovering that through the volumetric rate by throwing it into a period of usage that the customer wouldn't be charging. So there's a trapped or unrecovered cost, in my opinion.

Q. And how about if, let's just say in the hypothetical world where Eversource were to embrace the use of net metering and the charging, where there wouldn't be the additional carrying charge of the customer meter. And I understand that this is not something that Eversource has proposed to embrace in its testimony. But that would increase the savings to the electric vehicle customer as well, right, by reducing -- probably reducing the overall charge by -- the customer charge by that $5 to $6, depending on if you're going with Liberty or Unitil's estimates per month; is that correct?

A. (Davis) Mathematically, if you reduce the customer charge, then of course that will affect the economics and the savings calculation. That seems like a non-sensical assumption, because you need a meter. And even without a meter, there are still other fixed costs associated with the service.

Q. Associated with that split service; correct?

A. (Davis) That's correct.

Q. Okay. Now, aside from bill savings to participating customers -- those EV owners, that is -- is it conceivable that price signals associated with time-of-use rates at scale would avoid capacity-related investments at some point in the future, in particular at let's say a substation or bulk substation level?

A. (Davis) I don't think it guarantees anything. It provides an opportunity, provides a signal that customers can respond to --

Q. I would agree with you --

A. (Davis) Go ahead.

Q. I would agree with you. There are no guarantees in life. But would that price signal have the potential to avoid future -- or encourage customers to behave in a way that helps avoid future capacity-related investments?

A. (Davis) Well, it certainly would encourage them, if they were to behave and respond to that, to reduce usage, which could have an effect on such investments.

A. (Rice) One thing that I would jump in and add to Mr. Davis' response is that --

[Court Reporter interrupts.]

A. (Rice) For that to happen under the rate proposals that are proposed now, which are all optional EV time-of-use rates, customers would have to enroll in the rate in order to respond to those price signals. And I think, as Eversource has indicated, one of our primary concerns is that customers will not elect to enroll in these rates in high numbers at this time.

Q. Right. And one of your bases for that assertion is that there's only 31 cents bill savings. And I think we just spent the last 15 minutes or so discussing that that bill savings number could in some scenarios be much higher. Is that correct?

A. (Rice) It's possible in certain scenarios that the savings calculations for an individual customer could be higher. But, you know, a potential exception to averages doesn't relate -- you know, get rid of Eversource's general concern about low enrollment in an EV time-of-use rate that the Company would have to devote time and resources to implement.

Q. Understood. And I would pose the same question to you relative to transmission rates. Is the same true, that the price signal sent related to transmission rates could, you know, in theory at least, help to avoid, at scale, capacity-related investments?

A. (Davis) Look, this is an interesting set of assumptions. Long run, for example --

Q. Yes.

A. (Davis) -- if that pattern prevailed, so it's not just shifting load, but having an effect on those investments -- and I think we're getting into a very deep, perhaps out-of-scope topic.

But in any event, remember the pricing here is optional now for transmission. We are a customer of the transmission system, a distribution company, and our rate design which allocates transmission costs to each of our classes. We are still a price taker. As I think you're familiar, transmission service, not all the costs of transmission service, but transmission services primarily charge on a demand basis. So the time of day when that demand occurs is important for total costs billed to the Company, as with any transmission customer. It further is allocated based on each class's contribution to that peak. And if you're bringing on new load, such as electric vehicles, and they don't charge -- don't incur -- you know, cause a load to be incurred during the time of those transmission peaks, the bill would be lower --

Q. Thank you, Mr. Davis.

A. (Davis) -- to the utility.

Q. And that bill to the utility being lower would flow through to customers; is that correct, hypothetically and conceivably?

A. (Davis) It would, yes. Exactly.

Q. And that would flow through not just to the electric vehicle customers, both those avoided transmission- and possibly distribution-related, long-run investments, but it would also flow through those savings to non-participating customers -- is that correct -- non-EV owners, all else being equal?

A. (Davis) Well, you know, if you're including electric vehicles or designating them as a separate class, I guess it would just be a proper allocation. I don't know if it would have a net overall effect.

Now, if you're referring to what's billed -- that's what I'm talking about -- that's true. And remember, this is new load, so you're simply not adding costs and adding charges.

I also want to point out, you asked about investments in transmission. And that's a whole different story, right. That extends to investments in the process and need, determination of need. And marginal costs being the basis for pricing, you know, reflects any change in investment versus change in load. You know, that is a long, kind of convoluted thread of how you get to answer that question. I don't think we can address it or even answer it here.

But from what's billed to the Company, and whether that billing not only reduces the allocation of, like, lower costs and therefore the allocation of transmission costs billed to the Company among classes, it could. I think it would be a much deeper analysis. But it could have an effect on what is allocated to any class because you're looking at total cost, then allocated among classes. So that's a long answer, but, you know, it's not -- it doesn't preclude that possibility.

Q. And so one more question on this topic and then I'll move on.

Would you further agree with me that, if we encourage kilowatt-hour usage during off-peak periods that are not likely to trigger capacity upgrades, that would spread the cost of the existing system over more kilowatt hours, thereby creating a downward pressure on rates?

A. (Davis) I guess that would be determined at the time we would evaluate the cost and -- you know, to be determined.

Q. But in concept, we have fixed system costs largely related to kilowatt; is that correct? And to spread those costs, if we wanted to increase peak over more kilowatt hours, would place a downward pressure on rates; is that correct?

A. (Davis) If you're just looking at the mathematics of it, obviously X-amount of cost divided by higher volume is going to give you a lower average rate. And you -- and I think what you characterize there, there are both fixed and demand -- you know, the distribution system, if that's what you're referring to, has both fixed and variable costs -- variable meaning demand-related. And so, you know, it's really still a matter of capacity. But if you're trying to spread and get an average rate effect, mathematically that would be true I guess.

Again, I'd have to see the numbers and, you know, see what falls out of those. And that would require an evaluation of cost for a given period, a process that we normally would go through to evaluate, to make that kind of evaluation.

Q. All right. Thank you, Mr. Davis.

Now I want to move to a few questions about the cost of billing system modifications.

If I could ask you to turn to Exhibit 3, Bates Page 9, Lines 6 through 10. Would I be correct in observing that, I think it's you, Mr. Davis -- oh, actually, I'm directing you to the wrong Bates page. I should have said Bates Page 7, Lines 14 through 22.

So am I correct in observing that you state that this rate was designed to address pricing of company-provided energy service, and it does not resolve the issue of how to set or bill prices or a time-of-use basis for competitive supply?

A. (Davis) That's correct.

Q. And to bill on a time-of-use rate basis and allow competitive suppliers to participate, that would require modifications to your systems, including your EDI system; is that correct?

A. (Davis) I believe we provided information to that effect. And if Mr. Moore would like to further respond --

Q. Maybe I'll move to Mr. Moore in just a moment.

But one more question for you, Ed, which is, in the Commission's order preceding this proceeding, they directed that the time-of-use supply offering be for default service customers -- is that correct -- not competitive supply customers? Or they didn't require it be for competitive supply customers, and rather that it would be imputed from the utilities' default service rate; is that correct?

A. (Davis) I don't remember all of those specific references. But my understanding is that it targeted the generation component in general. But if you have a specific reference, I'd be glad to look at that.

Q. Maybe a follow-up to you, Mr. Davis. In Connecticut, Eversource offers an imputed time-varying generation offering; right? Can you just give me 15 seconds on that, if you can?

A. (Davis) Sure. So if you're referring to Connecticut residential Rate 7, which we've referenced here a couple times, that takes our cost of supply and imputes and forces, for residential, a 3-1/2 cent differential between -- it's a two-period time-of-use rate, so it's 3-1/2 cents, you know, AB algebra, to equal the total rate by creating a difference of 3-1/2 cents between the peak and the off-peak rates. Did that take 15 seconds?

Q. That was perfect, Mr. Davis.

And do you remember any safeguards proposed in the Commission order around soliciting a separate tranche of these imputed customers once you get to a certain amount of customers from the default service market using their new load shape, which is going to be different from the load shape of

the overall residential rate class?
A. (Davis) Well, I'm not sure what you mean by "safeguards." But I don't recall any, offhand.
Q. Okay. I don't have that order in front of me right now, but we could potentially return to it later.
Now I'll turn to Mr. Moore. Can you turn to Exhibit 13, Bates 29 through 33. Would I be correct in saying that this portion of this exhibit describes the costs that underpin the Company's $9 million estimate that relates to offering three-period time-varying generation, transmission and distribution rates consistent with the Commission's order preceding this proceeding?
A. (Moore) That is correct -- [connectivity issue]
[Court Reporter interrupts.]
A. (Moore)That is correct.
Q. Now, can I ask you to tell me about, at Bates 30, Key Assumption No. 2, that says "Assumes that three-part usage data will be

sent to competitive suppliers for purposes of pass-through billing and that changes will be made to C2 billing system for Eversource to bill three-part prices on behalf of competitive suppliers for complete billing."

A. (Moore) Yeah, in the current --[connectivity issue]

[Court Reporter interrupts.]

A. (Moore) Yeah, in our traditional rates, when we bill for competitive suppliers, we have to bill on behalf of them within our system. We actually get their price signals and share information through our EDI with those suppliers for rate changes, adjustments and those billings. So if we are actually allowing these new EV rates to encompass competitive supply, it requires us to change those enterprise EDI and supplier systems. As those change, those do allow for these new components.

Q. And so I'm curious. Why, given that Mr. Davis's testimony said that the Company would not be making a time-varying supply component available to competitive suppliers, or through competitive suppliers, why that was factored into the cost estimate provided here.

A. (Moore) I won't speak for Mr. Davis, but I believe when that price was filed, that was not the case. It was asked for all three components to be varying.

But Ed, you can chime in.

A. (Davis) Yeah. Remember the timing of this and when we filed our proposal, you know, it is -- you know, what I described is what I said. But this was a request to evaluate what it would take to do what is detailed in this response.

Q. I'm not sure I understand that.

A. (Davis) What's the question again, please?

Q. So the question was why the Company included, in the costs of offering the time-varying rate that the Commission directed and that the Company developed, a cost for offering that time-varying component for competitive suppliers. In your testimony, you said that this won't be available for competitive suppliers and that it would, instead, like in the Connecticut rate, be imputed through your default service. But then in the cost estimate that's provided, it does include costs related to overhaul of the Company's EDI system in order to offer that rate to competitive suppliers.

A. (Davis) I was simply describing what's done in Connecticut to your earlier question.

A. (Rice) I think I can help explain, because I think we're getting somewhat confused with what's being -- [connectivity issue]

[Court Reporter interrupts.]

A. (Rice) I'll take an attempt to clarify because I think we're getting our hairs crossed a bit. And Mr. Davis can correct me.

But the imputing that we do in Connecticut does not apply -- we're not imputing any price difference on pricing provided by a third-party competitive supplier that a customer may choose in lieu of utility supply default service. We're imputing a price differential on the version of default service in Connecticut because that is also put out to bid and based on, you know, competitive market pricing. But we typically don't receive time-differentiated pricing from our default service suppliers. So we impute a price differential.

Is that correct, Mr. Davis?

A. (Davis) That's correct.

A. (Rice) And then --

Q. And Mr. -- go ahead, Mr. Rice.

A. (Rice) And I'll also say the Company did make a conscious decision to estimate the cost of making a EV time-of-use rate available both to default service customers of the utility and customers that might choose to take service from a third-party supplier, or, importantly, perhaps going forward in New Hampshire, a community aggregation that sought to provide supply to its customers. We just didn't -- we took a conservative approach, not wanting to assume that we would be able to provide a rate option only to those customers that chose to take service from the utility out of concern that that might not be, you know -- that that might limit opportunities for other suppliers to serve customers in a similar way.

Q. Right. But we already heard from Mr. Davis that, at Bates 7, Lines 14 through 22 of his testimony, it says that the proposed rate does not resolve the issue of how to set or bill prices on a TOU basis for competitive supply. And the $9 million figure used to justify -- used to set the price for offering Mr. Davis's proposed rate includes costs related to setting or billing prices on a TOU basis for competitive supply. Is that correct?

A. (Rice) Well, I mean, the reason we didn't address setting third-party competitive supply pricing is because the utility doesn't set third-party supply pricing; the market sets that. So that's one item.

And then in terms of billing, I mean, I think you're really drilling down into one word. I think my interpretation of Mr. Davis's response was very sensible. You know, we don't really get into setting prices or, you know, getting into the relationship between a third-party supplier and their customer. But that doesn't change what we felt was appropriate to do, which was not assume that we could limit this type of option to only utility-provided default service.

Q. And I'm drilling down into that one word, "billing" competitive suppliers on time-of-use basis because I think that in the Commission's order preceding this proceeding, at 14 through 15, it's fairly clear that the time-varying offering is for the Company's default supply. And I think if you were to look through that investigation earlier, this is a topic that we went over, whether or not it should be okay to offer it just for default supply or not. And now, in the cost estimates that we have -- or that Eversource has put forth, it says that it's for offering it to competitive suppliers. And I'm curious if you can tell me, orders of magnitude or ballpark, how much of that $9.1 million is attributable to the overhaul of the Company's EDI systems so that it can offer that time-of-use rate offering for competitive supply.

A. (Rice) I think Mr. Moore can answer that. But I'd first like to clarify that I don't have any specific recollection of us addressing and deciding that time-of-use EV pricing wouldn't be supported for competitive supply. I don't think -- I'm not a lawyer, but my interpretation is not that -- I don't believe that's what the Commission's order said in the prior investigation at Page 14. I think they sensibly recognized that the investigation really didn't need to get into setting pricing for third-party competitive supply because that's a competitive market, and suppliers and customers are free to set their own pricing. But --

Q. Fair enough.

A. (Rice) So, yes, clarifying that, Mr. Moore can explain the various cost components and how much of the estimate is associated with updates to EDI.

A. (Moore) So in our traditional development model, we approach most IT enhancements, including any type of new rate development, in a pretty systematic way. We start off by hopefully getting a high-level requirement like we have here and giving a cost estimate based on what we know and what we can compare to in our current system. Given that we did not have a rate that was structured quite like this in our system, we had to make some additional estimates for a good combination of all three varying parts of the rate.

But it traditionally starts off by gathering those requirements, looking at our system components, and then we go through the traditional waterfall of estimating the time of the actual detailed requirement phase that we would have to do once we actually start the work. We then take those requirements, collectively, create the detailed technical specs and move forward with our base development. Using those requirements, test cases are developed. We start our testing phases, which overlaps to remediation. And that's done across all the enterprise sections.

So if you look at it, it's our core

billing engine that gets the initial treatment and change, where we go and we look at these EV rates and we move forward and try to recreate and simulate those in a manner that make those accurate and meet the rate requirement. But then we reach out to systems, like our EDI component, and we say what changes have to be made there. And from those requirements, typically we assess the time and give an estimate of the time it takes to, in essence, interact with those suppliers, because we can't do this in a vacuum. So the cost that goes into that is the time of sharing those requirements with suppliers, maybe picking a handful of them out as test cases to push the information back and forth as we go through the various testing phases. As we make those actual IT changes, we actually have to do the validation that follows. And then we follow that with a round of final wrap-up and deployment, which then -- it requires coordination from, say, a project manager, individuals who lead, go live, or any types of ceremonies that are necessary to make the work. So all that's factored in at a high level. So when we're giving these estimates, we factor the cost for all of that activity.

Q. And so just to return to the question, if you weren't overhauling your EDI system to offer the time-of-use to competitive suppliers, what would that $9.1 million look like? Can you just give me a ballpark?

A. (Moore) Well, I think we've been on record where we would -- it would honestly be less than the $9 million. And if we could mimic a rate that's already in place, we believe that cost can be significantly reduced. That's our hope is that if we could use an existing rate structure that had time-varying rates, we typically can mimic that in a shorter duration than going ahead and making that change to our EDI structure. That's because we eliminate that part of the work, so there is a sizeable reduction.

Q. So are we talking $8.9 million, or are we talking --

A. (Moore) No, I think --

Q. -- one and a half million dollars?

A. (Moore) No. The EDI represents a good portion in that estimate. It is fairly complex to make these changes in our system, especially with the time-varying piece that we currently don't deal with now.

Q. All right. So I also want to ask you about in the data response --

CHAIRMAN GOLDNER: Excuse me, Mr. Buckley. Is there a natural break in your questions so we could break and then come back?

MR. BUCKLEY: Yeah, we could break now if that's helpful.

CHAIRMAN GOLDNER: Okay. Thank you. Let's come back at 11:10. Thank you.

(Brief recess was taken at 10:55 a.m., and the hearing resumed at 11:15 a.m.)

CHAIRMAN GOLDNER: Okay. We'll go back on the record and continue with Mr. Buckley's questioning.

MR. BUCKLEY: Thank you, Mr. Chairman. I'm going to try to move a little quicker through my questions here, seeing we've now passed the time allotted to the Company's cross-examination. I will note, I think -- and I don't see him on here right now, but I'd previously spoken with the City of Lebanon, and they had noted that they were not likely to need the entire hour allotted to them. So that might give us some degree of cushion here as I continue onward.

CHAIRMAN GOLDNER: Thank you. Mr. Buckley, just before we proceed, will anyone be handling the City of Buckley [sic] as an attorney today? I think Mr. Below filed as a pro se witness. Maybe you've had some discussion?

MR. BUCKLEY: Yeah, I could certainly do that.

CHAIRMAN GOLDNER: Okay. Thank you. Okay. Please proceed.

MR. BUCKLEY: Thank you.

BY MR. BUCKLEY:

Q. So I think we just left off -- for a little recap, we just left off that Mr. Moore suggested that the overhaul of the EDI offerings were a substantial part of the $9 million estimate.

Was that correct, Mr. Moore?

A. (Moore) Yeah, a good part of it was that. I mean, obviously we've got to deal with the fact that our billing system doesn't account for the three-part rate. So that's obviously a large part as well. But it is a good part. Given the complexity, and typically the back and forth we have to do with the suppliers, it adds in a degree of complexity.

Q. Okay. That's helpful.

Now, in this request that resulted in the provision of these estimates, or this detailed estimate, it says, "Please provide any documents prepared in order to identify costs and timeline, including minutes, agendas, memos, presentations or other materials." And I just emphasize that it says "provide any documents." And then I noticed today, actually, that at the very top of this document it says "Updated March 11, 2021, V13." Are there other versions of this that were not provided but were developed?

A. (Moore) Not to my knowledge. It may be --

and when we logged them into -- we track our systems in this in a tracking system and for review and for, you know, typos, words like that. But not from a cost estimate, no.
Q. Okay. Has the Company ever developed systems for time-varying rates which would have been based on either the existing R-OTOD rate, that two-period, but offering also a time-varying generation component?
A. (Moore) All three you mean --
Q. Yes.
A. (Moore) -- including the supplier?
Q. Correct.
A. (Moore) Yeah. No, not to my knowledge.
I mean, Ed, you could probably answer that. But I don't believe we --
A. (Davis) No, I'm not aware of that either.
Q. And how about a cost estimate that would borrow, I think we heard Mr. Moore had suggested, from the Rate 7 in Connecticut, but also including a time-varying distribution component that Rate 7 does not have?
A. (Moore) So your question is do we have a rate

that's like that currently? We do not.
Q. My question is if you've ever developed a cost estimate for essentially offering a rate that is based on Rate 7, but also includes a time-varying distribution component?
A. (Moore) So we've looked at that structure, and we said we could develop a rate that was based starting with the basis of Rate 7 and actually put it into a rate. I'm not sure we did a full-fledged estimate on it, but we did say that would be feasible to start there. That's how we could go about, you know, making these changes is looking at the basis of what was done in Rate 7, switch -- add another component. But then obviously it drives the costs that we're talking about right now.
Q. And so you said you didn't do a full-fledged estimate. But it sounds like you did do, you know, a "horseshoes and hand grenades" estimate.
A. (Moore) Well, I think there was just a high-level discussion about it, yes.
Q. And can you tell us what that approximate

estimate was?
A. (Moore) Well, we don't have a -- we didn't really put a -- it was more of a feasibility that, you know, could we clearly take the Rate 7, clone it, turn it into a situation where you would vary that. And that, in essence, is the basis of the estimate we provided at the $9 million level, given, you know, the EDI components and all the necessary bill changes. That's basically when we give these estimates, that's where we got it from. I think I mentioned earlier, we look at our internal rates, we see a rate that's similar, and then we add the additional requirements and components.
Q. Could the Company develop a cost estimate without the EDI component? Is that something that could be done?
A. (Moore) Yeah, that's feasible.
Q. Okay. That's helpful.
And just to clarify, the reason it's -- the reason your starting point is the Connecticut Rate 7 is because you have a shared billing system -- is that correct --

across at least Connecticut and New Hampshire portions of the enterprise called "C2"?

A. (Moore) Yeah. Fundamentally, the way we design our rates internally, it's a common platform. But it has the nuances of the various differences between the Connecticut and New Hampshire rates that have to be amended. So we don't -- you start with that format, and then you search for the jurisdictional differences between the rates.

Q. And so in Exhibit 4, at Bates Page 12, there's some -- there's a citation around the costs associated with the EV TOU offerings. And then the Company goes on to describe a forthcoming and enterprise-wide billing, metering and customer information system upgrade as a reason why near-term alternatives to EV TOU rates should be considered. Is that correct? That can be a "Yes" or "No." I think this might be --

A. (Moore) I think the question -- I think I lost the intent of the question. Say it again? I apologize.

Q. So you have an enterprise-wide upgrade to your customer and meter systems plan; is that correct?

A. (Moore) Correct.

Q. And can you tell me what the time frame is for the final deployment of that upgrade?

A. (Moore) Well, we've planned for our initial affiliate for sometime in 2022.

Q. And when would it be complete so that the Company would be able to fully utilize its customer, the new customer information system and meter data managements system in New Hampshire?

A. (Moore) Well, although we have plans for the affiliate, I think the timing of the remaining companies are being assessed within those jurisdictions. And to get obviously regulatory treatment before moving forward with those types of investments would always be something that would be done outside of my sphere of control. So I don't believe I can answer that question.

Q. So would it be accurate to say that the Company doesn't really have a time frame for that enterprise-wide upgrade being executable in New Hampshire?

A. (Moore) No. I think what we do have is between now and say the next five to six years, we have plans to look at what the obvious pressures are within our jurisdictions from age of the systems -- because as I mentioned, they're legacy systems. We know they do have to be replaced within a time period, but also seeking the right sort of, you know, cost and benefit to the customer time frame that makes sense.

And there's also the physicality of you can't change the world at once because, you know, taking on and trying to change all states at the same time would probably end up with a less than desirable outcome. So we plan both from a physicality standpoint of delivery, as well as, you know, what are the other related items. For example, if there's AMI being proposed in the state, our infrastructure and the demands of the customer all are factors would come into the time frame we put on each of the affiliates going forward.

Q. And so am I correct in understanding that you just provided a time frame of, it sounded like at least five to six years for New Hampshire --
A. (Moore) By the time -- I mean, once again, just ideally I'm throwing that time frame out there. I don't know. There obviously could be accelerators one way or the other. If, for example, New Hampshire decided they wanted to do full-fledged AMI, we're on record saying the only way really to do those types of activities is to move forward with a new billing system if our current ones wouldn't handle it. So there's other factors that come in place. But ideally, if I were to look forward -- and once again, I'm not committed to a time frame -- [connectivity issue]
[Court Reporter interrupts.]
A. (Moore) Ideally, from my perspective, the replacement of these systems would happen in that time frame in our road map.
Q. Okay. Thank you, Mr. Moore. I think I'm going to move to metering costs now again.

So if we look at Exhibit 4, Bates Page 7, Line 14, and then I think it bleeds over a bit into the next page, I believe there is discussion of meter-installed costs of approximately $500 and additional installation costs of several hundred dollars for the customer to hire an electrician to install wiring and meter socket for the new service. Does that sound about right?

A. (Moore) Is that question for me?

Q. Whoever feels like they can answer it.

A. (Rice) Yes, that's correct. And I might be the best person to answer, but we'll see what the question is.

Q. Okie doke. And so what does that $500 figure look like on a monthly basis for the customer? We've seen the Unitil rate is based solely on the Company's carrying costs for the installed meter, and that's about 5-1/2 dollars, I think. How does that compare to what this $500 install cost per meter would look like on a customer charge --

A. (Rice) I don't recall specifically calculating, at least myself specifically calculating the monthly carrying costs of $500 a meter. But Mr. Davis may have another reference point in mind, or not.

A. (Davis) Yeah, I could maybe just give perspective.

It's important just to say in our original testimony, in the proposal for three-period time-of-use rate, the cost we use there reflects a lower installed cost of a meter. Our current systems and current two-period time-of-day rate has a meter on the order of a couple of hundred dollars just for the investment. Actually, that might be the installed cost. And that comes out of our distribution marginal cost study.

So if we think about the $16.50, that includes both metering service costs and customer service-related costs. So, certainly that would put upward pressure on the $16.50 to incrementally -- you know, the difference in the meter cost would probably certainly put upward pressure on that $16.50. So we could perhaps dissect, you know, break down what's meter only and then, you know, flow these higher costs through that to see just purely what the meter portion of marginal meter costs is, or the effect on that.

Q. Okay. So to the -- how about now to the additional cost of several hundred dollars for a customer to hire an electrician and install wiring and meter socket for the new service? How does that compare to the other example we've been talking about this morning relative to the controlled water heating rate? That also requires some degree of wiring and metering of that water heater, doesn't it?

A. (Rice) Yeah, but those are all costs that the customer is responsible for and work that they'll get completed with a contractor. So the utility doesn't necessarily have a direct lens into specifically what it costs. We have a general sense, and that's what we include in the testimony. But ultimately we're not doing that work, so we don't know exactly what the customer's paying.

Q. Okay. But just sort of intuitively, is it conceivable that if a customer happens to be wiring up a Level 2 charger in their garage, for example, there would be some synergies there for that customer to also run a line to a meter socket at the same time? Is that possible?

A. (Rice) I don't know. I'm not a licensed electrician that does this type of work.

Q. That's fair.

All right. Moving on to Exhibit 4, Bates Page 9. I'm going to talk a little bit now about alternative metering and data sources.

So in Exhibit 4, Page 9, and I'll just take a moment to pull this up as well, it says at Line 4, "Eversource has determined that it is not readily feasible for alternative data sources to be used in place of utility metering for billing purposes at this time." Is that correct?

A. (Rice) That is correct.

Q. And I'm curious what that qualifier near the end of the sentence, "for billing purposes." Can you expand on that just for a moment?

A. (Rice) Yeah. So what we assessed with respect to feasibility was the ability to utilize an alternative data source -- in this case, a customer-owned charger -- as part of an end-to-end, you know, meter-to-bill solution. That ultimately resulted in the Company being able to issue an accurate bill to the customer. For interval -- for a time-of-use rate like this, and interval meters, the Company utilizes MV-90 xi as its meter data management system. So for us to feasibly use another alternative data source in the same solution, it would need to be compatible with MV-90 as well. And as the Company was working to address the various items that would be -- would need to be satisfied for a feasible solution, we reached out to Itron, that MV-90 vendor, talked with them about the ask. They were very familiar with the question, that they get it a lot on whether, you know, their system could utilize charger data in the same way as a utility-owned meter. Their answer was no. And this is probably where I'm getting out of my depth and Mr. Moore might have more detail. The big item that -- the big barrier was the availability of a TIM. And I'm going to hand it over to Mr. Moore now before I incorrectly say what a "TIM" is.

You're mute.

A. (Moore) Apologize for that. Basically a TIM is what Itron uses to communicate with a meter. It acts like it's kind of like a middle component that allows the meter and their systems to communicate effectively, which also provides the accuracy that they're seeking to keep the meter reads at when they supply that for us for billing quality and billing quality billing determinants.

So those TIMs are designed with the meter manufacturers. So there's a limit of meter manufacturers and TIMs that are exploited. And as Mr. Rice said earlier, currently Itron does not support or have a TIM for the charging station.

Q. Thank you. That's helpful.

And now with respect to the Company's proposed load management program. How can you tell whether a customer has curtailed within that program when the Company -- when an event is called? What data source is used there?

A. (Rice) It's based on a communications capability between a distributed energy resource management system and the charger itself. Typically that is completed through a Wi-Fi connection, the customer's Wi-Fi connection. And again, it's a very different solution. You know, we're not trying to gather accurate, validated interval data that we can use to calculate a bill with. We're really just trying to establish a binary condition. Is the charger, you know, on or off? Is it being curtailed? Yes or no. So that's a much more easier data point to validate. And we're able to do that with, you know, a different communications setup.

Q. And so I think you addressed some of this in a data response. I think if you could turn to Exhibit 13, Bates Page 24. There's some discussion of this topic, where the Company suggests that third-party software as service offerings outside of the traditional billing system are used for data collection relative to the program. And there's that focus on it measures a binary, that you're essentially just looking at whether it's on or off rather than, for example, interval metering that would measure volumes at a given time. Is that correct?

A. (Rice) That's correct.

Q. And so has the Company ever solicited third-party software as service offerings to utilize embedded chargers for billing purposes in that manner where we'd just be looking at or would be looking at the volumes instead of a binary?

A. (Rice) For billing purposes? Not to my knowledge.

Q. And are you aware that the Department of Energy's testimony I think suggests something like that, where the Company would issue an RFI, and maybe RFP, to see if such offerings -- if the market could offer such things? Is that correct?

A. (Rice) I'm aware of that recommendation.

[Court Reporter interrupts.]

A. (Rice) I am aware of that recommendation.

Q. And we heard testimony from ChargePoint earlier this week that their meters are capable of measuring volumes for billing purposes rather than just the binary on and off, and that their meters are the same as, I think he said ANSI standards that generally cover metering more broadly, including utility meters, and that their meters are compliant with that standard. Is that correct?

A. (Rice) I don't have the transcript from the other day in front of me. I think they referred to NIST standards, not ANSI.

Q. Okay. Thank you for that correction.

A. (Rice) But I'm aware of the general sentiment of what they explained and understood it.

Q. That's helpful. Now, returning to the idea of the binary data off and on versus interval volumetric data. Can you please turn to Exhibit 4, Bates Page 29? I think it's the very last page of that exhibit.

A. (Rice) I'm there.

Q. And so my reading of that paragraph at the top, No. 7, called Data Collecting, is that, at least for data collection purposes, Eversource is proposing to measure energy consumption in kilowatt hours rather than just the binary on and off. Is that correct?
A. (Rice) Yeah, we hope to gather data that we can analyze to learn more from. Again, that is different than using that data as part of an integrated billing solution. But, yeah, we -- that's actually one of the benefits we see of managed collection is we can utilize a customer-owned device in the near term, provide them value through being able to offer incentives, and also gather data that can be useful to the Company and its stakeholders going forward as the EV market grows.
Q. And the Company has offered a very similar program in Massachusetts for I think several years now; is that correct?
A. (Rice) That's correct. And we are -- we've been directed to develop one in Connecticut as well.

Q. Okay. And has the Company ever evaluated whether the energy consumption data that's provided by this type of program is adequate for billing purposes or inadequate for billing purposes?

A. (Rice) I haven't specifically done that analysis. But Mr. Davis might be familiar with some of the opportunities we've had to look at EV charger data and compare that to other data sources. Or Mr. Boughan, for that matter.

A. (Davis) Yeah, I have not used managed charge data for any kind of evaluation like that. We have utilized, where we have a revenue meter, if you will, you know, the utility standard meter for that purpose.

Q. And are you aware that multiple utilities and multiple jurisdictions throughout the country have in fact determined that it is feasible for alternative data sources, such as an embedded meter within a Level 2 charger, or the vehicle telemetry, to be used in place of utility metering for billing purposes?

A. (Rice) We're certainly aware that other utilities have developed solutions to utilize these data sources for billing purposes. Dr. Sergici specifically mentioned Baltimore Gas & Electric Company and Xcel Energy in Minnesota. Those are both programs that we're very familiar with. So we completely understand -- or I won't say completely. But we have a strong understanding of how each of those respective utilities implemented those solutions. So it's a great opportunity to learn and get more information and perspective. And it kind of drives home the capabilities that are necessary to effectively use that solution, as well as the limitations of it, which kind of further informs Eversource's perspective on the feasibility of it executing a similar solution with its current systems.

Q. And you're aware that Unitil has proposed a pilot, where it would, over time, evaluate the ability of these third-party systems to provide data that is adequate for their billing purposes; right?

A. (Rice) My understanding of the Unitil pilot -- and I don't want to speak for them -- is they intend to collect and evaluate charger data and compare that to the data that's received from the corresponding utility meter and see if there are differences in quality or, you know, that should be reconciled. It's not my understanding that Unitil is evaluating what would be necessary to integrate charger data with its other billing systems as part of that effort. I don't know if that's an activity that would come later, after the accuracy and quality of charger data was evaluated.

Q. Fair enough. And so moving to Exhibit 4, Bates Page 8, you detailed that the basis for the feasibility of using embedded metering is that Itron has confirmed that such capabilities relative to the MV-90 xi are not presently available. Is that correct?

A. (Rice) Correct. We wouldn't be able to use charging data as part of an end solution with our existing MV-90 interval data management system.

Q. And so it's based on this premise that any alternative metering must be consistent with and portable to the Company's legacy MV-90 system; right?

A. (Rice) To be readily feasible in the near term and to be a solution that Eversource would recommend implementing, that's the criteria that we would recommend. I don't know if Mr. Moore has anything to add to that.

A. (Moore) Can you repeat the question again? Sorry.

Q. Maybe I'll just move on. I think that it's been already asked and answered.

So I want to turn to the question of meters that are not owned by the Company itself.

Does the Company utilize meters that are not owned by the Company in any other applications, either in New Hampshire or its affiliates?

A. (Rice) Yes, and I think we described those examples in the February responses which were included in Attachment 13. I'd be happy to go to that, unless you are intending to go to it and had a specific question --

Q. I do have a question or two for that. So if you could turn to Exhibit 13, Bates Page 15. And I will do my best to also try and find Exhibit 13.

A. (Rice) So the large example that we identified in response to DOE 2-021 on Bates Page 16, where we talked about 1,791 customers who participate in the Eversource commercial distributed generation program in Connecticut. So that's, you know, known in Connecticut as the "LREC ZREC program." And those meters are production meters that are owned by customers, measure the output of a customer-owned solar facility, and the Company pays incentives based on that output pursuant to a company tariff.

Q. And you cited at Bates Page 15 some issues related to that program, specifically connectivity issues and issues related to troubleshooting problem meters; is that correct?

A. (Rice) Correct.
Q. And then if you move to Bates Page 16, there's the about 1800 number.
And then if you move to Bates Page 17, out of those 1800 customers who use their own meter essentially for the company billing, it seems like the Company has had -- in 2021 it had issues with 113 of those customers related to those two items discussed earlier, the connectivity and the troubling shooting issues; is that correct?
A. (Rice) Correct.
Q. And so my, you know, law school math says that 113 is about 6 percent of 1800. Is that correct?
A. (Rice) Subject to check, I'll take the risk in accepting a lawyer's math.
Q. Haha. Much appreciated.
And would you agree with me that the scenario presented by those DG customers who have connectivity issues would be a little different from a customer that would, say, be using their embedded metering in a charger? Because in the case of the embedded metering,

there could still be a backstop of that customer's home meter to measure usage during those times when the embedded metering might have connectivity issues and you could just cease offering the TOU rate for that period; is that correct?

A. (Rice) I don't think I could reach any conclusions on the potential challenges and implications of using kind of one data source over another.

Q. Okay. That's fair.

A. (Rice) I mean, I think, yeah -- I mean, there may be a data backstop with the charger. I don't know. There might be opportunities for there to be a data backstop with a conventional revenue-grade meter. And there's also a revenue-grade meter as opposed to a different type of device. So I think there's a wide range of factors that could impact the types of challenges they'd have to troubleshoot for potential areas of failure with respect to connectivity. So I don't think I could really draw a conclusion to compare the two solutions.

Q. Right. But you would agree with me, intuitively, that the embedded meter approach, which generally I think utilizes some degree of subtractive billing, so you're not double-counting at the whole home meter, if you lost the embedded meter, you would also then get rid of the subtraction. So you'd still be counting the overall premise use, just not offering that additional time-of-use adjustment.

A. (Rice) Yeah, I mean, it's a solution. I don't know if it's the only solution. I think that's the way Baltimore Gas & Electric's tariff is structured is that it's the customer's responsibility to maintain their data source charger, maintain a Wi-Fi connection. And if the utility is unable to collect that data for any reason, then just the discount wouldn't apply. So that is an approach.

Again, it's -- you know a concern Eversource would have is, even if that's what the tariff says, you can still get into a lot of back and forth with the customer, who would probably be readily upset if they're not seeing the credit that they wanted. And you're going to get into a situation of troubleshooting what's the source of the missing information. It's not always clear whether the problem is on the customer end or the utility end. So it's -- even though you can kind of build a tariff around it, it still is a solution that might have some drawbacks.

Q. Okay. So I am now going to move to the concept of manual billing.

Now, at Exhibit 4, which I think is your testimony, at Bates Page 8 you mentioned manual billing processes. Can you tell me, does the Company manually bill customers in New Hampshire or elsewhere?

A. (Rice) Yes.

Q. And what's the basis for the need to manually bill certain customers?

A. (Rice) Mr. Davis would probably know better than I or Mr. Moore.

A. (Davis) Sure. There's truly a variety of reasons. Part of it's the nature of the service or the tariff. Sometimes there are special conditions for a given customer, and those could be within a tariff or within a special contract, but the tariff itself might require certain information.

But anytime there's either the inability of a system to, through a standard process, implement a given rate structure for billing purposes or have to process meter data or other information, particularly when there's any kind of manual step involved, you're likely to see some degree of manual billing. Sometimes there's manual billing that then feeds the result into a standard billing process. So this is super high level because there's so many different reasons, but --

Q. So it sounded like you said one of the justifications is for those rates that are more complex, it's sometimes -- it might be more cost-effective, right, to offer a manual billing option? Is that correct?

A. (Davis) It could. Certainly the complexity I think is a big factor, particularly for C&I customers. It's not necessarily cost-effective. Sometimes that's the only way to implement it.

For example, in New Hampshire, we have backup service for customers who either are generated or have generation. And there are some parameters that have to be captured perhaps. We have to actually, for example, print a report, you know, evaluate data, and then input the results and send the key information that's required by the billing system to then process that for whatever the appropriate billing system is.

Q. And so if we look at -- oh, sorry.

A. (David) Go ahead. Yeah.

Q. If we look at Exhibit 13 again, Bates Page 26 through 27, the Company provides a price, more or less, for a number of customers that are manually billed in New Hampshire. I think that's 52 -- no, it's 63 accounts that are manually billed in the Company's large power billing system each month; is that correct?

A. (Davis) That's correct.

Q. And it says that it takes one full-time employee approximately 10 hours a month, with a fully loaded rate of $52 an hour, approximately, to handle existing manually billed accounts. So that's the 63 manually billed accounts; is that correct?

A. (Davis) Yes. These are, I think, legacy accounts. I mean, it's not growing. It's a pretty static, fixed number of accounts. But that's what it says, yes.

Q. So by my law school math again, if you can trust me on that one, 10 hours a month at $52 an hour-ish means I think that it's about $6,000 annually to bill those 63 accounts in aggregate; is that correct? Manually.

A. (Davis) Yeah, if you multiply that out for the operating expense, that looks right. I right, there's probably work that was done behind that to set it up and implement it. And it depends -- this is an old system. So yeah. But that's correct -- or that's -- I'll accept your math. How's that?

Q. Awesome. Does the Company have a sense of how many high-demand draw charging sites it has in its territory that would be eligible for a rate, let's say if the Company were hypothetically to adopt a high-demand draw time-of-use rate?

A. (Davis) Well, Mr. Boughan can add to this. But there's certainly in New Hampshire, if that's what you're referring to, you know, an expectation that there would be a relatively small number of accounts who would initially be enrolled. So I don't know the actual number or what number to give you. But yeah --

Q. And so maybe I can direct you to Exhibit 13, Bates Page 23, where the Company provided, on request, the known high-demand draw chargers within its service territory.

A. (Davis) Oh, sure. Yeah. So for existing accounts, that's right. And this is a mix of charging stations that are either a standard-alone, separately metered, and their own individual accounts, or charging stations that are part of an overall customer service load.

Q. And so that is approximately nine customers or so?

A. (Davis) We list nine stations. That's correct.
Q. And if we were to ask the same question regarding low-demand draw customers, would you be able to provide some approximation for that?
A. (Davis) I don't have that. But I just want to clarify, when you say "low demand," it's pretty much residential, small C&I, for example.
Q. Yeah. Exactly.
A. (Davis) Yeah. I don't know --
Q. Would it --
A. (Davis) I don't know whether my colleagues have a --
A. (Rice) Yeah. I mean, I think, you know, we testified that the rate designs that have been proposed for that customer group may not result in high enrollment. So we don't -- Eversource doesn't offer a separately-metered EV time-of-use rate a day. We've said we're concerned that if we were to do so, we wouldn't necessarily have a high volume of customers. Even if there are a high volume

of customers that have EVs in Eversource's territory, we don't know what percentage of those would be likely to enroll in a low-demand draw rate for their home or business charging.

Q. And so that sounds like a scenario which is a bit like the one described for the large business customers with the complex rates, where the Company could conceivably manually bill, as long as it's not a rate that grows to a scale of let's say 10,000 customers or something like that. Is that correct?

A. (Rice) I mean, it's feasible. It's not -- we wouldn't recommend it.

Q. Though that manual billing for the 62 customers that you currently have costs about $6,000 a year, and the estimate that you provided for full overhaul of the billing system is about $9 million a year; is that correct?

A. (Rice) Well, so --

Q. Not a year. Nine million total. Sorry.

A. (Rice) I mean, sure, that's the math. But we wouldn't recommend manual billing as a solution. I think the customers that we're manually billing right now, Mr. Davis indicated we're doing that because we actually don't really have another option. That number of customers also isn't growing. So if we were expecting those types of service into those types of rates to grow, we would probably reconsider.

And there are drawbacks with manual billing. For starters, you're doing it -- humans are doing it, and humans can make mistakes. So that can become kind of a source of customer dissatisfaction. I mean, you're also not -- I mean, we wouldn't expect that we'd be able to justify hiring additional staff to do these permanent -- you know, making permanent hires to do this work. So, really, you'd be pulling resources from your existing pool and ultimately taking work away from other productive uses of those personnel.

Another big one is when we manually bill, the customer loses a lot of functionality. They can't view their bill online, for example. So it detracts from the customer experience.

And I think the last big one is, I mean, if we think that customer enrollment is going to be so low that manual billing can be a solution, I think that would prompt Eversource to challenge itself and consider, you know, is this the best option to put forward to customers. Because I think, as you indicated, you know, and Eversource hopes, that if we were to offer an EV time-of-use rate, that adoption would grow with the EV market. So we would want to be putting forward solutions that are going to provide value to customers that they're going to want to enroll in, in growing numbers.

Q. And so we've seen the nine or so high-demand draw charging stations. But if I were to kind of try to find an upper bounds for what low-demand draw customers might be interested in participating in, in a TOU rate, to understand if manual billing was maybe a near-term opportunity until the full overhaul of the Company system happens five to six years from now, what kind of numbers would I find relative to your proposed enrollment for your load management proposal?

A. (Rice) So we've -- you know, we provided an estimate that we're optimistic that we would be able to enroll maybe 200 customers per year, reach 1,000 customers within five years. And that's an estimate. That's our projection. And again, we assume this because we, you know, view what we're able to offer through load management as a much more customer-friendly and compelling option that customers would be more likely to enroll in. Not all, of course, but more than I think we would presently feel might enroll in a separately-metered EV time-of-use rate with the rate structures that's been presented in this docket. So, I mean, if you're suggesting that that's an upper bound for an EV time-of-use rate, I would very much disagree.

Q. Thank you. That's helpful.

So now I'm going to move to your proposed -- we've already discussed a bit your proposed load management program.

So if we go to Exhibit 4, Bates 5, would I be accurate to say that the Company views load management programs as offering incentives to a relatively small number of current EV customers without making large, fixed investments to modify the enterprise IT systems, and that's a benefit to the Company? Is that correct?

A. (Rice) That's correct, yeah. We can -- we feel it's an option that we can launch in a much shorter period of time, and it doesn't utilize the existing enterprise systems that we use for billing. They would have to be modified.

Q. And that seems to be a similar benefit of manual billing to me. Is that correct or...

A. (Rice) I mean, there still would be system modifications for a new rate structure. Mr. Moore or Mr. Dennis -- excuse me -- Mr. Moore and Mr. Davis -- I mean, we'd still need a new service plan for a new rate. There would still be work.

Q. Okay. That's fair.

All right. Now if I could ask you to turn to Exhibit 6 at Lines 8 through 12. Exhibit 6.

[connectivity issue]

A. (Rice) The page number again?

Q. Just give me just a moment. No, I think I have the wrong exhibit number here. That is probably Exhibit 4. I'm going to guess it's Page 6 at Lines 8 through 12, where... okay. Yeah. So that is the right spot. Exhibit 4, Page 6, Lines 8 through 12, where there is an almost direct quote of a paragraph from the order preceding this proceeding. And that's Order No. 26,394, at Page 8. And the Company quotes almost directly, that the Commission also found that load managements offerings may provide near-term ratepayer benefits without installation of metering infrastructure and other associated upgrades. For that reason, it found that load management techniques may be an appropriate strategy for EV rate design. Is that correct?

[Court Reporter interrupts.]

A. (Rice) Yes.
Q. And if I were to turn to that order, is there another clause that goes after "may be an appropriate strategy for EV rate design"?
A. (Rice) Let me turn to the order myself.
Q. Sure.
A. (Rice) Yes. So on Page 8 of Order 26,394, it also states that the Commission finds that load management techniques may be an appropriate strategy for electric vehicle rate design, "especially when offered in conjunction with EV time-of-use rate offerings."
Q. Okay. Thank you.
And moving to Bates Page 12, there's discussion of how Eversource's proposal leverages existing demand management capabilities and builds upon successful demand response programs that have been implemented in Massachusetts and Connecticut. So there's some mention in that section of customer incentives.
But can you tell me, at least in Massachusetts and Connecticut, does the

Company earn a performance incentive on those programs?
A. (Rice) My understanding is we do.
Q. And but under the Company's proposal here, it has not proposed to earn a performance incentive on those programs; is that correct?
A. (Rice) That's correct.
Q. If the Commission were to approve the load control program proposed in this proceeding as a complement to time-of-use rate offering, would the Company commit to a future for that program that does not include a utility performance incentive?
A. (Rice) I mean, no, I can't commit to anything here right now. I mean, I think the Company would evaluate the implementation of the load management program. It would learn from that. If there were opportunities to expand it, to refine it in the future, and we felt that it was appropriate and it was in the interest of customers to, you know, also include a performance incentive to incent the Company in its management of future programs, I wouldn't want to -- I don't think I could

commit today that we wouldn't evaluate that.

Q. Okay. That's fair.

Can you tell me about the programs? And specifically, can you tell me which peaks those programs target, the load management programs?

A. (Rice) I can't speak to all of the load management programs. I'm doing my best to assume Mr. Goldman's prior testimony. But I know in -- you know, I think there's general overlap with the peaks that are addressed through a time-of-use rate design. And to the extent that price signals in a time-of-use rate design are intended to encourage customers to shift charging activity away from certain peak periods, those frequently overlap with, significantly, with the peak periods that we might target through a load management program.

One of the advantages, though, of a load management program is it does provide kind of the flexibility to target different peaks. We think that's kind of interesting with EVs, particularly as EV adoption grows. We've seen in other markets you have instances of pocket load growth. With that potential scenario, you have maybe an affluent community where adoption of EVs is higher. Everybody on the street goes out and buys a Tesla. You can start having local peaks on parts of the system, and load management is an interesting tool to address that. You know, you can start staggering the periods in which you're targeting individual customers so that you don't have a scenario where everybody on the street who has an EV programs their charger to turn on at 8 p.m., and then you have a timer peak at that hour. Load management provides you kind of a tool kit to stagger that peak and mitigate the potential for a load peak.

Q. So you mentioned the sort of circuit-specific targeting, where a whole neighborhood goes out and gets electric vehicles. Does the Company currently offer that capability anywhere?

A. (Rice) Yeah, I don't know. I couldn't say if we're specifically doing that today. We're definitely trying -- our goal is to develop distributed energy resource management systems that have that capability. And we think it could be an opportunity that we want to be able to pursue in the future. But I couldn't say that we're doing it today. And I also wouldn't say that we'd intend that type of activity would necessarily occur right out of the gate if we were to try to launch a managed charging program in New Hampshire as well.

Q. Yeah, my understanding and recollection from some technical session discussions with the gentleman who's now moved on from Eversource was that the Company systems could offer that, but it would require some degree of additional investment. Does that ring a bell for you at all?

A. (Rice) I mean, I wasn't involved in those specific discussions. But, I mean, it's possible.

Q. Okay. How many peaks during the year would the load management offering target?

A. (Rice) I don't know, off the top of my head.

I could comb through Mr. Goldman's previously provided testimony to see if it's there, but...

Q. Would it be accurate to say, subject to check, that the load management program generally targets transmission system peaks, specifically the one CP of that peakiest day per year through which much of the costs are assigned for our transmission system rates to customers through their distribution system utilities?

A. (Rice) That's absolutely a criteria. I don't think it's the only criteria. But as I said you know, we're looking at periods that certainly overlap with that one CP peak frequently.

Q. Right. And so is it possible that one benefit a time-of-use rate might have as compared to the load management offering is that an electric vehicle's load would be, at least in theory, shifted to off-peak hours every day as compared to the load management offering which is more limited? I think there are 20 calls in the testimony that are suggested, 20 calls a year. And many of them would be targeting the system peak, and then some I think are targeting other monthly peaks.

Is that correct, the idea of 20 calls versus daily shifting of load away from peak?

A. (Rice) I mean, I haven't done any analysis to compare the potential value of either approach, so I don't think I could confirm that.

Q. But you would agree that, intuitively, a time-of-use rate, in theory, shifts load away from the peak every day, but the load management proposal would shift load away from the peak on just a few targeted dates that relate to the transmission system largely.

A. (Rice) I mean, it's reasonable. I mean, yeah, you describe kind of the scenario -- I'm just trying to make sure I'm not missing anything that we previously said.

A. (Davis) I just wanted -- this is Ed. I just wanted to note Bates 25 does talk a little bit about dispatching. And apparently dispatching would be daily, every summer weekday, covering up to eight hours with some opt-out potential. So there's some information there about sort of the plans. And then the actual conduction of that plan would be probably circumstantial to what's happening in a given period.

A. (Rice) Thank you, Ed. I had it in mind, and that's what I was looking for --

A. (Davis) It's not the 20 days. It's an opt-out of 20 percent, if that's -- but it's the daily summer weekday dispatch which I think is sort of a core part of that. Anyway, that's all. I just wanted to point that out.

Q. That's very helpful. I misrecalled that 20 figure.

But you say that it's summer weekdays. Is that -- that's for, you know, a three-month period during the summer?

A. (Davis) Yeah. I mean, that's not defined here. I know from our original cost analysis and probability of peak analysis, when you look at distribution or transmission or generation in the market, there's clearly a high/low, particularly in New Hampshire, during three to four summer months, but particularly July and August. So my assumption would be that it could be two to four months perhaps. And that probably wouldn't necessarily preclude other times of the year, either.

A. (Rice) Yeah, and I think -- I wanted to pick up on that because I think one of the important things is, I mean, Eversource isn't proposing load management as a static offering. That's one of its big advantages is it's a flexible solution. And on Bates Page 29, Section 8, we talk about how, you know, we do kind of intend to continue to make improvements and enhancements to the program as we learn more.

So I think you had a scenario in which we discovered that we were maybe leaving value off the table by only focusing on summer and that, you know, customers would be amenable to having the load curtailment or restrictions more frequently, then you can certainly expand those periods to continue to offer targeted certain peaks throughout the year.

Q. So in the contract that you -- that your customer signs, if there is one -- I assume maybe there is -- there's not a limitation on the overall number of calls that can be done in a given year?

A. (Rice) I don't know. I haven't seen the contract. And again, here we've described it at least as a starting point, you know, we'd be targeting summer peaks -- or actually the summer period every day in the summer.

Q. And so it sounds like, because you're targeting that one CP and other peaks during the summer, it seems like it would do a pretty good job of avoiding transmission costs. But the manner in which the Company has proposed to recover costs for this program is through distribution rates; is that correct?

A. (Rice) That's correct.

Q. Can you tell me why it's appropriate to recover the cost of a program that targets reducing transmission via the cost allocation that the Company does for distribution?

A. (Rice) Because these costs will be distribution company costs. We're not recovering transmission charges or, you know -- yeah, we're not recovering wholesale transmission charges. There are no wholesale transmission charges included in the cost of this program.

Q. But it would tend to reduce your share of RNS and LNS costs. That's sort of one of the goals here, right, that are passed through to the customers?

A. (Rice) Potentially, yeah.

A. (Davis) I just wanted to add that, effectively what I think Mr. Rice just said is that this program would be part of the overall set of distribution services. And that would be, in my opinion, why it would be appropriate for that to be a distribution service cost that would be recoverable, you know, included in part of the rates, distribution rates themselves.

Q. Okay. Now moving on to Exhibit 4, Bates

Page 13. And we're almost done here. I'm almost done.

I think you suggest that the cost of the load management is somewhere between one million dollars and one and a half million dollars; is that correct? And that's I think 450,000 estimated for incentives. And then the rest is what exactly?

A. (Rice) Let me just get to the information to help answer the question.

(Witness reviews document.)

A. (Rice) Yeah, so the budget is summarized in Exhibit 4, Bates Page 28. And you're correct. It includes $450,000 for customer incentives. And then the balance of costs would be administrative costs and software/vendor costs.

Q. And so that category of administrative costs, is that -- that's essentially the cost of the utility administering the program?

A. (Rice) That's correct.

Q. And the software/vendor costs, that's -- how does that differ from the cost of the utility administering the program?

A. (Rice) I believe those were mostly license fees for third-party software.
Q. Okay. And so as a percentage of overall cost, the incentive paid to the customer is, you know, somewhere around 33 percent; is that accurate?
A. (Rice) Yeah, somewhere in that range.
Q. Okay. And how -- it shows the Company acquiring about 200 customers per year. Can you tell me how the Company might target existing customers for enrollment?
A. (Rice) Just give me a moment. I'm making sure we haven't... say anything or repeat anything we've already said.

(Witness reviews document.)

A. (Rice) Yeah, I might phone a friend to Mr. Boughan, who might be more familiar with some of these activities. I mean, I know obviously the Company does have a variety of marketing strategies that it deploys through its energy efficiency programs, which in other states include demand management offerings like this. So we'd probably follow similar approaches. I know we have, for the

Massachusetts and Connecticut programs, there's detailed information on our web sites for customers to enroll. That's part of information that we provide for EV customers generally, directing them to the options and the resources that are available to them from the Company.

Q. Are vendor channels, for example, like a ChargePoint or some other charger manufacturer, are they a means to be able to have direct access of targeted marketing to existing customers?

A. (Rice) There's likely a channel. Again, I'm not a marketing expert. So I can't say if "direct access" is the right word. But certainly I know we have opportunities with other demand management programs to leverage equipment vendors and be able to provide -- help provide options to the purchasers of their equipment.

Q. And is it conceivable that those same channels could be used to offer a time-of-use rate via targeted marketing?

A. (Rice) I don't know. That's a good question.

I mean, the -- so in this scenario, I think those vendors have a reason to partner with the utility because we're increasing the value to the customer of the device that they sell. So, I mean, I don't -- you know, if you didn't have that kind of direct connection with the device, I don't know how that would impact the opportunities to partner with those equipment vendors.

Q. That's fair.

Okay. Now I'm going to move just very briefly to the high-demand draw rate.

So at -- in the initial testimony, Exhibit 4, Bates 7, Lines 8 through 10, I think I have found the only reference to a high-demand draw rate that's in the initial testimony. It says, "The high-demand draw rate developed by Eversource was filed to and being evaluated separately in Docket No. DE 21-078." Is that correct?

A. (Rice) That's correct.

Q. And so I'm just wondering how that squares with the Commission's directive in the preceding proceeding, which actually happens to be excerpted almost in its entirety at the bottom of the Settlement Agreement in Footnote 2, where it cites the Staff recommendation around a -- that the Commission -- maybe I'll just briefly read an excerpt of it.

Staff recommended that the Commission open a new proceeding and direct each electric utility to file within 120 days, consistent with the guidance above: One, an EV TOU rate proposal for separately-metered residential and small commercial customer applications; two, an EV TOU rate proposal for separately-metered high-demand draw commercial customer applications. Based on our review of the record in this investigation, we find that EV time-of-use rates are appropriate rate designs for residential and commercial customers, and we believe a separate proceeding to adjudicate the merits of the various proposals from each utility is warranted. We also see value in the distinction Staff has drawn between residential and small commercial customers and high-demand draw applications that may incorporate DC fast charging or clustered Level 2 charging.

It seems to me like, from that quote, they do see the distinction between high-demand draw and low-demand draw, but that they have ordered the utilities to file EV TOU rates for both.

A. (Rice) I mean, I'm not a lawyer. But as you know -- [connectivity issue] -- but we didn't interpret the Commission's directive the same as you. As you know, it was Commission Staff's recommendation that the utilities be directed to file both a separately-metered residential time-of-use rate and a commercial time-of-use rate for high-demand draw. What the Commission ultimately ordered was just that a new docket be opened to consider utility-specific EV time-of-use rate proposals. And that could include "various" proposals I think was another word that was used.

So I think the way Eversource approached this is it absolutely appreciated all the work that went into the investigation, appreciated the guidance with respect to time-of-use rates. We took that, we listened to it, and we set about coming up with what we believe were the most effective approaches that we could put forward to best serve the New Hampshire EV market at this time.

As we've explained previously, when we did that, we thought a big need in the near-term is addressing demand charges because that's a pretty well-known barrier, a potential barrier to development of DC fast-charging infrastructure, which, in turn, is understood to be pretty critical to enabling any further electrification of the transportation sector.

So we did that because we agreed to do it as part of the Settlement Agreement. We were required to file that in a separate docket, and we did. And we think that's really the best near-term approach for serving this segment of the market. And we didn't think it was either necessary, or necessarily, you know, a good use of everyone's time to put together and put forward a redundant rate in this docket.

[Court Reporter interrupts.]

Q. Okay. That's helpful. And I suppose maybe you and I will just have to disagree -- or agree to disagree about the interpretation of that order.

But you mentioned the demand charge rate. And just I have one or two questions about that, and then that's it for the day, for me at least.

So can you tell me that your current Rate GV -- do you have some sense of how much of the overall revenue for that class is derived from the demand charge? Are we talking 20 percent? Are we talking 90 percent?

A. (Davis) Yeah, if you assume GV customers as a class taking generation service, all in, you're well over 50 percent --

Q. Over 50 percent --

A. (Davis) -- for demand charge.

Q. Over 50 percent. Okay.

A. (Davis) Correct.

Q. And can you tell me, that demand charge, does that have a temporal characteristic to it? Is it assessed based on time of day?

A. (Davis) It does have a characteristic -- a temporal characteristic. It's really how we determine the demand charge itself. We look at current and prior peaks. And there's a couple of factors in there. So we define a peak period, which happens to be, you know, a 13-hour peak period, and then we evaluate that along with kW versus kVA components. So there's a complex set of criteria. But that is looked at both temporally and ultimately is used to set the billing demand, and then the demand charge is applied to those accordingly.

Q. So for all other Rate GV customers, or all of your existing Rate GV customers, there is a time-based aspect to that demand charge that is used to collect, you know, about 50 percent of the total revenues.

A. (Davis) Yeah. And if I have a few minutes, maybe I can just come back and give you, from a class perspective, the actual proportion.

I think it would be helpful just to get order of magnitude. I don't have that handy, but I can certainly get that if I have a couple minutes off, you know, offline.

Q. Okay. So --

A. (Davis) But yeah.

Q. So while I think I understand that the Company's point is that the high-demand draw rate proposed in the other docket, which removes the demand charge and is not time-based, and actually removes the time-based price signal that all customers receive, that that stands in place of the time-varying high-demand draw rate that, for example, Unitil filed in this proceeding; is that correct?

A. (Davis) I apologize. Could you just restate that? I was just trying to reconcile something I said. You know, make sure I was listening. So I apologize. Could you repeat that?

Q. Yeah, certainly. So the demand charge alternative rate that the Company filed in 21-078, that is volumetric and does not vary by time --

A. (Davis) Correct.

Q. -- and in fact removes the price signal that all of the customers get from the GV class -- that is, the demand charge -- that stands in place of a high-demand draw rate that the Company would -- could have filed in this proceeding, essentially, the electric vehicle time-of-use rate proceeding.

A. (Davis) I think it meets the same end purpose. But I do want to say that, you know, whatever that characteristic is, that's imputed in setting the average rate. So it's -- I don't know if it's just a replacement or it's just equivalent.

Q. Okay. That's helpful.

And maybe one last question about -- so that rate, it's about 36 cents per kilowatt hour; is that correct?

A. (Davis) The proposed rate design converts all the demand charges, as well as carries in the other, the volumetric charges, and all combined equate -- yeah, they come out to 36 percent. And we designed the rate to be on par with a 10 percent utilization level, if you will, or load factor for electric vehicles.

Q. Have you had a chance --

[connectivity issue]

A. (Davis) Go ahead.

Q. There's a party to this proceeding that I don't think I've seen on the screen at all today, but I understand was planning to attend. They didn't file any testimony, but they did file comments, and that is the Town of Derry. And it's possible they may want to at some point weigh in here.

MR. BUCKLEY: Town of Derry, if you are listening, you can speak at some point maybe by letting the host know. It's possible they're not participating as well.

Q. But in their comments -- did you get a chance to read their comments?

A. (Davis) I saw them and I started to. I just didn't have a chance to fully read that. And, you know, if we need to put some attention on it, if I could have just a little time to do that, I'm glad to do that.

Q. Okay. I would just highlight, subject to check, that the 36 rate -- the 36 cents rate that Eversource has proposed for its demand charge alternative, the flat volumetric rate, it compares two numbers that they provided, dollars per kilowatt hour. One is the rate they were initially paying for their charging stations, separately-metered charging stations; that was 16 cents. And then the other is the rate they are currently paying as a regular GV customer, and that is approximately 70 cents -- 70.
A. (Davis) Seven zero?
Q. Does that sound about accurate to you and sort of provide some context for the 36-cent demand charge alternative?
A. (Davis) I'll need to look at that. But I can pick -- you know, if you just take an average revenue per kilowatt hour, depending on the proportion of volumetric usage or consumption during a month versus demand charges, I mean, I suppose in a given month you could see a swing.
Q. That's fair. Okay.

A. (Davis) But I would have to see the information to better understand that before I can truly opine.

Q. Thank you, Mr. Davis.

MR. BUCKLEY: And thank you, everyone, for your patience. The Department of Energy has no further questions.

CHAIRMAN GOLDNER: Thank you, Mr. Buckley. We'll take a break until 1:15 and come back, starting with Commission questions. Thank you. Off the record.

(Lunch recess taken at 12:42 p.m. and concludes the MORNING SESSION. The hearing resumes under separate cover in the transcript noted as AFTERNOON SESSION ONLY.)

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)

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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